

# Trojan Technologies Supplier Manual

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# Introduction to the Trojan Technologies Supplier Handbook

Dear Trojan Technologies Supplier,

The Trojan Technologies Supplier Handbook was created for you to better understand Trojan Technologies and Trojan's engagement with you, our valued supplier. I would especially encourage you to review our mission and quality policy along with the links to Trojan's Values, Trojan's Supplier Code of Conduct, and Trojan's expectations for Integrity and Compliance. This will go a long way in understanding Trojan Technologies, how we conduct business and how we expect our suppliers to do the same.

You will find two major sections in this handbook. The first focused on quality system expectations of suppliers and the second on purchasing processes and requirements. This is all what we consider "standard work". Please take the time to read and should you have any questions, please contact your Trojan Technologies Procurement professional for answers.

Thanks for your support of Trojan Technologies.

Sincerely,

Randy Haill

Director, Global Procurement Trojan Technologies



#### **Table of Contents**

#### 1.0 Quality Expectations for Trojan Technologies Suppliers

- 1.1 Supplier Responsibilities
- 1.2 Supplier Management
- 1.3 Supplier Communication Protocols (Purchasing, QA, Technical)
- 1.4 Product Development and Design
- 1.5 Retention of Records

#### 2.0 Supplier Quality

- 2.1 Quality System Requirements
- 2.2 Advanced Product Quality Planning (APQP)
- 2.3 Sample Submission Part Qualification Process (PQP)
- 2.4 Request for Temporary Deviation / Drawing Protocols
- 2.5 Rework / Repair of Non-Conforming Product
- 2.6 Charge Back Policy
- 2.7 Corrective Action NC Process
- 2.8 Quality System Guidelines (Quality System Plan Detail)
  - 2.8.1 Management Responsibility
    - 2.8.2 Quality System
    - 2.8.3 Contract Review
  - 2.8.4 Design Control
  - 2.8.5 Document Control
  - 2.8.6 Procurement
  - 2.8.7 Customer Supplied Product
  - 2.8.8 Process Control
  - 2.8.9 Inspection & Testing
  - 2.8.10 Inspection, Measuring and Test Equipment
  - 2.8.11 Inspection and Test Status
  - 2.8.12 Non-Conforming Product
  - 2.8.13 Corrective and Preventive Action
  - 2.8.14 Quality Records
  - 2.8.15 Internal Quality Audits
  - 2.8.16 Training

# 3.0 Vendor Management Process

3.1 Supplier Selection Process

3.2 Supplier Scorecard: (Performance and Evaluation Process)

#### 4.0 Purchasing

4.1 Standard Terms and Conditions

#### 5.0 Labeling and Packaging Requirements

- 5.1 Labeling Specifications
- 5.2 Part Identification Specs.
- 5.3 Packaging and Shipping Requirements
- 5.4 Returnable Containers
- 5.5 Lot Control and Traceability

#### 6.0 Supporting Specifications

- 6.1 Supplier Revision Control Approval Process
- 6.2 Electro Static Discharges (ESD)
- 6.3 Material Handling and Cleaning Specs.



# Appendices:

- i. Bar Code Requirements
- ii. Corrective Action NC Process
- iii. Sample Submission Requirements Warrant
- iv. Request for Deviation
- v. Certification Tag



#### **Trojan Technologies**

#### **MISSION STATEMENT:**

At Trojan, we are committed to reducing water stress and maximizing this invaluable resource for current and future generations. Our continued development of innovative, technology-based solutions will provide municipalities, industrial enterprises, and consumers with practical ways to solve their water-related and process problems in an environmentally responsible way.

#### TROJAN'S QUALITY POLICY:

At Trojan Technologies we are dedicated to maintaining and building upon our high level of customer satisfaction, in the UV water treatment industry, through the efforts of our associates and quality management in all our products and processes.

To achieve this we are committed to:

- Managing our performance against defined objectives, through our Corporate Performance Management processes
- Involvement of all associates in ensuring our quality objectives are achieved
- Meeting or exceeding statutory and regulatory requirements, and the requirements of applicable standards, including ISO 9001:2008
- Continuous improvement of our products, services and quality management system

#### VALUES:

See http://www.danaher.com/core-values

#### SUPPLIER CODE OF CONDUCT:

See http://www.danaher.com/docs/pdfs/suppliers/Supplier\_Code\_of\_Conduct.pdf

#### INTEGRITY AND COMPLIANCE:

See http://www.danaher.com/integrity-and-compliance

#### DANAHER BUSINESS SYSTEMS (DBS):

See http://www.danaher.com/danaher-business-system

The Danaher Business System (DBS) is who we are and how we do what we do. It is more than a management system or business model - it is part of the mentality of virtually every associate in the company. Through DBS, Trojan achieves world-class excellence in customer satisfaction, beginning with the voice of the customer, continuously improving quality, delivery, cost and innovation.

DBS is at the core of our quality system. We focus on defect prevention contrary to defect detection. Suppliers must employ effective methodology and error proofing of their manufacturing processes so that zero defects can be achieved. In order to achieve zero defects, it is imperative that the supplier have processes in place using six sigma and lean manufacturing methodologies.

#### **1 QUALITY SYSTEM EXPECTATIONS FOR TROJAN TECHNOLOGIES SUPPLIERS**

The ability of a supplier to develop and maintain an acceptable quality system is an essential factor in qualifying and continuing as a Trojan Technologies supplier. This section defines the quality systems expectations for suppliers (Sub-contractors, distributors, and OEMs) of production parts and assemblies to Trojan.

#### 1.1 SUPPLIER RESPONSIBILITIES:

• Suppliers are responsible for setting up and maintaining a quality and reliability system which ensures that each product complies with all the requirements included on the drawing, prescribed on the purchase order, and outlined in this handbook.

• Suppliers shall participate in the Supplier Evaluation which contains questions that allow Trojan or the supplier to evaluate the extent to which a given quality system addresses each of these elements.

• Suppliers are responsible for comprehending all drawing and specification requirements. If there are any questions, the supplier must contact Trojan Purchasing Department for clarification. Drawing clarifications are to be resolved prior to production-part manufacture, and in no case can engineering drawings and specifications be superseded by any informal agreement.



• Suppliers who control the design of their products shall maintain sufficient technical documentation and be maintained by the supplier, or provided to Trojan in advance of any manufacturing by the supplier, to verify the integrity of the product it receives.

• Suppliers are fully responsible for the quality of their products and are not to rely on Trojan to determine the quality level of their material or service. Use of sampling techniques is not intended to imply that defective material of any level is acceptable. The documentation of any defect from a Trojan division requires an investigation of the product defect root cause and control system adequacy be initiated. Correction must be implemented accordingly. Elapsed time between delivery to Trojan and Trojan notification to supplier of any defect(s) does not relieve supplier of product quality responsibility.

• Suppliers are responsible to notify Trojan of any proposed changes in design, processing or manufacturing location prior to the change. Suppliers must obtain Trojan's approval of any proposed changes. Requests for changes or deviations may be submitted on a Supplier Deviation/Change Request Form.

