



DELTA
SYSTEMS

SUPPLIER QUALITY MANUAL

Revision History:

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1. Purpose

The overall purpose of this manual is to communicate the Delta Systems requirement to establish and maintain long term mutually beneficial Supplier relationships. The ability to accomplish this goal is based upon successful execution of the specifics described in this Supplier Quality Manual.

2. Scope

This Supplier Quality Manual (“Manual”) has been developed to communicate the operating principles, general expectations, requirements, and procedures of Delta Systems. Adherence to the guidelines described in this Manual is required by all Delta Systems suppliers. This Manual is provided as a supplement to, and does not replace or alter, any portion of the purchase agreement between Delta Systems and supplier (if applicable), including but not limited to, the general purchase conditions or requirements included in applicable purchase order(s), engineering drawings, specifications, industry standards (i.e., IEC, UL, etc.), and other contractual documents between Delta Systems and supplier. This Manual describes the minimum requirements for which the supplier has responsibility. Delta Systems suppliers are expected to execute a continuous improvement approach that includes systemic improvements that exceed the requirements specified within this Manual.

3. General Expectations:

3.1. Consistent Quality

Zero-defect products are expected from suppliers to Delta Systems. Any deviation from this will result in the potential rejection and return of the product to the supplier. Payment by Delta Systems shall not constitute acceptance. Even after acceptance of a shipment, Delta Systems reserves the right to return any material that proves to be defective for full credit. Defective material may be returned at the supplier’s expense and account debited accordingly. Additional charges for sorting, administrative fees, and other related costs (extra transport, end customer charges, etc.) may also be added.

Consistent Quality must be built into the product prior to initial material production as detailed in Sections 3.5 and 7.3. Suppliers are responsible for working with Delta Systems to ensure design manufacturability and process capability and that they possess a comprehensive understanding of all requirements and specifications prior to the start of production.

The ability of a supplier to demonstrate First Time Right success is a major differentiator and is paramount for suppliers to be successful with Delta Systems.

3.2. On-Time Delivery

Delta Systems requires all suppliers to provide 100% on-time delivery performance with the correct quantity and pricing agreed upon. To further clarify this, we consider unauthorized early or late deliveries and partial or over shipments to be unacceptable. The quantity shipped per order or release cannot vary from specified quantity without prior consent of Delta Systems.

On-Time delivery performance is defined as the material order quantity being delivered to Delta Systems dock on the required date shown on the Purchase Order. The supplier must have the material ready for shipment with enough time to allow for normal ground or ocean freight delivery. The tolerance for on-time deliveries is no more than two days early and zero days late. The supplier is responsible for paying for or reimbursing Delta Systems for the cost of expedited freight charges resulting from late deliveries.

3.3. Regulatory Compliance

Suppliers are expected to comply with all international, national, and local laws and regulations defined by Delta Systems as well as the requirements of our customers. Delta Systems currently requires compliance with the following regulatory requirements:

- REACH REGULATION (EC) No 1907/2006,
- RoHS 3 - Directive 2011/65/EU - Delegated Directive (EU) 2015/863,
- Conflict Minerals Compliant PL 111-203, Sec. 1502 CMRT,
- California Proposition 65,
- California-Transparency-in-Supply-Chains-Act, and
- Toxic Substances Control Act - 15 USC Ch. 53.

Delta Systems requires documented proof of compliance with these regulatory and customer defined compliance requirements. Delta Systems requires that suppliers update their proof of regulatory compliance as regulations are updated. We expect that the suppliers will provide the appropriate regulatory certifications to Delta Systems in a timely manner. Compliance Documents (as defined herein) will be rejected if they are not up to date with the latest published and released regulatory requirements. These compliance documents may include one or more of the following (collectively the “Compliance Documents”):

- Certificates of Compliance (CoC),
- Safety Data Sheets (SDS),
- Regulatory Data Sheets (RDS), and
- Other documents required and/or acceptable to Delta Systems relating to the supplier’s regulatory compliance.

The Compliance Documents shall be required for each of the following events:

- Initial material shipments.
- Shipments after regulations are updated.
- All raw material changes.
- Delta Systems periodic requests for updates.

If the supplier is unwilling or unable to provide Delta Systems with requested Compliance Documents and/or supplier fails to comply with applicable regulatory requirements, Delta Systems at its sole discretion may take any or all the following actions:

- Discontinue future procurement of material.
- Return material for credit.
- Place supplier on No New Business Status until which time the suppliers can meet all requirements.
- Charge supplier for time and effort to gather and document compliance.

