Customer Specific Requirements

Transfer the Customer Specific Requirements to suppliers GM CG4338 GM 1927 03 SQ Supplier Quality Statement of Requirements (SQ SOR)

AGENDA:

1. Scope

This Customer Specific Requirements Document (CSR) is an integral part of Corporate Supplier Manual (CSM) and aims - defines to transfer the specific and special requirements of the final customer (OEM) and Huf. This document contains the most restrictive requirements that have to be fulfilled by the Huf https://www.iatfglobaloversight.org/oem-requirements/customer-specific-requirements/ The supplier is obliged to sign this document.

Note: GM forms are preferred to use, but no mandatory.

2. Targets

Targets for suppliers (PPM, Logistic Performance, 8D evaluation) are set for all components (material groups) in the Huf Supplier Portal, available on www.huf-group.com website and update annually.

3. Definitions

Supplier: A Direct Supplier to Huf
Sub supplier: Means all the supply chain (suppliers and all sub suppliers).

4. Certifications

4.1. GM Quality Performance Requirements

4.1.1. The supplier shall provide documentation that shows the supplier has adequate Quality and Manufacturing System Controls in place to meet at a minimum the IATF 16949 requirements or, formal commitments to have processes, procedures and controls in place that meet IATF 16949 requirements.

4.2 IATF16949 – Quality Management System Requirements

4.2.1. Suppliers not certified to IATF16949, or those suppliers constructing or purchasing facilities to manufacture the parts being quoted, shall include a defined certification attainment plan with their quote for further consideration.

4.3. China Compulsory Certification

4.3.1. The supplier shall contact China Quality Certificate Centre (CQC) for CCC activities and ensure all CCC related parts meet the China Compulsory Certification requirements (reference CNCA- C11-10:2014).

4.4. Outside Test laboratories

4.4.1. Suppliers utilizing outside test facilities shall provide evidence that the test facility is accredited per ISO/IEC 17025. The following groups are recognized to assess suppliers that accredit independent test and/or calibration laboratories to ISO/IEC Standard 17025:2005.

4.4.1.1. National Cooperation for Laboratory Accreditation [A]
4.4.1.2. International Laboratory Accreditation Cooperation [B]

5. Advanced Product Quality Planning (APQP)

The supplier shall use an advanced product quality planning process that follows the GM 1927 01 APQP Project Plan that ensures production readiness with parts that meet 100% of the product's specifications.

5.1 Manufacturing Process Design and Development

5.1.1. All suppliers are required to have effective manufacturing practices and procedures to ensure a continuous flow of defect free parts into GM production facilities. (Refer to IATF 16949 and QMS Strategies: GM 1927 36 and GM 1927 30 Quality Management Gap Assessment)

5.1.2. The supplier's quality process shall include 100% layout of customer requirements off each manufacturing stream (including tiered supplied components to their customer's requirements) on a set frequency determined by the potential risk to part function and considering the mfg. process capability. Supporting capability studies may be required. Documentation is to be maintained at the supplier location and available for review with customer.

5.2 Gauge, Tooling & Equipment (GM 1927 10)

5.2.1 Supplier to assume the gauge construction orientates the part in vehicle position unless Supplier Quality approves a deviation.
5.2.2 Supplier shall have product checking fixtures for sub-datum and openings where assembly plant or sequencer/sub assembler will install something that impacts

a final vehicle specification (e.g. trim plates, extension panel, grilles, glove box door, etc.).

5.2.3 Supplier shall have the ability to check a completed assembly. Sub-contractors shall also have the ability to check component parts. Any cubing or build fixture shall have the ability to demonstrate fit to adjoining parts and attachments.

5.2.4 Supplier shall have appropriate functional testing and final inspection to ensure product performs as designed under actual vehicle conditions.

5.2.5 Supplier shall, at a minimum, have a CMM (coordinate measurement machine) holding fixture available for the inspection of first parts off prototype and production tooling.