• Suppliers are responsible to meet the requirements for production part approval prior to first shipment as outlined in the Sample Submission Requirements Warrant (This form can be found in Appendix vi) Changes in design, processing or manufacturing location subsequent to initial approval require that Purchasing be notified. Specific requirements for approval for each change must be obtained through Purchasing and QA. Requests for changes or deviations must be submitted to Trojan Purchasing and QA on a Request for Deviation form. (This form can be found in Appendix vii).

• The supplier is responsible for repairing or replacing non-conforming material with material satisfying specifications in time to meet Trojan delivery requirements. In some cases, Trojan may rework material urgently required to meet customer schedules at the supplier's expense.

• Suppliers requiring tooling must consent to Trojan Technologies Tool Loan Agreement prior to securing or obtaining any tooling and comply with the instructions within.

- The supplier is responsible for their supplier's quality and for extending the requirements of this document to them.
- Suppliers are responsible to provide quality performance records upon request.

• Suppliers are responsible for extending the requirements of the Trojan's engineering drawings, the Trojan purchase order and this document to their suppliers.

• When conflicts exist between engineering drawings, purchase orders, and this handbook, engineering drawings shall supersede any other document and will be the primary source of quality requirements; purchase orders will be secondary, followed by this handbook.

• Suppliers are responsible for all the sub-contractor quality non-conformances and quality performance. When instances occur which warrant the review of a sub-supplier's process or control system, the supplier is expected to coordinate such review.

• Suppliers are responsible to comply with all specified regulatory and environmental compliance regulations that are detailed for Trojan Technologies products and components. The supplier is also expected to be a collaborative partner in resolving compliance related questions with these regulations. See the attached Danaher Restricted Materials Supplier Specification which specifically addresses materials restrictions, material declaration requirements, and supplier communication requirements.

#### **1.2 SUPPLIER MANAGEMENT:**

Supplier performance management is similar to other forms of performance management, it involves:

- setting clear objectives
- developing realistic plans to support them
- effective execution of plans
- ongoing monitoring to determine whether objectives are being met
- regular review and communication



Through the Vendor Management program Trojan will regularly review its requirements with suppliers. Trojan's requirements and supplier performance will be reviewed on a pre-established schedule based on your level of business with Trojan. Regularly scheduled review meetings are not intended to replace ongoing correspondence to deal with immediate issues. (refer to Section 3 for additional detail).

#### 1.3 SUPPLIER COMMUNICATION PROTOCOLS (Purchasing, QA, Technical):

Supplier communication protocols are defined in an effort to help streamline and reinforce the appropriate lines of communication. If an issue arises that is outside of these guidelines please refer the matter to your Trojan Purchasing contact. In all cases Trojan has assigned a Purchasing, Technical and Quality Assurance representative to your file.

<u>Commercial Issues</u>: All issues involving pricing, quoting, proposals, delivery and warranty are to be directed to your Purchasing contact.

<u>Technical Issues</u>: All issues affecting the quality of existing components, including tolerance and material deviations, as well as issues related to components that are in the process of being implemented into production, are to be directed to your Quality Assurance contact.

<u>Development Issues</u>: All issues involving product development should be directed to your Research and Development and/or Engineering contact.

#### 1.4 PRODUCT DEVELOPMENT AND DESIGN:

Suppliers are encouraged to participate in Trojan design and improvement efforts when requested by Trojan. As a supplier, you may be requested to attend design reviews as experts in a particular commodity, to work with Trojan teams to concurrently design new products, and to participate with teams working on value engineering/analysis to optimize product total cost. Trojan's goal is to optimize total cost and to reduce the new product development cycle.

The suppliers' ability to provide rapid prototyping or very short lead times for new designs is key to reducing the new product development cycle.

Suppliers' expertise and experience with value engineering, concurrent design, and rapid prototyping/cycle time reduction as well as willingness to participate on joint teams will be a key factor in the supplier selection process.

#### 1.5 RETENTION OF RECORDS:

Suppliers must maintain records for a period of no less than 7 years at a minimum. The following documents are subject to the above retention period: invoices, bill of ladings, traceability Information and any quality information relative to Trojan components.

#### 2.0 SUPPLIER QUALITY:

#### 2.1 QUALITY SYSTEM REQUIREMENTS:

Trojan's quality system is based on the ISO 9001:2000 Quality System Requirements. Trojan encourages compliance from all their suppliers to ISO 9001:2000 standards. Suppliers who intend to maintain a continuing business relationship with Trojan must demonstrate that they have or are implementing a documented and actively managed quality system.

#### 2.2 ADVANCED PRODUCT QUALITY PLANNING (APQP):

Trojan's approach to quality focuses on advanced product quality planning and defect prevention, rather than defect detection and correction. Suppliers are expected to employ effective quality planning techniques and error proofing (consistent with the American Society for Quality (ASQ) or automotive techniques) to ensure that quality is planned into the entire product/component development and manufacturing process. Emphasis should be focused on clearly documenting requirements, developing plans to ensure requirements will be consistently met and verification testing to confirm conformance to requirements. Refer to Section 2.8.2 for additional detail.

The supplier's quality planning activities may be evaluated at specific intervals during the process by Trojan.

#### 2.3 SAMPLE SUBMISSION PART QUALIFICATION PROCESS (PQP):

Trojan requires that part sample submissions be based on the PQP procedure. The supplier is responsible for complying with any customer specific submission requirements for Trojan's end user. Trojan shall communicate the PQP requirements to the supplier via the Sample Submission Requirements Warrant (This form can be found in Appendix VI).



Sample approval is required whenever one or more of the following conditions occur:

- \*New parts
- \*New tooling
- \*Changes / improvements to current tooling
- \*New manufacturing location
- \*Improvements or changes to current manufacturing process
- \*A new sub-supplier or outside processor is introduced
- \*A tool has been out of production more than one year

The supplier is to notify Trojan if changes are to occur. Trojan will give the supplier direction on the part qualification required for circumstances mentioned above. Submission for PQP approval is required unless specifically waived by Trojan. Refer to the Sample Submission Requirements Warrant (This form can be found in Appendix VI).

The supplier shall submit a quantity of PQP samples as outlined in the "Sample Submission Requirements Warrant". These parts must be produced from production tooling and shall serve as the "master" for comparison purposes.

Suppliers shall complete PQP requirements, as confirmed by written Trojan approval, prior to regular production shipments. The submission package shall include verification of material and special characteristics for the supplier's product including any other items Trojan requires.

The supplier is responsible for performing the inspection, testing to lab standards and sample submission. The supplier may not ship production product until Trojan Quality gives PQP approval in writing or an approved deviation is in place. (Refer to Appendix vii)

Dimensional and material test results are to be recorded and shall include all dimensions, characteristics and specifications that are noted on the blueprint and control plan. If the supplier cannot perform the required tests, services may be completed by an accredited source. When third party inspection services are used, the name of the service that performed the inspection shall be identified. The results shall be submitted on the third party's letterhead or their report. Also, the Scope of Accreditation must be submitted for the source performing the test.

