SMR Global Supplier Manual Appendix W – McLaren Customer Specific Requirements for Suppliers

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SMR Global Supplier Manual - Additional Customer Specific Requirements

Scope of this document

The scope of this document is to ensure compliance to customer requirement by sub-suppliers of SMR Automotive who are supplying for any McLaren project. This document is listing requirements for these suppliers in addition to standard IATF16949 requirements and in addition to standard SMR requirements.

Responsibility

Suppliers who are supplier for SMR of a component for a McLaren product shall meet all requirements listed in this document during the whole project lifetime. This includes but not limited to:

- Regularly check for updates of this document on www.smr-automotive.com
- Ensure availability and awareness of related McLaren standards and requirements mentioned in this document
- Ensure requirements are met in their supply chain

1.0 Measurement System Analysis (IATF 16949 section 7.1.5.1.1)

- Any measurement and test equipment not used for prolonged period, or having undergone a major service or repair will require re-qualification that proves the capability of the equipment to measure parts.
- Please refer to AIAG Measurement System Analysis manual (MSA)

2.0 Record Retention (IATF 16949 section 7.5.3.2.1)

Records retention

Document Type	Retention Time	Description
Design Records	Model Life + 15 Yrs	Including all related correspondence drawings, tooling records, selection of safety / special characteristics
PPAP and Part Submission Warrants	Model Life + 15 Yrs	
Change Requests	Model Life + 15 Yrs	
Production Records	Model Life + 15 Yrs	Material / supplier history Production records, control charts, inspection & test results Production Scrap / Reject Notes
Production Permits/Concessions	Model Life + 15 Yrs	
Internal Audit Reports	Model Life + 15 Yrs	Product / Production audit reports Non-conformance reports
Purchase Orders	Model Life + 15 Yrs	PO for sub supplied parts
Calibration Certificates Metrology qualification	3 Years	Results and 'Out of Calibration' Analysis Gauge R&R / MSA studies
Incoming Inspection Reports	1 Year	

3.0 Operational planning and control (IATF 16949 section 8.1)

- Critical Supplier Identification: During McLaren Automotive Project Gateways G3 and G4, when prospective Vendors are being identified and nominated, the McLaren Automotive SQA Project Engineer & APQP Engineer must conduct assessment of each Vendor based on the following criteria:
  - Supplier Site Readiness
  - Is the Vendor accredited with IATF 16949?
  - Historical Quality Performance with McLaren Automotive
  - New Vendor to McLaren Automotive?
  - Critical materials
  - Complex Assemblies
  - Customer Visual Focus Component(s)

- Safety (A) or Legislative (L) Category Component(s)
- Key Powertrain Component(s)
- Program Risk
- New Technology to McLaren Automotive
- New Manufacturing Processes to McLaren Automotive
- Long Lead Time Component(s)

- The process of determining if a Vendor is deemed critical or non-critical is shown in greater detail in McLaren Automotive document APQP-D-001.
- All critically identified Vendors will have to conduct APQP Reviews with McLaren Automotive at least once per calendar month minimum.

4.0 Design and development planning - supplemental (IATF 16949 section 8.3.2.1)

- McLaren Automotive use Advanced Parts Quality Planning (hereby known as APQP) as a Quality Project Management Process.
- Vendors must submit APQP documentation to McLaren Automotive at a minimum of once per 28 days.
- The Vendor must nominate at minimum one member of staff, typically a Project Manager, to support the APQP Core Team.
- If the Vendor has been identified as Non-Critical by McLaren Automotive, then it is the responsibility of the Vendor's nominated member to conduct, manage and submit APQP documentation to McLaren Automotive.
- APQP status is defined with RAG (Red Amber Green) as described in McLaren SQM-D-001