3.4. Continuous Improvement

It is expected that all Delta Systems Suppliers will implement and execute continuous improvement across their entire organization (i.e., Lean, Six Sigma, Design for X). The intended results from this approach may include product improvements, total lower costs, and an increased level of mutually beneficial business.

3.5. Supplier Design Transfer Review (SDTR)

Suppliers must possess the ability and willingness to support Delta Systems Supplier Design Transfer Review (“SDTR”) activities. The SDTR is a collaborative effort between Delta Systems and our valued suppliers to complete a comprehensive upfront alignment on all material requirements/specifications, quality, and regulatory requirements. The process verifies that all engineering design records, and specification requirements are properly understood. The most important aspect of the SDTR is that the supplier confirms that they can meet all the requirements and provides their expertise to improve the design.

3.6. Engineering Expertise

Delta Systems values suppliers whose value proposition goes beyond the traditional build to print capabilities. The preferred supplier profile includes the following Engineering Capabilities:

- Technical Road Map Discussions
- On-Site Engineering Support
- Early Supplier Involvement that results in supplier identifying world class engineering solutions based upon the high-level Delta Systems requirements solutions.

- Proactive identification and implementation of product cost and performance improvements

4. Supplier Qualification and Approval

As part of the supplier approval process, suppliers will receive an initial self-survey form which once completed must be submitted to Delta Systems Supply Chain and Quality Departments for review. Any questions or gaps in this self-assessment survey will either need to be corrected or have established plans to be implemented to correct these gaps prior to the award of business.

Depending on the material, component or product being sourced, the supplier may be audited by a team consisting of Supply Chain and Quality personnel prior to the award of business. In general, the audit is based on the quality systems requirements as described in the ISO 9001:2015. Any findings from this audit will need to be corrected or have established plans to be implemented to correct these gaps prior to the award of business. Plans will be reviewed and approved by Delta Systems Supply Chain and Supplier Quality for suitability and completeness.

Suppliers may be subject to periodic follow-up audits by Supply Chain and Quality personnel to ensure continued Quality and Delivery targets are being met. Suppliers will be classified shown below.

4.1. Supplier Performance Monitoring

A supplier Score Card (or similar), rating the supplier's performance on the following areas may be maintained with select suppliers to monitor, communicate, and identify opportunities for improvement.

Factors contributing to a supplier's performance may include:

- Product Quality Performance (ppm)
- Product On-Time Delivery
- Supplier Corrective Actions
- Supplier Audit Results
- Quality Management System Level (ISO9001 or other)
- Cost Trending Performance

Delta Systems may publish the supplier performance on an as needed basis. A major component of supplier monitoring is on-going trend analysis and demonstrated continuous improvement results based upon timely implementation of permanent corrective actions. Failure to implement improvements in a timely manner and/or repeat occurrences of systemic issues may result in the supplier being placed on probation and/or permanent disqualification.

5. Quality Systems Requirements

5.1. Non-Conforming Product Control

Suppliers shall have a system in place to contain, control, and disposition nonconforming products so that it does not get delivered to and/or used in products manufactured by Delta Systems. It is the responsibility of the supplier to identify any non-conformances in the product that they supply prior to delivery to Delta Systems.

5.1.1. Deviations to allow for Shipping Non-conforming Products

If products are determined to be out of specification by the supplier and they want to ship the non-conforming product they must request a deviation, from Supplier Quality, to allow for shipment and potential use of the non-conforming product by Delta Systems. The out-of-spec conditions must be minor in nature and must not impact safety or product performance and will be considered for temporary product deviation. The supplier will immediately segregate any suspect material until Delta Systems has made its disposition on whether to accept the nonconforming product.

This non-conforming product may be granted a one-time deviation, at the sole discretion of Delta Systems, which does not apply to subsequent shipments as it is expected that the supplier will initiate and complete the necessary corrective actions per Section 5.2 and/or sort or remanufacture options prior to the next shipment to ensure that future zero defect product is delivered to Delta Systems.

The supplier must have prior written authorization from Delta Systems prior to shipping the material. If Delta Systems rejects said request, it is the responsibility of the supplier to ensure that the material is properly scrapped and/or reworked.

The supplier is also responsible to complete a root-cause investigation and implement a permanent corrective action per Section 5.2 for all non-conforming material, whether a deviation is granted or not.