Missing submission dates, submitting samples that are found to be dimensionally incorrect or having incomplete documentation are subject to rejection at the supplier's cost.

The PQP submission shall be submitted to Trojan. The QA department will communicate the results of the PQP package review.

#### 2.4 REQUESTS FOR TEMPORARY DEVIATION / DRAWING PROTOCOLS:

Suppliers shall not make any changes in part design, material or manufacturing process without explicit written authorization from QA, this also includes reworked or repaired product. A product deviation is used when a specific quality of product being shipped or used is not in compliance with the specified drawing, inspection criteria or standards. A deviation will only be agreed upon if there is no other available inventory and the fit, function, performance, safety, durability or appearance of the end item is not affected.

A signed deviation form shall be submitted by the supplier to Trojan Quality Assurance, copying Purchasing, and approved by Quality Assurance before the product may be shipped.

Material must be segregated and not sent to Trojan until a written deviation approval is given to the supplier. A copy of the deviation must also be attached to <u>ALL</u> product containers when it is shipped to Trojan.

The supplier will be expected to pay costs incurred by Trojan due to material costs, special processing performed by Trojan and material handling due to deviation.



#### 2.5 REWORK / REPAIR OF NON CONFORMING PRODUCT:

The supplier must have written rework instructions for any rework or repair operations performed on Trojan products.

Under no circumstances shall the supplier rework or repair parts or material and ship them to Trojan without receiving prior written authorization. Any parts shipped prior to obtaining the appropriate written approvals may be rejected and returned to the supplier at its expense. All costs incurred by Trojan due to processing parts that have been repaired or reworked without obtaining the proper authorization will be the responsibility of the supplier.

#### 2.6 CHARGE BACK POLICY: (Rejection issues)

Costs associated with supplier part quality issues that are the supplier's responsibility will be charged back to the supplier.

If the rejects cause downtime at Trojan, the supplier will be debited an amount based on (downtime hours x labor cost/hour) + (variable cost incurred, i.e. expedited freight, customer shutdown charges, etc.).

The supplier may evaluate the findings of their issues upon receipt of a Supplier Debit Notice and/or a corrective action with a Quality Assurance Representative.

#### 2.7 CORRECTIVE ACTION - NC PROCESS:

Trojan suppliers are responsible for supplying Trojan with zero defect product and services. If defective material or services occur, Trojan requires the supplier to have a corrective action procedure in place to provide immediate corrective action and root cause problem solving to resolve the issue and prevent recurrence.

Defective material may be identified during incoming inspection, manufacturing, assembly, and packaging, audits at the customer and through warranty returns. When non-conforming material is found, Trojan Quality Assurance will contact the supplier and a Corrective Action Request will be issued. The supplier is required to respond immediately to any quality or delivery issues. At the discretion of QA, 100% certification can be requested until permanent corrective actions have been implemented and verified via 3 clean shipments to Trojan. Stock shall be inspected and certified according to the prescribed instructions noted below.

The supplier is responsible for:

- Providing initial containment plans, in writing, within 24 hours on Trojan's corrective action format.
- A containment plan to hold and inspect all material at suppliers facility, Trojan's facility and if necessary, at Trojan's customer.
- Timing to replace product with certified stock (material that has been 100% inspected for rejects).
- A plan to rework or repair product until replacement certified product is available
- Stock that has been certified through special containment inspection by the supplier <u>must</u> be identified. (Use Certified label Appendix VIII).
- All costs associated with the quality or delivery issues identified

A completed corrective action plan is required within 15 working days after the occurrence. Include all documentation that is affected to standardize corrective actions into the quality system: Process Failure Mode and Effect Analysis (PFMEA), control plan, work instructions, etc.

If timely response is not received, the supplier rating will be negatively affected. If a supplier does not return the corrective action report within the 15 day time frame, Trojan reserves the right to require 100% inspection until the report is completed to our satisfaction.

#### 2.8 QUALITY SYSTEM GUIDELINES (QUALITY SYSTEM PLAN DETAIL)

#### QUALITY AND RELIABILITY SYSTEM:

The supplier shall maintain a quality system that supports the requirements specified in this section of the handbook.



# 2.8.1 MANAGEMENT RESPONSIBILITY:

The supplier's management shall define and document its policy for quality, including objectives for and its commitment to quality. The supplier shall ensure that this policy is communicated, understood and maintained at all levels in the organization. The supplier shall clearly identify a management representative who, irrespective of other responsibilities, has authority and responsibility for ensuring that a quality system is established, implemented and maintained.

The Supplier's Quality Assurance Organization Must:

- Operate with full authority to facilitate control
- Identify and correct identified problems
- Define and document the responsibility and authority of all personnel affecting quality

The supplier's management shall review the quality system at defined intervals sufficient to ensure its continuing effectiveness. The supplier shall maintain records of the quality system reviews. The reviews shall include at a minimum.

- Results of internal audits
- Management effectiveness
- Non-conformances
- Resolution of customer complaints
- Identification and resolution of internal quality problems
- Implementations of previous solutions
- Real-time log of non-conforming material area
- Continuous improvement program effectiveness

#### 2.8.2 QUALITY SYSTEM:

The quality system reflects management's philosophy and decisions concerning quality. The quality system shall be documented in a comprehensive quality manual. The quality manual shall conform to the following:

- The manual must be a current and active document.
- The manual must address all elements of Section 2.8 of this handbook and the supplier's quality system.
- The manual shall be subject to periodic review and update at determined documented intervals.
- The supplier must maintain a controlled distribution of the manual.
- The supplier shall ensure all controlled copies are current with the latest revision level.
- All supplier personnel must have access to a controlled manual copy.
- Trojan Technologies may require a copy of, or access to, the manual for review.

Suppliers shall define and document how the requirements for quality will be met. Quality planning shall be consistent with all other requirements of a supplier's quality system and shall be documented in a format to suit the supplier's method of operation.

In an effort to assure that a new product start-up is affected with a minimum amount of problems, with respect to both equipment and design, and that there will be assurance of defect free product throughout the life of manufacture, *ADVANCED QUALITY PLANNING* must be utilized.

Advanced quality planning must be an integral part of product design and development, tooling and equipment design and selection, manufacturing methods and inspection procedures.

Suppliers shall convene internal cross-functional teams to prepare for production of new or changed products. Cross-functional teams should typically include Design, Manufacturing, Engineering, Quality, Production and Purchasing personnel. Suppliers are expected to review designs for manufacturing feasibility and to raise concerns prior to manufacturing.

Advanced Quality Planning must include procedures for:

- 1. The review of Trojan Technologies' drawings and applicable specifications
- 2. Develop plan to satisfy each requirement
- 3. Selection of sub suppliers and the communication of requirements
- 4. An assessment of the process steps, including things that could go wrong and a plan to address the identified risks, also known as Process Failure Mode and Effect Analysis (FMEA).



