

GQ SQ - Supplier and Subcontractor Change Management Policy

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1.0 General

1.1 Purpose

1.1.1 This policy explains when and how a supplier is expected to submit and request approval for changes to approved products that are supplied to Micron and its subsidiaries. It serves as the basis for how supplier change management notifications are made.

1.2 Scope

1.2.1 This document applies to all materials, equipment, manufacturing services, services that Micron procures for all qualified Micron products.

1.3 Reference Documents

Table 1. Internal References

| Document Name | EDM Number or URL |
|---|--|
| Micron Supplier Requirements Standard | Internal Link: Micron Supplier Requirements Standard External Link: Micron Supplier Requirements Standard |
| Micron’s Subcontractors Quality Requirements Document | Internal Link: Global Subcon Manufacturing Quality Requirements Specification External Link: |

| Document Name | EDM Number or URL |
|---|--|
| | Global Subcon Manufacturing Quality Requirements Specification |
| Global Quality - Automotive Material Protocol | Internal Link: DD5WXP66J5KH-1134295223-1742 |
| Ship-to-Control Policy | D6KQSD6SP6M-627862001-14144 |

Table 2. External References

| Document Name | EDM Number or URL |
|--|--|
| Production Part Approval Process (PPAP) 4th Edition | AIAG PPAP Blue Book 4th Edition |
| Advance Product Quality Planning and Control Plan (APQP) 2nd Edition | AIAG APQP and Control Plan Blue Book 2nd Edition |
| AIAG FMEA "Blue Book" 4th Edition | AIAG FMEA Blue Book 4th Edition |
| J-STD-046 | J-STD-046 |
| J-STD-048 | J-STD-048 |
| ISO 9001:2015 | ISO9001:2015 Version |
| ISO/TS 16949: 2009 | ISO/TS 16949:2009 Requirements for the Automotive Industry |
| Statistical Process Control (SPC) 2nd edition | AIAG SPC Blue Book 2nd Edition |

1.4 Definitions and Acronyms

Control Plan Documented description of the systems and processes required for controlling products.

Document Information and its supporting medium.

DFMEA/PFMEA Design Failure and Process Mode and Effect Analysis, an analytical methodology used to ensure that potential problems have been considered and addressed throughout the entire product and process life-cycle stages.

Fit The external dimensions and associated tolerances of the product, as specified by the supplier and/or customer.

Force Change Changes declared by Supplier to MICRON whereby failure to qualify will result in discontinuation / termination of supply of any MICRON material part ID.

Global Material Partner Spec System (GMPSS) Track and manage Front-end Material specification change and creation request and storage of approved material specification.

| | |
|---|---|
| Form | The visual appearance including shape, color, marking, and surface finish of the product, as specified by the supplier and/or customer. |
| Function | The electrical, mechanical, thermal, and performance characteristics of the product, as specified by the supplier and/or customer. |
| GQ SQ | Global Quality Supplier Quality. |
| Major Change | Change that may affect the form, fit, or function of the product, or adversely affect the quality or reliability of the product. |
| Minor Change | Change that does not affect the form, fit, function, quality, or reliability of the product. |
| Objective Evidence | Data supporting the existence or verification of a process, product or the test conditions. |
| Quality | Degree to which a set of inherent characteristics fulfills requirements. Results of a process (services, software, hardware or processed materials). |
| Process | A combination of people, procedures, methods, machines, materials, measurement equipment, and/or environment for specific work activities to produce a given product or service. |
| Procedure | Specified way to carry out an activity or a process. |
| Qualification process | Process to demonstrate the ability to fulfill specified requirements. |
| Reliability | The ability of a product to perform a required function at or below a stated failure rate for a given period of time. |
| Special Characteristics | Product characteristic or manufacturing process parameter which can affect safety or compliance with regulations, fit, function, performance or subsequent processing of product. (Characteristic is a distinguishing feature that can be inherent, assigned, qualitative, quantitative, physical, sensory, behavioral, temporal, ergonomic or functional). |
| Supplier/Subcontractor Change Management (SCM) | Process used by Micron to provide Suppliers and Subcontractors a systematic process and approach for communicating change requests. |
| Supplier Organization | An organization or person that provides a product or service. |
| Specification | Document stating requirements for a product or service. |
| SPC | Statistical Process Control – The use of statistical techniques such as control charts to analyze a process or its output so as to take appropriate actions to achieve capability. |

Ship-to-Control Control Limit (STC CL) Ship-to-Control Control Limit. Materials shall not be shipped to Micron when any control parameter is Out of Control (OOC) without a written waiver issued by the appropriate Micron Supplier Quality or IQC representative.