5.3 PFMEA (GM 1927 37):

5.3.1 Evaluations

No additional requirements to 3.5.5 AIAG VDA PFMEA Handbook

5.3.2 Severity (S)

No additional requirements to 3.5.6 AIAG VDA PFMEA Handbook

5.3.3 Occurrence (O)

The Occurrence rating (O) describes the occurrence of Failure Cause in the process, considering the associated current prevention controls. This value is dependent on the number of failures as shown in the reference Occurrence Tab. In cases where no data is available the default Occurrence value shall be 5 and a note added in the Cause of the Potential Failure: *data missing/not available***.**
General Motors requires the use of the Alternative PFMEA Occurrence (O) Table - Reference AIAG / VDA Manual C2.3.1 Alternate PFMEA Occurrence with incidents per thousand values to determine the occurrence rating.
For suppliers who choose to continue to use AIAG PFMEA Reference manual 4th edition refer to the Occurrence table in AIAG PFMEA 4th edition Standard.

5.3.4 Detection (D)

Detection is the rating associated with a prediction of the most effective process control from the listed detection-type process controls. Detection is a relative rating, within the scope of the individual FMEA and is determined without regard for Severity or Occurrence.

Action Priority (AP) Replaced with Risk Priority Level (RPL)

Once the team has completed the initial identification of failure modes and effects, causes and controls, including ratings for severity, occurrence, and detection, they must decide if further efforts are needed to reduce the risk.
In order to prioritize these actions, the method to be used is the Risk Priority Level (RPL).

All the actions are classified into 3 categories that calculate a Priority Level for each line item based on the plot of Occurrence vs. Severity and Detection vs. Severity
RPL S - Risk Priority Level Safety. Potential for safety risk. Level 1 that has a Severity 9 or 10

- RPL 1 – Non-Safety Risk (red): Highest level of risk, should review for potential risk reduction activity
- RPL 2 - Minimal Risk (yellow): Medium level of risk, next group to review for potential risk reduction activity
- RPL 3 - Mitigated Risk (green): Lowest level of risk, risk reduction activity not necessary

The priority level is the result of the combination of occurrence -vs- severity where the result will be plotted on the X axis of the Priority Level Matrix and of detection -vs- severity where the result will be plotted on the Y axis of the Priority Level Matrix: the results of this plot will provide the Priority level of that PFMEA line.

5.3.5 PFMEA Requirements shall be met as outlined in the Part and Process specific CGs

5.3.5.1 Refer to CG4317 for specific Global Propulsion Systems requirements.

5.3.6 Where Part and Process Specific CGs do not exist, a default detection of 3 shall be applied to Severity 9 and 10 items.

5.3.7 In cases where detection requirements outlined in the Part/Process Specific CG are not met for Severity 9 and 10 items, the GM 1927 21 DFMEA PFMEA Gap Analysis and Transition Form shall be completed to gain full PPAP approval.

5.4 Manufacturing Process Control Plan:

5.4.1 Operator training

The training plan shall address new operators and current operators performing new functions. Training status should be displayed near the manufacturing process. (Refer to IATF 16949 and QMS Strategies GM 1927 36 and GM 1927 30 Quality

Management Gap Assessment). The training plan should include all operators including temporary or supplemental employees to ensure that they work safely, follow standardized work and meet all quality and productivity requirements.

5.4.2 Equipment Maintenance

Supplier shall have in place, a proactive maintenance method to improve the longevity of the manufacturing process equipment therefore increasing their effectiveness in quality and thru put. Equipment performance shall be measured. Corrective action, Problem solve, and Countermeasures should be used to update the standard.

5.4.3 Rework Reuse Repair and Recovery/Teardown

The Quality Management System shall include a documented process for rework, repair, teardown, reuse and recovery that shall include authorization from a designated individual, a recognized team of experts, or the customer. There shall be no rework or repair permitted for failure modes with a 7-10 severity ranking.
Product removed from the approved process flow should be reintroduced into the process stream at or prior to the point of removal. Reintroduced product needs to be identified and have traceability. Parts that are re-usable will be re- introduced in the process following a well-defined “Part re-entry process”.

5.4.4 Control of non-conforming material

All non-conforming and suspect material shall be controlled. The method shall be clearly defined. Visual controls should be implemented. All non-conforming material shall be segregated and identified and reconciled (GM 1927 17 Supplier Quality Processes and Measurements Procedure requirements).

5.4.5 Error proofing

Suppliers shall implement error-proofing strategies for the control of materials, processes and labelling for all products provided. Supplier shall implement error proofing techniques to ensure that mistakes are detected and corrected before becoming a defect and create Error Proofing devices verification procedure/process. A Reaction plan shall be identified in case of verification failed. The supplier shall error proof to a level where it is not possible to ship defective products.