- 5. Feasibility assessment of print or specification requirements as to whether control characteristics can be consistently achieved. Initial feasibility must be provided with the quotation
- 6. Determination of inspection requirements
- 7. Procurement and qualification of gauging and test equipment
- 8. Process flow diagram
- 9. Development of a control plan for each Trojan Technologies part number or product family
- 10. Preparation of quality records
- 11. Confirm that each requirement has been met
- 12. Material Certifications

Suppliers must develop and provide an acceptable *CONTROL PLAN* for each product or product family supplied. The plan is to be designed to identify the significant and major characteristics based on function, design intent, manufacturing process and potential problems. The plan must include the following items. (Refer to the **AIAG PPAP Manual** for a recommended control plan format.)

- 1. Product Name
- 2. Trojan Technologies Part Number
- 3. Product Characteristic
- 4. Specification and Tolerance
- 5. Sample Size and Frequency of Inspection
- 6. Gauge Type
- 7. Reaction Plans to Non-Conforming Conditions
- 8. Date of Issue
- 9. Revision Level and Date
- 10. Signature of Approval by the Quality Assurance Manager or appropriate Quality Representative

CONTROL PLANS are to be living documents and shall be reviewed and updated when:

- the product is changed
- the processes are changed
- the processes become unstable
- the processes become non-capable

#### 2.8.3 CONTRACT REVIEW:

The supplier shall establish and maintain documented procedures for contract review and for the coordination of these activities. Prior to acceptance, the supplier shall review the contract or order to ensure that:

- The requirements and terms of acceptance are adequately defined and understood.
- Any difference between the order and the request for quote are resolved.
- The supplier has the capability to meet contract or order requirements.
- All requirements, including those in this standard can be met.

The supplier shall maintain a documented procedure for disseminating provisions of the contract to all appropriate parties. The supplier shall also identify how an amendment to a contract is made and correctly transferred to the applicable functions within the organization.

Contract review activities shall be formally documented and records of contract reviews shall be maintained (reference section 2.8.14 Quality Records).

#### 2.8.4 DESIGN CONTROL:

Suppliers responsible for product design shall establish and maintain documented procedures to control and verify the design of the product to ensure that specific requirements are met. The supplier shall prepare plans for each design and development activity. The design activities shall be assigned to qualified and competent personnel equipped with adequate resources.

Design input requirements relating to the product, including applicable statutory and regulatory requirement as well as Trojan Technologies specific requirements, shall be identified and reviewed. Design input shall take into consideration the results of any contract review activities.



The design process shall include:

- efforts to simplify, optimize, innovate and reduce waste
- analysis of cost/performances/risk trade-offs
- use of testing and production feedback
- use of Design FMEA's
- formal documented reviews of the design results at appropriate stages of design
- participants at each design review shall include representatives of all functions concerned with the design
- design verification to ensure the design output meets the design input requirements
- design validation to ensure product conformance to defined needs and requirements
- Consideration of product impact from operating environment variables (water, UV, temperature, etc.)

All design changes shall be identified, documented, reviewed and approved by authorized personnel prior to implementation. All design changes, including those proposed by subcontractors, shall have written Trojan Technologies approval, via the Trojan Technologies Part Qualification Procedure prior to production implementation. Suppliers shall maintain a formal engineering change order approval system for design waivers, deviations or modifications.

#### 2.8.5 DOCUMENT CONTROL:

Suppliers shall establish and maintain a documented procedure to control all documents that relate to product and process requirements and the requirements of this standard. The system must include the procurement, review, use storage and change control of all documents. Documents include, but may not be limited to, Trojan Technologies' engineering drawings and specifications, Trojan Technologies material specifications, military and federal standards, inspection/test instructions, work instructions and operational procedures. Documents can be in the form of any type of media, such as hard copy or electronic media.

Document control shall include:

- The review and approval for adequacy by authorized personnel prior to issue. A master list of documents shall be maintained to identify current revision status and delineate the distribution of applicable documents.
- The assurance that pertinent issues of all appropriate documents are available at all operation locations essential to the effective functioning of the quality system.
- The review and approval of changes to the documents by the same organization that performed the original review and approval.
- The assurances that obsolete documents are promptly removed from points of use and destroyed or suitably identified.

#### 2.8.6 PROCUREMENT:

Suppliers are expected to require the same defect-free level of quality from their suppliers as that required by Trojan Technologies. The supplier shall establish and maintain documented procedures to ensure that purchased product conforms to specified requirements.

These procedures shall include:

- The evaluation and selection of subcontractors on the basis of their capabilities relative to quality requirements.
- An approved suppliers list from which product may be purchased. Additional subcontractors may only be used after they have been added to the list by an appropriate approval process.
- A documented system for on-going evaluation. Sub-suppliers quality records shall be maintained and used to evaluate performance. The performance evaluation must be used in sourcing decisions.
- A subcontractor development system that includes quality system audits. Assessments of subcontractors should occur at appropriate, specified frequencies.

Purchasing documents shall contain data clearly describing the product, including the type, class, style, grade, etc. and refer to the appropriate revision of the applicable specification for the product being ordered. The supplier shall review and approve purchasing documents for adequacy of specified requirements prior to release.

The use of Trojan Technologies designated subcontractors does not relieve the supplier of the responsibility for ensuring the quality of subcontracted product and services.



When specified in the contract or order, Trojan Technologies and/or its customers shall be afforded the right to verify, at the subcontractor's premises, and the supplier's premise, that subcontracted product conform to specified requirements. Such verification by Trojan Technologies or its customers shall not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by Trojan Technologies.

#### 2.8.7 CUSTOMER SUPPLIED PRODUCT:

The supplier shall establish and maintain documented procedures for the verification, storage and maintenance of customer-supplied product and tooling (if applicable). Any such product or tooling that is lost damaged or is otherwise unsuitable for use shall be recorded and reported to Trojan Technologies Purchasing.

#### 2.8.8 PROCESS CONTROL:

The supplier shall identify and plan the production processes directly affecting quality and shall ensure these processes are performed under controlled conditions. Process control methods for each product are to stem from the advanced quality planning and control plan functions detailed in section 2.8.2 of this manual.

#### WORK INSTRUCTIONS

The supplier shall prepare documented work instructions for each process. These instructions are to be accessible at the appropriate workstations and include or reference as appropriate:

- Operation Name
- Part Name and Part Number
- Current Engineering and/or Revision Level, Date and Approvals
- Required Equipment and Gauges
- Material Identification and Disposition Instructions.
- Trojan Technologies and Supplier Designated Special Characteristics and Features
- SPC Requirements
- Relevant Engineering and Manufacturing Standards
- Inspection and Test Instructions
- Reaction to Non-Conformance Instructions
- Visual Aids
- Tool Change Intervals and Set-Up Instructions
- Equipment and Tooling Maintenance to ensure Continued Quality Production

#### CHANGE NOTIFICATION AND APPROVAL

Production qualification approval must be granted for a new part number, engineering change level, change in manufacturing location, change in material source, tooling change and change in production process. Change notification shall be through the Part Qualification Process (PQP). Refer to section 2.3 of this manual. Changes to promote continuous improvement are encouraged. A PQP and supporting documentation must be submitted for approval prior to the sampling process.