2.0 Policy

2.1 Micron's Supplier/Subcontractor Change Management Process

Suppliers and Subcontractors are required to notify and obtain acceptance from Micron using the SCM (Supplier/Subcon Change Management) process, before any changes are implemented to procured goods or services being supplied to Micron. The timeframe for notifications shall be as stated in [2.1.4](#).

Alternative requirements of notification or acceptance of changes may be captured in mutually agreed upon specifications. Micron reserves the right to reject any change that requires approval, as detailed in the SCM policy. For any changes that fall outside the above said policy, it is expected that the Supplier and Subcontractors make reasonable efforts to notify Micron of any change(s).

Such changes would include at least the following:

2.1.1 Minimum Change Notification Requirements

- Company structure change.
- Manufacturing Site or Location change, **new manufacturing line or N of a kind manufacturing line**.
- Changes in status of registration or certifications (i.e. ISO9001, ISO/TS16949, ISO17025).
- Test/inspection/metrology change include (new equipment and/or methodology **or N of a kind or location change**).
- Supplier and/or sub tier supplier changes
 - This may include raw material source or supplier changes
 - This may include smelter source changes (as per Dodd Frank-Section 1502; Conflict Minerals). An updated Conflict Minerals Reporting Template (CMRT) would be required when smelter sources for Tungsten, Tin, Tantalum, or Gold are changed.
- Process flow change (such as alternating a sequence of operations, adding or deleting an operation or inspection), including any chemical, mechanical or process changes which could affect the performance,

reliability, safety, serviceability, appearance, dimension, tolerances which is of Process – Manufacturing impact

- Design change driven (portions controlled by the supplier/sub supplier)
- Packaging and/or label change, packaging methodology
- Component approved vendor list, bill of materials, or change of location (AVL/BOM/COL) changes.
- Process chemical change (assembly or repair/re-work)
- Conflict Minerals related change
- Storage changes (warehouse environmental area changes)
- Fit, form, or function change
- Cost impact
- Delivery impact
- Logistical processes that change and/or alter the time and distance of shipment from the supplier including temperature recorder changes.
- Batch impact or changes
- Lot number or part number impact or changes
- Part Change impact
- Safety impact
- Environmental and regulatory hazardous content changes
- Facilitation impact
- Machine/Equipment impact
- Tooling change/addition/removal (encompasses tooling design rework or method change), including changes to fixtures, gages, consumables and test equipment
- Training impact
- Material or component impact
- Supply Chain impact

- Material Specification changes (For Front-end materials, Material Specification changes will through GMPSS (<https://gmpss.micron.com/>) for approval).
- End-of-life
- Any changes will impact PPAP content (for automotive parts).
- Container change including component changes that makes up the assembly of the packaging, i.e. O-ring, Diptube, Hoses, Coupler etc.

2.1.2 Supplier/Subcontractor Change Management Supporting Data

Unless already included within the SCM submission form, the following needs to accompany each Supplier/Subcontractor Change Submission:

- Detailed description of change(s)
- Reason for change(s) or impact(s)
- Method, if applicable, of identifying changed product
- Any impact on form, fit, function, appearance, quality, performance or reliability.
- Supporting objective evidence data, where applicable.
- Control Plan and DFMEA/PFMEA, where applicable.
- Expected first shipment of implementation date for change, if change would be accepted.
- Qualification process/plan schedule and/or results, if change would be accepted.
- Date, if required, when qualification samples would be available if change would be accepted.
- Date, if required, when final qualification data would be available if change would be accepted.
- Last date, if applicable, of manufacture of the unchanged product if change would be accepted.
- SCM Material Risk Assessment report ([template link](#)) which includes Background, Description of Change, Impact to Micron, Risk Assessment (5M1E), Supplier Qualification Assessment, Product Performance Comparison, SPC Performance Comparison, Production Flow Comparison,

Material Stability Data, Summary of Risk and Conclusion for the material supplier change.

- If the change will impact STC control limit, suppliers should provide proposed STC control limit.

2.1.3 Safety Related Impact Notifications

Suppliers and Subcontractors are required to provide timely notification through the use of the Supplier/Subcon Change Management (SCM) system, of any known or potential safety impact to personnel or equipment for the goods or services provided to Micron.

A safety impact change notification would include, but not be limited to the following examples:

- Product safety bulletins.
- Safety related training requirements.
- Safety related procedural updates
- Product safety enhancements.
- Safety related corrective or preventative actions.
- Environmental, Health, Hazard related issues or updates.

2.1.4 Supplier Change Notification Timeline Requirement.

- MAJOR CHANGES: Minimum 270 days in advance.
- MINOR CHANGES: Minimum 90 days in advance.
- FORCED CHANGE: Minimum 270 days in advance.
- TERMINATION / OBSOLESCENCE of materials: Minimum 365 days in advance.