5.1.2. Notification of Mis-Shipped Non-Conforming Supplier Product

When a supplier discovers that non-conforming product has been inadvertently shipped without an authorized deviation the Delta Systems Supplier Quality, must be contacted immediately, by the supplier, to quarantine and prevent the use of this unapproved product. This non-conforming supplier product will be quarantined and evaluated to determine if a deviation, return to vendor or rework of the non-conforming supplier product is warranted.

Delta Systems and the supplier will determine a mutually acceptable remedy from the following options to remediate this issue:

- Supplier may have the product returned at the suppliers' expense and replaced in a timely manner. All expedited shipping costs will be at the supplier's expense.
- The supplier may sort for the nonconformance at Delta Systems by providing their own labor or incur the labor costs for a Delta Systems sort at the current labor rate.
- The supplier can have Delta Systems Inc. discard the product and send replacement product.
- Supplier may request a deviation that must be approved by Delta Systems prior to acceptance and use of the product.

Delta Systems may charge back to the supplier any expenses directly related to the non-conformance as defined in this Manual, the supplier agreement, and/or supplier contract. This may include lost labor, lost production, scrapped assemblies, etc.

5.2. Corrective Action System

Suppliers shall have a corrective action system in place, as applicable, utilizing an 8D or equivalent problem-solving tool to determine the root cause of non-conforming quality or delivery issues. The output of this corrective action system is the determination of the true root cause of the non-conformance and a plan and/or actions to eliminate the issue moving forward.

Upon identifying the need for corrective action, Delta Systems will provide the preferred Supplier Corrective Action form to be completed by the supplier. This form will detail the containment, short term action, root cause identification and long-term corrective actions.

An immediate response will be required within three business days as to the containment and disposition plan for the non-conforming material. A formal corrective action response will be required within two weeks, outlining the root cause, long-term corrective actions and verification of those corrective actions. Long term Corrective Actions shall be implemented within sixty calendar days unless agreed upon with Delta Systems. If the identified actions are determined to take longer than sixty calendar days, the supplier is required to notify Delta Systems for an approved extension. Proof of corrective actions implementation is required through the submission of documentation supporting the corrective actions.

5.3. Product/Process Change Notification System

All process changes or deviation requests shall be submitted to Delta Systems' Quality Department for written approval prior to implementation. No change of the supplier's raw material, product, or process (including production location) or sub-supplier is allowed without prior written Delta Systems approval. The supplier must submit a written request to the Delta Systems Quality Assurance department representative for any

change to product or processes and obtain approval prior to implementing the change. This includes any change by Delta Systems direct supplier (Tier 1) and/or any sub-supplier throughout the supply chain. Examples of changes include, but are not limited to, engineering design and/or specification changes, component changes, equipment and/or tooling change, firmware/software change, raw material change, supplier part number change, manufacturing location change, manufacturing process change. Delta Systems will then investigate the potential effects of the proposed change and will inform the supplier if the requested change has been approved or denied. For approved changes, a re-validation of the part and process will be requested utilizing Delta Systems Supplier Part Approval Process (“SPAP”).

Suppliers must provide all change requests with enough notification so as not to disrupt Delta Systems’ production. The duration for review and approval may be significant depending on the scope of the proposed change. These request(s) must allow for the following possible review elements (where applicable):

- Delta Systems initial review and decision on change request.
- Supplier production of initial engineering samples.
- Delta Systems review of engineering samples.
- Supplier new production tooling development.
- SPAP material production.
- Delta Systems SPAP review and approval.
- Supplier Lead Time for scale-up of new production material.

Changes are not to be implemented prior to the receipt of written approval from Delta Systems Quality Assurance personnel.

5.4. Calibration System

It is preferred that suppliers have a system in place to ensure that the tools and devices used to measure and confirm specification compliance are calibrated so that they produce accurate measurements. Records of calibration shall be maintained and available to Delta Systems upon request.

5.5. Traceability System

Suppliers must have a system to uniquely identify the material, component, and product through all stages of production within their facility. This traceability shall include the ability to trace backwards and forwards to the individual lots and/or purchase orders of material used in the production of the component and or product supplied to Delta Systems.