#### MAINTENANCE, REGULATIONS, ENVIRONMENT

Suppliers shall identify key process equipment, provide appropriate resources for equipment maintenance, and develop an effective preventive maintenance program. The preventative maintenance system shall include procedures for planned and scheduled maintenance activities.

Suppliers shall ensure compliance with all applicable government safety and environmental regulations, including those concerning handling, recycling, or disposing of hazardous materials.

#### 2.8.9 INSPECTION AND TESTING:

Suppliers shall establish and maintain documented procedures for inspection and testing activities in order to verify that the specified requirements for the product are met. The required inspection and testing, acceptance criteria, and the corresponding records, shall be detailed in the Control Plan or documented procedures. (Note: the acceptance criterion for Trojan Technologies product is zero defects regardless of lot size.)



Inspection and Testing Procedures Shall Provide for the Following:

- The assurance that incoming product is not used or processed until it has been inspected and/or verified as conforming to specified requirements. Verification activities shall be in accordance with the Control Plan and/or documented procedures. Receiving Inspection should include the receipt, review and approval of subcontractor submitted quality documents such as SPC data, material test reports and certifications.
- In-process inspection and testing in accordance with the Control Plan and/or documented procedures (Note: All process activities should be directed towards defect prevention methods in lieu of defect detection).
- The holding of product between operations until the required inspection and tests have been completed and conformance verified.
- Final inspection and testing in accordance with the Control Plan and/or documented procedures to ensure conformance of the finished product to the specified requirements. No product shall be dispatched until all the activities specified in the Control Plan and/or documented procedures have been satisfactorily completed.
- Establishing and maintaining records that provide evidence that the product has been inspected and/or tested. The records shall clearly show whether the product has passed or failed the inspections or tests according to defined acceptance criteria. The records shall identify the inspection authority responsible for disposition and release of the product.
- The maintenance or utilization of accredited laboratory facilities applicable for product verification activities. Accredited laboratories are those that have been reviewed and approved by an accreditation body (e.g. American Association for Laboratory Accreditation A2LA)

#### 2.8.10 INSPECTION, MEASURING AND TEST EQUIPMENT:

Suppliers shall establish and maintain documented procedures to control calibrate and maintain inspection, measuring and test equipment used to demonstrate product conformance. This requirement includes employee owned gauges utilized by toolmakers or tool maintenance personnel. These procedures must include:

- Selection, maintenance, and accessibility to adequate inspection, measuring and test equipment for providing all necessary verification requirements to the required level of accuracy and precision.
- Calibration of inspection, measuring and test equipment upon receipt and at prescribed intervals against certified equipment traceable to the National Institute of Standards and Test (NIST).
- Definition of the process for the calibration of inspection, measuring and test equipment. The calibration equipment, location, calibration method, acceptance criteria and the reaction to unsatisfactory results shall be documented.
- Identification of inspection, measuring and test equipment with a suitable, visible indicator or approved identification record to show calibration status. Where feasible, equipment shall be identified with the last date of calibration, personnel who performed the calibration and the next calibration due date.
- Assurance that environmental conditions are suitable for the calibrations, inspections, measurements and tests being
  performed and the handling, preservation and storage of equipment is such that the accuracy and fitness for use is maintained.
  The supplier shall secure the inspection, measuring and test facilities as applicable to ensure records and methods are not
  disturbed.
- The maintenance of calibration records to include gauge conditions and actual readings as received for calibration/verification. The records shall also include the reactions upon findings of equipment out of calibration. THESE REACTIONS SHALL INCLUDE CUSTOMER NOTIFICATION IF SUSPECT MATERIAL HAS BEEN SHIPPED.
- Statistical studies (gauge repeatability and reproducibility) to analyze the variation present in the results of each type of measuring and test equipment system. This requirement applied to all measurement systems used for SPC or as required by the Control Plan. These studies shall be performed at initial production start-up and periodically as scheduled by the supplier (annual intervals are recommended).

#### 2.8.11 INSPECTION AND TEST STATUS:

Product shall be identified by suitable means (markings, stamps, tags, labels, etc.), or organized by physical location, to indicate the conformance or non-conformance of product with regard to inspection and tests performed.

The identification of inspection and test status shall be maintained throughout production, installation and servicing of the product to ensure that only conforming product is dispatched, used or installed.



Location of product in the normal production flow may constitute suitable indication of inspection and test status if inherently obvious and clearly defined in documented procedures.

#### 2.8.12 NON-CONFORMING PRODUCT:

The supplier shall establish and maintain documented procedures to ensure non-conforming or suspect product is prevented from unintended use or installation. The procedures shall include:

- A control system for non-conforming material providing identification, documentation, segregation, evaluation and disposition of nonconforming product.
- The responsibility for review and authority for the disposition of non-conforming products. Non-conforming or suspect product shall be reviewed and disposed (i.e. accept, scrap, rework) in accordance with documented procedures.
- Repair and/or rework to be performed to documented procedures. The rework procedures shall be accessible and utilized by
  the appropriate personnel. Repair and/or reworked product shall be re-inspected to original acceptance criteria and in
  accordance with the Control Plan or documented procedures.
- Recording of all non-conformances to permit defect analysis and the generation of internal corrective action plans.

Trojan Technologies' written approval is required prior to shipment of product not conforming to drawing and/or specifications requirements. Notification of shipment of suspect material and temporary requests for deviations must be submitted to the Trojan Technologies Supplier Quality Assurance Representative on a Request for Deviation Form; (see Appendix VII for the form). Trojan Technologies will determine if the request can be accommodated and return the form with the documented response.

The supplier shall maintain a record including the expiration date or quantity authorized. The supplier shall ensure compliance with the original requirements when the authorization expires. Product shipped on an authorization shall be properly identified on each shipping container.

#### 2.8.13 CORRECTIVE AND PREVENTIVE ACTION:

Suppliers shall establish and maintain documented procedures for implementing corrective and preventive action. Suppliers shall document corrective and preventive actions and shall implement and record any changes to the documented procedures resulting from corrective and preventive actions.

CORRECTIVE ACTION PROCEDURES SHALL INCLUDE:

- the effective and timely handling of customer complaints and product non-conformities
- disciplined team oriented problem-solving methods
- investigation of the root cause of non-conformities
- determination of the corrective action needed to eliminate the root cause
- application of controls to ensure corrective action is implemented and effective
- submission of relevant information on actions taken for management review

Inherent in the relationship between Trojan Technologies and suppliers is the willingness of suppliers to assume complete responsibility for the quality of their product. In the event Trojan Technologies experiences a quality related problem with a supplier's product (either at the point of receipt, during production or as the root cause of a Trojan Technologies customer rejection) the supplier is required to cooperate fully in an investigation into the problem cause and the implementation of corrective action.