5.0 Special characteristics (IATF 16949 section 8.3.3.3)

- Regulations and significant features be identified on the CQP, control plan, and other released documents (drawings, specifications, etc.).
- Safety and Legalisation features are those identified on drawing as category A or L, refer to section SQM-D-003 (these were previously SC).
- Non-safety and Legalisation features are those which identified on Drawings B or category C, refer to section SQM-D-003 (those were previously CC).
- McLaren uses feature categories, these were formally named (SC/CC). The feature categories available are:
  1. Safety Relevant - 'Category A'
  2. Reliability Relevant - 'Category B'
  3. Attribute Relevant - 'Category C'
  4. Legislation Relevant - 'Category D'

6.0 Design and development validation (IATF 16949 section 8.3.4.2)

- The trial parts submission procedure ensures that trial parts are clearly identified and defines what supporting information must be provided with the parts. "Supplier parts" refers to all parts supplied for:
  - CP, XP, VP, TT, FEU and PP builds
  - PPAP trial parts
  - Series production parts which have been modified due to process or design changes but for which a PSW is not yet either fully approved or conditionally approved.
- Each measured part must have a serial number allocated so that it can be uniquely identified and cross referenced to the CQP inspection report.

7.0 Product approval process (IATF 16949 section 8.3.4.4)

- For Production Part Approval Process (PPAP) requirements, please refer to McLaren SQM-D-015

8.0 Design and development outputs – supplemental (IATF 16949 section 8.3.5.1)

- Refer to McLaren SQM-D-020
- Application of Transport Labelling Guidelines
  - Labels must be secured by a proprietary label holder.
  - Stillages must have two labels, one label on each of the adjacent faces.
  - Polyboxes require only one label, position dependant on which face the label holder is fitted.
  - If labels are to be secured by adding a spring type label holder to the polybox, then the label holder and position is to be agreed between both McLaren Logistics Development and supplier.
  - Label must not protrude beyond the edge of the agreed packaging.
  - The supplier will be responsible for the removal of old labels from packaging before applying a new label.
  - Adhesive labels may be pressure-sensitive or dry-gummed as long as the adherence to the package

surface is assured and that the OTL is easily removable from the Transport package after usage.

9.0 Statutory and regulatory requirements (IATF 16949 section 8.4.2.2)

- The supplier shall Suppliers must notify McLaren of the regulatory and compliance items through the PPAP process. This includes all part marking and type approval features on a component or system. CCC marking certificates should be sent to McLaren Automotive as part of the PPAP or upon request.
- All parts or materials shipped to McLaren must be compliant to current environmental and safety regulations.
- RRR-ELV data is to be submitted via the IMDS portal as part of the PPAP.

10.0 Automotive product-related software or automotive products with embedded software (IATF 16949 section 8.4.2.3.1)

- Software expected by build phase:

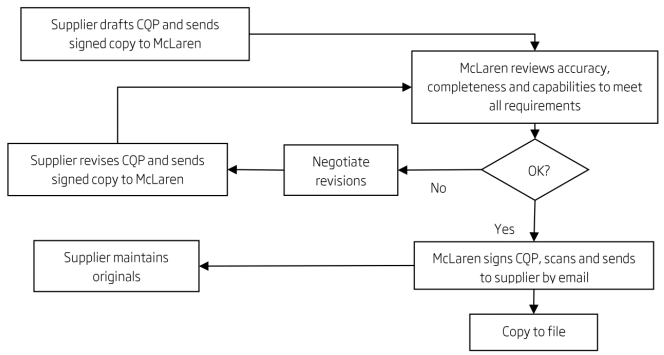
Build Phase	Software Minimum Requirement
XP	No requirement
VP – Start	Dimensionally correct parts with non-released software (CX level Part) with Agreed MAL Concession
VP – End	Validation of Software
VP to PP	PPAP release of Software on P1 part (CP /SP/ RP/ GP) level parts
SOP	PPAP released level software.

- Software approval must be done via the PPAP process. The software submission must contain the below:
  - Software version
  - Validation results
  - How the part label references the latest software version
- Vendor must demonstrate a Poke Yoke validation system ensuring only correct level software is matched to relevant physical material and no risk of incorrect matched materials can be shipped to McLaren.