5.6. Tooling and Fixtures

Suppliers are expected to ensure that all Tooling and Fixtures are inspected, verified, and maintained to ensure ongoing conformance to the specification requirements of all material supplied to Delta Systems. If the tooling is worn beyond simple repair, it is expected that the supplier will notify Delta Systems of the need to complete major repairs and or replacement of the tooling. This notification must allow for enough lead time to ensure successful completion of the following steps:

- Review of request by Delta Systems.
- Lead time to make new tool.
- Production of initial samples.
- Delta Systems to review initial samples.
- SPAP material production and approval.
- Lead Time for manufacturing parts using the new tool.

5.7. Special Process Validation

Suppliers are expected to identify and validate those special processes where the output of those processes cannot be subsequently non-destructively verified and affects the product's form, fit or function. Examples of special processes are welding, heat treatment, soldering, crimping, plating, and other processes which cannot be subsequently verified non-destructively. Suppliers are responsible for identifying those special processes and providing the necessary documentation demonstrating the process validation for inclusion with the SPPAP supporting documentation.

5.8. Sub-Supplier Quality Control System

When sub-suppliers are used by a Delta Systems supplier, it is the responsibility of the supplier to adequately control the sub-supplier to ensure product quality. Delta Systems reserves the right to audit the sub-supplier. Delta Systems Tier 1 suppliers are expected to ensure that all requirements and expectations, set forth in this Manual, are maintained and controlled throughout the Supply Chain. Our tier one suppliers agree to review this document with sub suppliers to ensure that they understand Delta Systems Expectations.

5.9. Test and Inspection Plans and Metrology

The supplier is responsible for the development and implementation of test and inspection plans and metrology, ensuring that all material meets Delta Systems specification requirements. These test and inspection plans must result in First Time Right and zero defects.

6. General Business Requirements

6.1. Communications

All communications, both electronic and otherwise, with Delta Systems shall be in English.

6.2. Engineering and Technical Capabilities

The supplier must maintain access to a technical staff that is knowledgeable of the products being supplied and capable of providing engineering and technical support in the following areas:

- Continual Improvement
- Corrective Actions
- Cost Savings
- Engineering Changes
- New Product Development
- Preventive Actions
- Process Improvements
- Quality Improvements

6.3. Disaster Recovery Plan

Delta Systems recommends suppliers have a Disaster Recovery Plan in place to ensure that the supply of materials, components and finished goods is minimally impacted by both natural and manmade disasters.

6.4. Adaptability and Capacity

Delta Systems requires suppliers to be flexible and responsive, and able to absorb new volume into production. Suppliers must notify Delta Systems of any capacity constraints related to the supplier's capacity to deliver raw materials, components, and/or finished goods. Additionally, suppliers must periodically review and advise Delta Systems of any internal production constraints or machine capacity constraints at its facilities or its sub-tier suppliers that could affect delivery or quality of product.

Suppliers must notify Delta Systems when capacity utilization reaches the threshold stated within their specific contract. If no contract exists, the threshold is 80%.

7. Product Requirements

7.1. Product Specifications

Materials, components, and finished products are expected to be made in accordance with the specifications supplied by Delta Systems. The supplier is expected to review these specifications and assess whether they can meet the required material, dimensional and performance specifications within the associated tolerances. Acceptance of the business indicates acceptance of the product specifications as defined in the Delta Systems documentation provided as part of the quoting package.

Critical characteristics that affect form, fit, function, are defined and noted on Delta Systems engineering documents, prints and other product specifications. These critical characteristics are noted on the Delta Systems engineering drawings by using the following symbols:



Process Capability Requirements for all Critical Characteristics shall have a C_{pk} of >1.33 unless otherwise agreed upon prior to production of product. Suppliers should also choose key process characteristics to monitor in their manufacturing process internally and strive for a six-sigma level ($C_{pk} \geq 2.00$).

If at any time, a critical characteristic fall below the C_{pk} requirements, the supplier shall notify Delta Systems with containment actions. The Root Cause and intended Corrective Actions along with verification of actions must be relayed to Delta Systems per the Corrective Action requirements in this Manual.

Short term rework and/or sorting actions may be requested if the product is required at Delta Systems. All additional expedited shipping costs will be at the expense of the supplier.

7.2. Revision Control

The supplier shall comply with the latest revision of the supplied purchase order and engineering documentation. If a discrepancy is identified between the purchase order and the supplied engineering document, it is the responsibility of the supplier to reconcile the discrepancy before producing the product. Comments or exceptions in any supplier provided communication (i.e., emails, phone calls, or quotations) is not an acceptable method for producing material that differs in any way from the revision level on the purchase order.