Trojan Technologies will forward a "Corrective Action Request" Form (Refer to Appendix v) to the supplier upon discovery of a quality problem that is determined to be a deviation from print, or specification. The default time span permitted for response to the Trojan Technologies QA department upon notification of the discrepancy is 15 working days, in certain situations it may be unreasonable to expect a complete corrective action in 15 days, and Trojan maintains the right to adjust the due date at its discretion. In the event of emergencies or critical situations, this may be reduced to 48 hours, at least through containment activity. The response must include a plan for containment, short and long-term corrective action, and verification.

In the event Trojan Technologies detects non-conforming purchased items, and production scheduling and inventories prohibit return to the supplier, Trojan Technologies reserves the right to perform the necessary separation of non-conforming product at the supplier's expense. Additional associated costs, as a result of the non-conformance, will be charged back to the supplier.



PREVENTIVE ACTION PROCEDURES SHALL INCLUDE:

- Detection and elimination of potential causes of non-conforming product
- Review of information such as internal and external non-conformance reports, audit results, quality records and customer complaints
- Determination of steps needed to handle problems requiring preventive action
- Initiation of preventive actions and application of controls to ensure effectiveness
- Submission of relevant information on actions taken for management review

#### 2.8.14 QUALITY RECORDS:

Documented procedures shall be established and maintained for the identification, collection, access, filing, storage and disposal of quality records. Quality records shall be maintained to demonstrate conformance to specified requirements and the effective operation of the quality system.

All quality records shall be stored and retained in such a way that they are readily retrievable. Quality records are to be stored in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss.

Trojan Technologies requires quality records to be retained for a minimum of Seven years after product shipment unless superseded by Trojan Technologies contract or purchase order requirements.

#### 2.8.15 INTERNAL QUALITY AUDITS:

The supplier shall establish and maintain documented procedures for performing internal quality audits to verify conformance of quality activities and to determine the effectiveness of the quality system. Elements of the quality audit system shall include:

- Established documented intervals for performing internal quality audits on the basis of the importance of the activity, results of prior audits, and magnitude and severity of non-conformances traceable to the activity or area.
- The performance of internal quality audits by personnel independent of those having direct responsibility for the activity being audited.
- Procedures to record audit results and reporting audit results to the personnel having responsibility for the area audited.
- Timely corrective action taken by the management personnel responsible for the area on the deficiencies found during the audit.
- Follow-up activities to verify and record the implementation and effectiveness of the corrective action taken.

#### 2.8.16 TRAINING:

Documented procedures shall be established and maintained for identifying training needs to ensure all personnel can perform their duties consistent with the quality system.

Training elements shall include:

- Qualifying personnel on the basis of appropriate education, training, and/or experience as required. These qualifications requirements shall be formally identified and documented with respect to the task to be performed
- Identification of training needs determined by examinations, observations or other techniques
- Securing applicable training resources
- Records for individual certification and training of personnel

#### **3.0 VENDOR MANAGEMENT PROGRAM:**

3.1 SUPPLIER SELECTION PROCESS:

A requirement for a new supply source is identified from the following:

- EN Process (release of unique requirement from Design Engineering)
- Product Development (identification of unique requirement from Research and Development)
- Poor Performance of existing supplier (as identified by Trojan's Supplier Management Team from ongoing Supplier Assessments)

Purchasing in conjunction with R&D and/or Design Engineering conducts a supplier search based on the requirements. Potential suppliers are jointly selected from this search. If a current supplier does not exist then a sourcing exercise is initiated.



Process for Approving New Suppliers:

- Sign off on Non-Disclosure Agreement
- Purchasing has the potential suppliers complete a Supplier Self-Assessment Questionnaire
- Vendor Management Team reviews the Supplier Self-Assessment Questionnaire and approves or rejects potential sources for next step
- If approved, the Vendor Management Team assigns a Group classification (1, 2, or 3)
- A Trojan on-site assessment team visits and provides additional vendor assessment input, evaluates the assessment and provides a site visit "report out" and QA does a "Site Sign Off". If the onsite assessment is satisfactory, the VM Team will sign off on the Vendor Approval Form.
- Final Approval Sign Off by the Vendor Management Team.

#### 3.2 SUPPLIER SCORECARD: (PERFORMANCE AND EVALUATION PROCESS)

As part of the Supplier Management Program, the supplier's performance will be monitored and reported on a regular basis via the Supplier Scorecard for Group 1 suppliers and the Supplier Quality Report for Group 2 suppliers. Supplier groupings are defined by the Trojan Vendor Management Team based on commodity supplied, annual \$ volume and technical requirements of vendor.

The Supplier Scorecard is designed to address areas of mutual concern. Progress against earlier plans will be reviewed during the regular review sessions. The reviews may be in person or through other means depending on the circumstances. The intent is to identify areas where both the supplier and Trojan can improve. Trojan acknowledges that this is a partnership where both the supplier and Trojan must be successful for a long term relationship to continue.

Supplier Scorecards for Group 1 suppliers will be generated monthly on the following aspects:

- Quality Level of Purchased Components (PPM)
- Delivery Level of Purchased Components (On Time Deliveries)
- Commercial Activities (Cost Savings Progress vs. Target & Warranty Recovery)
- Support (Evaluation by other Trojan Groups: Engineering, Finance, Production)

Supplier Scorecards for Group 2 suppliers will be generated quarterly on the following aspects:

- Quality Level of Purchased Components (PPM)
- Delivery Level of Purchased Components (On Time Deliveries)
- Commercial Activities (Cost Savings Progress vs. Target & Warranty Recovery)
- Support (Evaluation by other Trojan Groups: Engineering, Finance, Production)

Supplier Scorecards for Group 3 suppliers will be generated as required on the following aspects:

- Delivery Level of Purchased Components (On Time Deliveries)
- Commercial Activities (Cost Savings Progress vs. Target & Warranty Recovery)
- Support (Evaluation by other Trojan Groups: Engineering, Finance, Production)

#### **4.0 PURCHASING SECTION**

# 4.1 STANDARD TERMS AND CONDITIONS FOR SUPPLIERS:

**Unless otherwise accepted in writing,** the Trojan Technologies Terms and Conditions for Suppliers, as may be amendable by Trojan from time to time, (found at <u>www.trojantechnologies.com/purchasing-terms-conditions/</u>) shall apply to all services and goods provided to Trojan Technologies.

#### 4.2 Confirming Received Orders

Suppliers are expected to confirm the quantity requested, delivery date requested, price and revision level for each line item on the Purchase Order are accepted within 24 hours of receipt.

#### 5.0 LABELING AND PACKAGING REQUIREMENTS:

#### 5.1 LABELING SPECIFICATIONS:

Trojan requires that all individual packs (i.e. box/package of items) have clear, identifiable labels affixed to them in an easy accessible and consistent location. It is the responsibility of the supplier to provide bar coded labels that meet Trojan's label specifications (see sample - minimum size 4 x 6).



