

## **ENGINEERING and PROCESS CHANGE MANAGEMENT**

### **(Requiring Notification for Class II Changes)**

#### **REVISION HISTORY**

- Revision 5 is the initial revision.
- The applicable revision of this document is determined by:
  - The revision specified on the purchase order, or
  - The revision in effect at the time of the purchase order if no revision is listed on the purchase order.

#### **REQUIREMENTS**

1. Seller shall establish baselines:
  - 1.1. Engineering documentation (such as drawings including Buyer Technical Data Packages (TDP), and Seller sub-assembly level, Bill of Materials and specifications) and process documentation (such as work and test instructions) baselines shall be established and frozen as a result of part qualification or software Formal Qualification Test (FQT).
  - 1.2. For hardware that does not have requirements for qualification, the initial full First Article Inspection (FAI) shall form the baseline.
2. Class I only - Once engineering and process baselines are established, Seller shall control changes to both the engineering and process baselines. Seller is not authorized to build hardware “at their risk” by incorporating proposed engineering and/or implementing process or tooling change(s) prior to receiving Buyer approval as defined in this document.
  - 2.1. Class II changes do not require approval from the Buyer but do require notification to the Buyer prior to implementation. Reference Section 6.3.
3. This Quality Note (Q-Note) does not apply for changes to Commercial-Off-The-Shelf (COTS) component(s) within the item(s) on this Purchase Order; however, changing a non-COTS TDP to allow a new COTS part number not previously described shall be considered a change. In the case of COTS components with the Buyer’s modifications, the modifications are subject to the controls in this Q-Note.
  - 3.1. COTS are defined per FAR 12
4. This Q-Note does not apply to raw material unless that raw material requires qualification beyond industry standard. Changing a non-COTS TDP to allow a new raw material not previously described shall be considered a change.
  - 4.1. Raw material is defined as a basic substance in its natural, modified, or semi-processed state which is used as an input to a production process for subsequent modification or transformation into a finished good.
5. Seller shall assign one of the following classifications for each proposed change:
  - a. Major/Minor Changes

- Class I (Major)
- Class II (Minor)
- b. Class III Changes

## **5.1. Class I (Major) Changes**

**5.1.1. Class I (Major) Changes.** The following definition of Class I change classification is modeled after EIA-649 Table 4, titled “Typical Major Change Criteria.” Class I (Major) Change Criteria:

- A change that affects specified and approved requirements for product attributes, including safety, reliability, and supportability.
- A change, after establishment of the baseline for the product design or implementation of the product design, that affects compatibility with interfacing products, including such products as test equipment, support equipment and associated software, programmable logic devices and/or firmware and products furnished by a customer or that affects one or more of the following:
  - Delivered operation or servicing instructions.
  - Required calibration to the extent that product identification should be changed.
  - Interchangeability or substitutability of replaceable products, assemblies, or components
  - Change to add a previously non-qualified supplier, where supplier selection is specified.
  - User skills or user physical attributes, e.g., the proposed change requires the customer to impose a height or strength requirement to operate the product.
  - Operator or maintenance training, e.g., the proposed change requires the customer to change how they train the Operator to use the product, or requires the customer to change how they maintain the product.
  - Changes which require retrofit of delivered products, e.g., by product recall, modification kit installation, attrition, replacement during maintenance using modified spares.
- Any change in the manufacturing process (routers, work instructions, procedures, etc.) that changes or alters the configuration, composition, or physical properties of the item produced.
- Changes to material, including chemical or physical properties, from which the product is manufactured.
- Adding any material to the deliverable item that is not called out in the approved manufacturing or engineering documentation.
- Changes to Acceptance Test Procedure(s)
- Changing the functional capabilities and purpose of test equipment.
- Any change to characteristics noted on the drawing or STAMP package on this purchase order.
- Class I change in sub-tier supplier’s process, tooling or engineering.
- Changing a non-COTS TDP to allow a new COTS part number not previously described that does not meet all specifications of the existing COTS part.

- A change that does not impact the above criteria and would otherwise be classified as minor but does result in an increase in cost/price to the Buyer, including incentives and fees, guarantees, warranties, and contracted deliveries or milestones. Routine service or maintenance does not require submission of a change notice request.

## 5.2. Class II (Minor) Changes

**5.2.1.** Any change that is not a major change as defined above. Any Class II change will be determined to be Class I if it affects the form, fit, or function of the end item(s) specified on the Purchase Order. The following are **examples** of changes that are Class II Minor changes:

- Adding a new sub-tier supplier to produce a part.
- Changing a non-COTS TDP to allow a new COTS part number not previously described that meets or exceeds all specifications of the existing COTS part.
- Changing the source of a material or sub-component where supplier selection is not specified within the Buyer's TDP.
- Changing the location of the internal or external site where some or all of the work is being performed, including movement of the production line equipment.
- Using different types of tools to produce the item on this purchase order (this does not include consumable tooling).
- Changing to new or alternate production line machines or equipment.
- Class II change in the sub-tier supplier's process, tooling, or engineering.
- Changing the Sequence of an operation, method of an operation, adding or deleting an operation (minor only if applied to baseline changes).
- Changes in any machine programming (e.g.: CMM, NC machine, OI programming).
- Changes to qualified inspection techniques or equipment (as opposed to calibrated test equipment): reduction, change in technique, etc.
- Changing attributes of the test equipment that does not affect the functional capabilities and purpose of test equipment.

## 5.3. Class III Changes

**5.3.1.** Class III changes apply to manufacturing-level documentation only and shall have no effect on processing sequence or process parameters. Class III changes are:

- Corrections to spelling.
- Correcting typographical errors.
- Adding or deleting non-directive (reference) photos.
- Correcting grammatical errors.
- Adding cautionary (personnel/hardware protection) notes.
- Updating document format.

## 6. Submitting the Change

**6.1.** Requirements for the change submittal are as follows:

- **All Class I (Major) changes require Buyer approval prior to implementation.**
- **All Class II (Minor) changes shall be submitted prior to implementation.**

- Notification of all Class III changes shall be made available if requested by the Buyer.
- Class III changes shall contain at a minimum the following:
  - A brief statement/purpose of the identified change(s).
  - Part number.
  - Document name or identifier; and
  - Before and after revision levels of affected documents listing the document page number and paragraph where the change was implemented.

**6.2.** Seller shall submit each change separately.

### **DATA SUBMISSION SUMMARY**

- Seller to deliver the following data to the Buyer for Buyer Approval/Notification:
  - Supplier form containing the appropriate change information as described in this document and/or any necessary supporting documentation.
- Seller to deliver the following data to the Buyer for information as required by this document:
  - Class III changes upon request.

### **NOTES**

- Exceptions to this document are not allowed unless contractually authorized.
- After the establishment of the baseline. The Buyer may conduct monitoring activities to verify Seller meets the configuration management requirements. These activities include but are not limited to conducting data reviews; conducting design review; conducting Production Readiness Review (PRR); performing configuration audits; performing a Buyer Product and Process Verification (PPV); performing a Hardware Acceptance Review (HAR) and/or Source Inspection.
- The Buyer reserves the right to request any documentation associated with engineering or process change requests submitted for approval or notification.
- If Seller has any question(s) about the class or subtype (process vs engineering) of change being submitted, they should contact the Buyer for clarification prior to the submittal of the change request.