The supplier is responsible for ensuring that the print is updated to include any needed modifications. The supplier shall not proceed with supplying the material until the print and purchase order is updated to match what is being produced.

7.3. Supplier Part Approval Process (SPAP)

A SPAP may be required for products purchased from a supplier. The SPAP requirements are determined by Delta Systems and the appropriate requirements are submitted to the supplier to complete. The supplier shall submit the appropriate completed SPAP documentation to Delta Systems for review and approval, prior to shipment of SPAP product. Once the SPAP is approved, the supplier product is approved for purchase.

All SPAP material must be produced on the same exact production equivalent processes that the subsequent production material will be produced on.

The supplier must ensure that the completed SPAP paperwork, including the Declaration of Material Content, if required, is provided electronically to Delta Systems prior to shipment of the material.

The SPAP shipment should include all information requested during the SPAP process. This may include the original SPAP documentation and clearly identified SPAP samples, with final measurement results. Delta Systems may also elect to have suppliers ship these samples prior to additional SPAP material shipments.

Product is qualified by Delta Systems using a Production equivalent process. All SPAP and production products must come from the same production process. Rework is a process change that must be reviewed and approved by Delta Systems. If the supplier decides that rework of the product is a viable option, the specifics for this rework and evidence that it will not affect product safety, performance or reliability must be provided by the supplier. Rework should be an isolated remedy that is covered by the Delta Systems deviation process per Section 5.1.1 of this Manual.

7.4. Material Certifications and Changes

Material certifications shall accompany all shipments of raw material lots specifying conformance to Delta Systems purchasing and component specifications, if defined.

If an alternate raw material source is desired, the supplier will be required to submit a request for approval, to Supplier Quality, prior to implementing a change and if approved. Depending on the scope of the change, a SPAP sample may be requested prior to final approval. If a raw material shortage is in effect and the supplier must use an alternate supplier, prior to submitting a SPAP, the supplier shall request a written deviation from Delta Systems. This deviation request shall include validation testing to show that the alternative material is equivalent or superior to the raw material currently being received from the primary supplier.

7.5. End of Life Product

For products nearing end-of-life, suppliers must provide a minimum of 12-month advance notification of product withdrawal and accept last time buy purchase orders. Additionally, at the time of notification, the supplier must provide suggestions to the Supply Chain department for potential alternatives/replacements of last time buy products or materials.

7.6. Limited Shelf-Life Product

Supplier products with limited shelf life must be clearly marked with the “Use by Dates” or “Expiration dates.” The material must be delivered to Delta Systems within a timeframe that ensures that most of the life is remaining.

7.7. Moisture Sensitive/Electrostatic Discharge (ESD)/Electrostatic Discharge Sensitive (ESDS)

Moisture Sensitive or ESDS assemblies and equipment containing ESDS parts and assemblies must be clearly marked with the ESD caution symbol.

7.8. Raw Material and Finished Goods Storage

The supplier is responsible for ensuring that all materials, components, and finished goods are stored in an acceptable environment, to prevent contamination and that ensures the material will perform and operate for its intended purposes, with the expected reliability and life cycle.

7.9. Process Specifications

All processes used in the manufacture of supplier parts must be done on production tooling under defined production processes.

8. Supplier Packaging and Shipping

Supplier products should be packed and/or palletized to prevent damage during shipping and handling. Supplier products will be inspected upon receipt. Damaged shipments may result in either a return of part and/or all the shipment or back charged for the damaged product and/or sorting costs.

Supplier products should be labeled at a minimum with the Purchase Order Number, Delta Systems Part Number, Delta Systems Part Revision, and Quantity along with the appropriate bar codes and manufacturers part number as applicable. Packing slips and certifications, where required, shall be attached to the box/container/pallet in a readily accessible location.

All Supplier shipments shall be made in accordance with the terms on the purchase order and/or through Delta Systems preferred logistics supplier. Shipments are generally ground for domestic shipments and ocean freight for international shipments. Authorization for expedited shipments must be approved via the P.O. or written authorization. For any expedited shipments made without receiving proper authorization, the supplier will be back charged for the additional costs.

9. Acknowledgement

We have received the Manual, understand, and agree to the contents and conditions specified therein.

Company Name	
Company Address	
Authorized Representative Name	
Title	
Email	
Phone	
Signature	
Date	