The label requirements include:

- Correct part number on shipping label
- Labels on all individual containers
- Correct quantity for each container on label
- Trojan part number on each label
- Separate boxes for different components
- Bar code as per specification

Any mislabeled product received at Trojan will be treated as 100% non-conforming material. Label errors will have a direct impact on supplier performance.

#### **5.2 PACKAGING AND SHIPPING REQUIREMENTS:**

This guideline serves as a reference when no other packaging instructions are specified. Packaging specifications on the Trojan purchase order or engineering drawing supersede the methods described herein.

Suppliers are responsible for providing a design that insures part integrity during shipping and handling. Part protection is the key element and should be built into the container design. In addition, the supplier is responsible to identify and communicate any packaging changes, improvements, etc.

No partial lot size is accepted without prior approval from Trojan.

Packages/containers must be free of debris, foreign material and fluids when they are received at Trojan.

Costs incurred by Trojan for any of the above criteria will be charged back to the supplier.

The internal or external supplier of direct material is responsible for determining the appropriate method of packaging to protect the integrity of the product.

The supplier of direct material must ensure that packaging, labeling and identification and palletization comply with applicable laws and regulations.

The supplier of direct material must ensure that packaging, labeling and identification and palletization comply with (2009 OH&S Act): Material, articles or things shall be transported, placed or stored so that the material, articles or things, (i) Will not tip, collapse or fall, and

(ii) Can be removed or withdrawn without endangering the safety of any worker

Items shall be rejected if found damaged due to packaging methods.

When required, packaging and palletization shall provide sufficient strength to permit stacking during shipment and storage without crushing. All packaging and pallets must be free from handling hazards (protruding nails, loose banding, staples, etc.).

The gross weight of any unit package should not exceed 50 lbs. for manual handling. Any single part heavier than 50 lbs. must be packaged individually and palletized for mechanical handling.

The overall maximum dimensions of any palletized load containing unit packages should not exceed 48" in length, 48" in width and 46" in height.

Items that are to large for a standard 48" x 48" pallet shall have a custom pallet created to which meets the requirements advised above.

Electrostatic Discharge (ESD) sensitive parts and assemblies need to be protected from electrostatic discharge. These parts must be packaged in static shielding materials with proper caution markings.



Corrugated containers should be used whenever practical. Wooden boxes, crates or wire baskets may only be used when corrugated cartons do not provide adequate protection.

Anti-static polystyrene, urethane and polyethylene foams, containing chlorofluorocarbons (CFC's) shall not be used. Expanded polystyrene "popcorn" and "peanuts" are not permitted.

Hazardous materials are defined, by government regulations, as materials which present an unreasonable risk to health and safety when transported by commercial means. Suppliers are obligated to comply with all applicable international, national, federal, provincial or local laws and regulations when shipping hazardous materials. Shipments must be properly packed, labeled, described and certified in accordance with governing regulations. Shipments must contain applicable Material Safety Data Sheets (MSDS).

#### 5.2.1 INBOUND ROUTING GUIDES:

All suppliers are to ship in accordance with the inbound routing instructions based on the location the product is being shipped from, unless otherwise agreed to by Trojan. These instructions are available upon request.

#### **5.3 RETURNABLE CONTAINERS:**

Whenever possible, returnable packaging is recommended for all programs unless a returnable system cannot be cost justified. Returnable containers must be stackable, bendable and when feasible, nest-able and/or collapsible.

Suppliers are responsible for removing all old labels from containers before returning them to Trojan.

#### 5.4 LOT CONTROL AND TRACEABILITY:

Suppliers are required to establish a lot control and traceability system that provides for positive identification and documentation for each lot or batch of product from receipt of material through fabrication, processing, warehousing and shipment. Traceability should be maintained through the use of a unique identifier assigned to each lot of material.

All internal procedures for lot traceability at the supplier's facility shall include comments related to the lot control number or date code on the product label. Lot codes can be traced by shift, run (days, weeks), and batch or heat number. If a container consists of mixed lots, the supplier must develop a method of traceability per lot.

Trojan Technologies defines a lot as all items produced during one day's production from a single process, or single lot of raw material.

It is the supplier's responsibility to assure that lot control and traceability is extended to sub-contractors.

#### **6.0 SUPPORTING SPECIFICATIONS:**

#### 6.1 SUPPLIER REVISION CONTROL APPROVAL PROCESS:

All changes by a Supplier that could in any way affect component quality must be pre-approved by Trojan. This requirement applies regardless of whether the component was previously approved through the Part Qualification Process (PQP). A clear description of the change and quality plan that outlines the steps that will be taken to ensure that the proposed change will not adversely affect component performance must be submitted with each request for change.

Trojan may provide conditional approvals for changes on the basis of the quality plan and supporting technical data, however, responsibility and reliability remain with the Supplier for all changes that are Supplier initiated.

Suppliers must control revision levels and maintain revision history of all parts supplied to Trojan. This shall include the date of the revision, the reason for the revision, Supplier approval and Trojan approval. Parts supplied to Trojan shall include the Trojan part and revision level number as well as the supplier's part and revision number.

#### 6.2 ELECTRO STATIC DISCHARGE (ESD):

This page provides basic information on the key principles of ESD protection. **National Semiconductor's** Employees, distributors and customers must implement these practices in order to protect products where required. **Basic Electrostatic Discharge Information** 



ESD is the rapid flow of electrons between two bodies of unequal charge. It can also occur between one charged body and ground with an electronic circuit being the path of least resistance between the two. It generally occurs when ESD handling precautions are overlooked or inadequate.

The sensitivity of IC's what is an IC? To ESD is classified according to the voltage levels that may cause potential damage. There are three classes as shown in the table below.

Class	Sensitivity Level
Class 1	Less than 1,000 volts
Class 2	1,000 to 4,000 volts
Class 3	4,000 to 15,000 volts

#### **ESD** Protection



These industry standard ESD symbols are printed on the packing material to notify distributors and users that ESD precautions and proper handling procedures must be utilized to insure the reliability and quality of both the IC's inside as well as the electronic end products that will utilize them.

#### **Protected Work Area**

A protected work area must be provided wherever ESD sensitive parts, assemblies and equipment are handled. This protected area must be constructed, equipped and maintained with the necessary ESD protective materials and equipment to insure that voltages are below the sensitivity level of the most ESD sensitive item handled in the work place.

**EIA-625** (Requirements for Handling Electrostatic Discharge Sensitive Devices) is a good specification to use as a reference. It identifies the key elements in handling ESD devices. It also provides a check list for performing an ESD handling audit.

An ESD protected work area should address the following items:

- Grounded ESD protective work surface
- ESD safe flooring (mats or permanent installed ESD flooring)
- Personnel grounding (wrist straps or ESD shoes in conjunction with grounded ESD flooring)



- Removal or control of static generating sources so that no voltages are present greater than the threshold established for safe ESD handling of the most sensitive device used.
- Usage of ESD Supplier Management clocks when personnel's clothing generates charges greater than the established threshold
- Installation of air ionizers where essential equipment and material exceed the established threshold
- Identification of ESD safe workstations

All items included in the protected work area should be tested at a prescribed frequency to ensure their continued effectiveness.