5.4.6 Control Plan Check Frequency

All part characteristics shall be properly evaluated during the APQP process for determination of adequate control plan check frequencies through DFMEA/PFMEA gap analysis methodology. Supplier shall determine any critical characteristics required for fit, form, and function beyond those specified as key characteristics on

the part drawing or math model. All key characteristics (KPC, PQC, DR) and critical characteristics shall be verified at least once per ship window. All Attribute Quality Characteristics (AQC) require 100% check frequency. All requirements in this section also apply to all subcomponents.

5.5 Traceability

In order to quickly contain, and to minimize suspect product windows of any unexpected manufacturing quality issues, the supplier shall develop a robust traceability system. In addition to complying with GMW15862 “Bar Code Content, Format, and Label Requirements for Traceability and Error Proofing” for component to vehicle traceability, the supplier shall also adhere to the following:

5.5.1 The traceability plan shall be documented and included in the Process Control Plan

5.5.2 The supplier shall have electronic traceability data readily available. At a minimum, data shall include traceability from the final assembly part manufacturing date/lot code to the component manufacturing date/lot code for all tiered suppliers, including “Directed Buy” suppliers.

5.5.3 For components / assemblies that have a failure mode with a severity of 8-10 in the FMEA, the supplier shall implement a traceability system from the component to the final assembly.

5.6 Early Production Containment (EPC)(GM 1927 28)

5.6.1 EPC GM 1927 28 shall be implemented during launch.

5.6.2 Supplier shall provide 100% layout of all customer requirements during the early production launch window at a frequency as proposed by the supplier’s assessment of potential risk to part function and expected mfg. process capability. Documentation shall be provided upon request with the sample part based on the stated layout frequency.

5.7 Production Part Approval Process (PPAP)

5.7.1 GM Specific Instructions & Requirements:

5.7.1.1 Compliance with International Material Data System (IMDS) is required for approved PPAP status.

5.7.1.2 Compliance with GMW15862 “Bar Code Content, Format, and Label Requirements for Part Identification, Verification, and Traceability.

5.7.1.3 EFFECTIVE: January 1st, 2017, ALL “PPAP Action Plan” contents are required to be in ENGLISH.

5.7.1.4 Verification of customer-used part features: (examples: fit, form, function, mating surfaces, etc.) shall be incorporated in the PFMEA, process control plan, layered process audits, and error/mistake proofing. GM3660 (CG4816) Commodity Validation Sign-Off is required for approved PPAP status when supplier is responsible for validation.

5.8 Applicability

5.8.1 Requirements for Part Approval:

5.8.1.1 Part Submission Warrant (PSW) Form (CFG-1001and Appendix A) (See PPAP most current Edition Section - PPAP Process Requirements)

5.8.1.2 Reporting of Part Material Composition (See PPAP 4th Ed., 2.2.1.1 and GM Specifics).

5.8.3.3 The supplier shall use the International Material Data System (IMDS) to report required information.

5.8.3.4 Marking of Polymeric Parts (See PPAP 4th 2.2.1.2) - Polymeric parts shall be identified with appropriate ISO marking codes if applicable.

5.8.3.5 The supplier shall confirm that all Customer Tooling is properly tagged and numbered.

5.8.3.6 Appearance Approval Report (See PPAP 4th Edition Section 2, Appearance Approval Report 2.2.13)

5.8.3.7 Sample Production Parts (See PPAP 4th Edition Section 2, Sample Production Parts 2.2.14)

5.8.3.8 International Material Data System (See PPAP 4th Ed., PSW Appendix A)

5.8.3.9 Customer Notification of Supplier – Initiated Changes

5.8.3.10 Submission Levels (See PPAP 4th Section 4 – Submission to Customer

5.8.3.11 Suppliers are not required to maintain full documentation from their suppliers (subcontractors) if they have decision criteria and a process in place to establish the level of evidence required from their suppliers (subcontractors), and the appropriate level of evidence on file at their location. Upon a Procuring Division's request for PPAP documentation, suppliers shall comply within a reasonable period of time.

5.9 Capacity Planning and Run at Rate Procedure (GM 1927 35)

Supplier shall confirm in writing that all subcontractors supplying parts or services meet all quality and contractual requirements for the manufacturing components.