The notification period shall exclude lead time for qualification sample delivery and the lead time for the Risk Assessment to be submitted to Micron to justify the risk of changes, and be accepted by Micron.

- For automotive parts, unless agreed upon, suppliers are required to notify Micron 365 days prior to implementation of a change. Approval shall be obtained from Micron, utilizing the Supplier Change Management ("SCM") process prior to any changes being implemented to procured goods or services being supplied to Micron. For Product Termination Notice (PTN), suppliers shall notify Micron 18 months before EOL.

2.1.5 Notification on SCM samples and 1st batch

- Suppliers should paste of Identification label on SCM samples and the indication on Packing list / PO.
- Suppliers shall fill in the first Batch ID with the change implemented (manufacture) date in SCM confirm stage.
- Suppliers shall notify Site IQC and procurement the 1st batch arrival data at least 7 days in advance according to inventory status and roll out plan.

2.2 Supplier/Subcontractor Process Change Control Requirements

Unless agreed to and documented elsewhere between Micron and the Supplier/Subcontractor, the Supplier/Subcontractor shall be able to provide evidence of the controls, processes, and procedures stated in section [2.1](#) when requested by Micron. Suppliers/Subcontractors are required to have documented processes or systems implemented for managing internal change and for managing change notifications from their sub-suppliers. Further details are embedded within the [Micron Supplier Quality Requirements Document](#).

2.2.1 Micron's Supplier Quality Requirements Document

Supplier and Subcontractor shall retain a current version of Micron's Supplier Quality Requirements Document, which is located on Micron's corporate website. [Micron's Supplier Quality Requirements Document](#).

2.2.2 Control of Parts

The Supplier and Subcontractor shall have documentation and a process to control parts (example: revisions, returned parts, inventory control methodology).

2.2.3 Change Control Process

The Supplier and Subcontractor shall have documented internal and external change processes that include; record retention schedules, effective date of change, definition and proposed change content with supporting objective evidence such as qualification process data or results.

2.2.4 Supplier/Subcontractor Engineering Change Process Control Requirements

Supplier and Subcontractor Engineering change process must be documented and provided to Micron upon request.

2.2.5 Micron Supplier/Subcontractor Change Management Policy

Supplier and Subcontractor shall retain a current version of Micron's Supplier/Subcontractor Change Management Policy (this document).

2.2.6 Incoming Quality

The Supplier and Subcontractor shall have documentation and processes to control the inspection and verification of incoming product to ensure conformance to specified requirements.

2.2.7 Final Inspection Process

The Supplier and Subcontractor shall have documentation and processes to ensure final inspections are documented and results are recorded.

2.2.8 Document Control

The supplier shall have a document control and retention program for, but not limited to:

- Production Manufacturing
Supplier: Retained for a minimum of 2 years. (Production records related to production, including quality control, testing, and manufacturing activities that are not identified in another record series. Include scribe data, travelers, machine logs, image data logs, and lab analysis).
- Design and Development Records - Permanent (related to the design and development of products for manufacturing).
- Design ID Specific Production – End-of-Life plus 5 years (related to documentation required for the entire life of product. Include qualification data, material evaluations, specifications, recipes, experiment data, and test jobs).
- The Subcontractor shall have a document control and retention program in reference to the [Global Subcon Manufacturing Quality Requirements Specification](#).

3.0 Document Control

The Supplier/Subcon Change Management Policy document control is managed in accordance with the Micron Global Quality Control of Documents Procedure.

3.1 Approval

This procedure shall be approved by the following approvers and the appropriate stakeholders.

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|--|--|
| SCM ECN APPR BE CHANGE | SCM ECN APPR PUR FECAP |
| SCM ECN APPR BEEQ | SCM ECN APPR SQ STD |
| SCM ECN APPR FECPEE | SCM ECN APPR PUR BEMAR |
| SCM ECN APPR SILICON | SCM ECN APPR PUR FEMAR |
| SCM ECN APPR SUBCON | SCM ECN APPR PURCOM |
| SCM ECN APPR SQ SYS | SCM ECN APPR AMHS |
| SCM ECN APPR SQ BESQE | SCM ECN APPR SQ SQC |
| SCM ECN APPR SQ FESQE | |

3.2 Notification

Once a new revision of the procedure is effective, notification will go out to [SCM NOTIFY ALL](#).

3.3 Review

Review will be done on a minimum 1-year basis with input coming from site SCM Administrators, Global Procurement, Global Quality Standards group, Global Quality Supplier Quality Group and Micron External Manufacturing Quality Group whenever changes impact QMS, or when requests are made by internal organizations.