#### 6.3 MATERIAL HANDLING AND CLEANING SPECS:

Any other specifications not covered in this manual will be addressed in this section ES0217



# APPENDIX I

# Trojan Bar Code Labeling Requirements

When Required:

- 1. Label must be of linear symbology, code 39 or code 128
- **Bar Code Symbology:** We have already specified using a linear symbology (Code 39 or Code 128). Which symbology the supplier chooses and the amount of information that is encoded will determine the length of the bar code. The most compact encoding will be Code 128 using only numeric characters.
- **Printer Resolution:** To ensure readability with our scanners, the narrow line width should not be less than 0.2 mm (i.e., 2 dots at 8 dots/mm). If the supplier chooses to use a high resolution label printer (12 or 24 dots / mm) then we should be able to handle a narrow line width as low as 0.1 mm. The bar codes will be read with normal distance scanners (nominal range: 4" 30"), so very large bar codes that are typically used for box labels in warehousing application are not suitable.
- Available Space: Each item that will receive labels must be examined for space constraints and label location. The horizontal dimension of the bar code must follow a flat surface and must be visible when the item is assembled into the product sub-assembly (e.g., ballast tray). If the bar code is being applied to a cylindrical surface then the horizontal dimension of the bar code must follow the longitude axis of the cylinder. A label should also be applied to the outer packaging of the container in which we receive the item from the supplier. We have already reviewed this issue with Nedap and they appear to have provided a satisfactory response for the UV3000+ ballasts. Other components need to be reviewed on a case-by-case basis.
- It should be possible to provide the information we require within a 1" x 3" label footprint. If the information is encoded efficiently, then a label as small as 0.5" x 1" may be possible without loss of legibility. In all cases, the actual label and label location should be submitted to us for approval before the supplier begins production.
- 2. The barcode must include the following information;
  - i. Date of manufacture
  - ii. Revision level
  - iii. Sequential # of units produced that day
- 3. Durability, and visibility is of great importance
- 4. The label will not obscure identified components

<u>Note</u>: Prior to any application implementation by a vendor it is imperative that "test" labels be sent to us to verify that they are compatible with our system.



# APPENDIX II

# Corrective Action: NC Process

Trojan uses an NC (non-conformance) system to track non-conforming product and to initiate corrective action. The actions taken must contain the immediate quality issue and prevent recurrence of a similar problem in the future.

In the event that non-conforming product is found the supplier will receive either a "NON-CONFORMANCE ACTIONS REQUEST" form or a "NOTIFICATION OF NON-CONFORMING PRODUCT".

If you receive a "NON-CONFORMANCE ACTIONS REQUEST" <u>you are required to respond immediately with your</u> <u>interim containment plan.</u> Further more, you are required to complete and return the action request outlining your permanent corrective action plan by the due date. Supplier response rates to "NON-CONFORMANCE ACTIONS REQUESTS" will be tracked and reported.

If you receive a "NOTIFICATION OF NON-CONFORMING PRODUCT" <u>you are not required to return the form</u> but you must still ensure appropriate attention is given to the quality issue and ensure that any further receipt of non-conforming product is prevented.



# APPENDIX III

		Sample Su	bmis	ssion Re	quiremer	nts Warrant	
Supplier Name			Troj	an Part #			
Print Rev. Level	int Rev. Level		Part Description		1		
Product Line		F		Number			
Sample Sub. #			Quantity Reg'd				
Buyer			Due	Date			
TROJAN TEA	M MEMBERS / EM	AIL					
Trojan Lead			-	neering			
Quality			+	hasing			
Other			Othe	er			
	R SUBMISSION						
Initial Subn					ier Change	÷	
_	g Change(s)		<u> </u>		Change in Part Processing / Location		
Change to	Material			Other:			
SUBMISSION	REQUIREMENTS	FROM SUPPLIER		1			
🛛 🛛 Sample Su	bmission Requirem	ents Form <u>Signed</u>		Process Flow			
Drawings ( marked)	Drawings (With reference layout numbers clearly			Control Plan, including Frequency of Checks and Sample Size			
Full dimens	Full dimensional for X pieces. Every print dimension			Capability	Study (List Fe	atures):	
- must be inc	cluded, referenced t results for critical di						
Sample Siz	ze: <u>X</u> pieces			Items Required with Production Shipments:			
Packaging	Plan 🔲 TRI	AL shipment required					
Material Ce	ertificates	rtificates			Other:		
		be completed by the					
l affirm that this subm specified materials or	nission is representative (	of our parts and/or samples,	conform than the	s to the attache	ed drawings / spe tion process. Add	cifications and are made from ditionally, all identified requireme	
Print Name:		Title:			Phone No:		
Supplier Signat	ure & Date:	1 1			Email:		
FOR TROJAN					1	1	
			R R	ejected (Con	nments):		
Approved	ed documents and :			- 1	r		
		a a sea sellar a sua a a Sura al sellar					



# **APPENDIX IV**



# Reference NC # 00-000

This number will be added by QA)

# **Request for Deviation**

The purpose of this form is to give advanced notice to QA (and any other affected departments) of acceptance of a product that will not meet the specifications.

If this deviation will be permanent, then the ECR (Engineer Change Request) must be generated immediately, and the number noted. In this case, this document will be used to inform QA of the decision until the time that the EN has been implemented.

# Approver / Designer

Date		
Supplier		
Supplier's Representative (Name)		
Part # / Revision #		
Deviation to be accepted		
(What exactly is being accepted? What does the spec say)		
Purchase Order #		
Come of deviation	ls this a permanent change? 🛛 🔲	ECR Number:
Scope of deviation (How many parts will be accepted like this? How long? Which shipments? etc.)		
Designer / Leader Approval (Print & Sign )	Print	Signature

Save this completed form to your computer, then send a copy of the completed form to Quality department.

# Quality Assurance

This approval gives the authorization to use the parts "As Is" once they arrive. An NC will still be generated when the parts arrive at Trojan. A hard copy of this should be filed in the Quality Assurance Lab.

Once shipment has been received, complete the following to close this Advanced Approval of Deviation

NC # genera	ted				
Date					
QA Sign-off					
This Deviatio	n was	Accepted		Rejected	
Once parts have be	en received and this Advar	ced Approval of Dev	viation signed-off, it	should be filed in the approp	riate Supplier File.
Form Number: 000080	FR ~ Request for Deviation				
Rev: 002	Date: 2008	11-10		Approved by: Quality Assura	ince



# **APPENDIX VIII**

CERTIFIED	
PART NUMBER: REV PO: DATE INSPECTED: CERTIFIED BY: NC REFERENCE: REASON FOR CERTIFICATION:	

Approx. 4" X 4" label