6. Performance Monitoring

6.1 Audits

6.1.1 A documented Layered Process Audit (LPA)

6.1.2 CQI´S:

- CQI-9 Heat Treat System Assessment
- CQI-11 Plating System Assessment
- CQI-12 Coating System Assessment
- CQI-15 Welding System Assessment
- CQI-17 Soldering System Assessment
- CQI-29 Brazing System Assessment
- CQI-27 Castings System Assessment
- CQI-23 Moulding System Assessment
- CQI-30 Rubber Processing System Assessment

6.1.3 When Non-Destructive Testing (NDT) is required to be performed, either 100% or on a sampling basis, the supplier shall be compliant with the appropriate standards for the given NDT method employed.

6.1.4 Inspectors shall be trained to Level 1 minimum, and technicians shall be trained to Level ll in accordance with recognized standards such as:

- ASNT SNT-TC-1A – 2016 NDT Guidelines
- ISO 9712:2012 NDT Qualifications and Certification of NDT Personnel
- other equivalent regional standard(s)

6.1.5 Verification of compliance shall be accomplished through quarterly layered audits.

- GM 1927 16 Process Control Plan Audit Form
- GM 1927 16b Sub tier Supplier Process Audit

6.2 Production Quality Metrics

Supplier shall provide quality-related data (e.g. historic inspection, first time quality, and reject data) upon request.

7. Shipping and Logistics

7.1 Containerization

Packaging is part of the manufacturing process and shall be included as appropriate in the FMEA and Quality Plan. Approved Containers are used for regular production and all saleable build events. A process should be in place to confirm container standards are maintained over the life cycle of their use. Improvement process for out of standard conditions must rapidly return containers back to standards.

7.2 Labeling

All shipping containers shall be labelled IAW GM1724A (Individual AIAG Shipping Labels) and/or GM1724B/C (Master Load Label). Labelling Error proofing shall be included in Flow diagram, PFMEA and Control Plan.

8. Current Product Improvement Process

8.1 Advanced Problem Solving (Practical Problem-Solving Report (PPSR) GM 1927 48)
Suppliers are required to demonstrate their capability to solve complex problems using advanced problem-solving techniques. (Refer to IATF 16949 requirements and QMS Strategies – GM 1927 36 and GM 1927 30 Quality Management Gap Assessment). An Escalation Process for Problem Solving should be developed by

Supplier to eliminate roadblocks and to support the supplier in faster solutions and implementation times. (Refer to IATF 16949 requirements and QMS Strategies – GM 1927 36 and GM 1927 30 Quality Management Gap Assessment)

9. Warranty

9.1 Warranty Part Center Support

Suppliers shall designate representatives that will be invited to Warranty Reviews of supplier parts.

9.2 Test / Analysis Capability

9.2.1 Suppliers may have need to further analyse Warranty parts their own facilities.

9.2.1.1. Suppliers shall monitor sub-tier suppliers' performance against expectations. Performance monitoring should be connected with the sourcing process and be used as means to prioritize resources for audits and other continuous improvement activities. Performance monitoring may include problem reporting, discrepant part counts, PPM, program management performance, etc. and should be tracked over time.

9.2.2 The supplier shall report any and all safety related failure modes discovered during analysis of warranty data.

9.2.3 The supplier shall have a plan to reduce supplier responsible warranty during the 12 month warranty time period.

10. Commodity focused Addendums

10.1 Propulsion Systems suppliers shall adhere to the Supplier Quality Statement of Requirements found in Appendix E.

10.2 Body, Interior, Exterior, Chassis, Thermal, and Electrical suppliers shall adhere to the Supplier Quality Statement of Requirements.

10.3 SGM: Greenfield / Brownfield GM 1927 31.

Supplier Quality Development

Supplier signature and date
Quality Manger

CREATED	CHECKED	APPROVED
Erika de Lucas	Fernanda Martinez	Jörn Geisel
Erika de Lucas Digitally signed by Erika de Lucas Date: 2024.06.24 11:30:23 -06'00'	Fernanda Martinez Firmado digitalmente por Fernanda Martinez Fecha: 2024.06.21 17:10:08 -06'00'	10008097, Jörn Geisel Digital unterschrieben von 10008097, Jörn Geisel Datum: 2024.06.26 11:24:45 +02'00'
Signature	Signature	Signature

HISTORY			
REVISION	REASON	BY	DATE
01	Release document	E. de Lucas	19.06.2024
Document review once per 12 months or in case of any changes/updates in Customer Specific Requirements			