11.0 Control of production and service provision (IATF 16949 section 8.5.1)

- The CQP is a final inspection document, listing any features that can be inspected or measured on the completed part, and the method and frequency by which those features are controlled at final inspection. The CQP contains elements from the drawing, engineering specifications, the control plan, and (where relevant) the aesthetic inspection requirements as per SQM-F-12. McLaren's goods-in inspection use the same document.
- CQP is a controlled document, McLaren approval is required for each change.
- CQP structure categories:
  1- Datum structure
  2- Dimension and tolerance
  3- Appearance and colour
  4- Performance
  5- Weight and material
- You should ensure that the inspection conditions are optimal in terms of:
  - Lighting and illumination
  - Observation distance
  - Inspection method

Flowchart CQP Generation and Approval



- Refer to McLaren SQM-D-002 for more details

12.0 Control plan (IATF 16949 section 8.5.1.1)

- You must notify McLaren prior to any changes on the control plan. You must formally record changes on the Parts Quality History form (Refer to Template SQM - F- 014).
- All incoming inspection and test procedures must be detailed on the control plan (See SQM-D-004).

13.0 Standardized work – operator instructions and visual standards (IATF 16949 section 8.5.1.2)

- You should ensure that the inspection area and the inspection method have undergone a complete ergonomic risk assessment.

14.0 Total productive maintenance (IATF 16949 section 8.5.1.5)

- You must maintain a tool history form for each tool or fixture, in the same style as a Part Quality History form.
- Any engineering changes or refurbishment of the tool or fixture should be recorded in the tool history form, and the tool history level increased accordingly.
- You must notify McLaren prior to any changes to tools or fixtures.

15.0 Control of changes - supplemental (IATF 16949 section 8.5.6.1)

- You must inform McLaren if you want to change any of the following:
  - Change of process order, layout, method or parameter
  - Change of sub-supplier or material source
  - Refurbishment, replacement, modification, or additional tooling or machinery
  - Restoration of tooling inactive for more than 2 years
  - Change of production location
- You must also inform us if one of your sub-suppliers changes any of these items in their process.
- You must submit process change information at least one month, and preferably three months, prior to implementing any changes.
- McLaren must approve process changes in concept before changes are made.
- Depending on the change McLaren may request PPAP resubmit ion to cover the relevant areas of change, which must be approved before you send series production parts.
- You should complete and submit a Process Change Request Form (SQM-F-027).
- You must record the changes on Part Quality History form (SQM-F-014) for that part and upgrade the Q-status.

16.0 Release of products and services — supplemental (IATF 16949 section 8.6.1)

- The CQP is a final inspection document, listing any features that can be inspected or measured on the completed part, and the method and frequency by which those features are controlled at final inspection. The CQP contains elements from the drawing, engineering specifications, the control plan, and (where relevant) the aesthetic inspection requirements. McLaren's goods-in inspection use the same document.
- The datum sequence of the part should be described identifying Primary, Secondary and Tertiary datum's and showing directions (where applicable adding car-line directions - X, Y Z).
- The tolerance defined on the CQP (usually the drawing tolerance, but can be tighter) must be met for each dimension feature on the drawing.
- Frequencies and methods for testings during series production are defined on the CQP, this includes any COP (Conformity Of Production) and regulatory and type approval requirements.
- Material specification, weights and tolerances are specified in the 3D master or on the drawing. These specifications are repeated on the CQP.

17.0 Appearance items (IATF 16949 section 8.6.3)

- Appearance items are specified on CQP (Component Quality Plan).
- Colour level is expected by build phase:

Build Phase	Colour Requirement
XP	No requirement
VP – Start	Basic match to standard through PPAP
VP – End	Final match and approval through PPAP
VP to PP	Develop limit samples
SOP	Maintain colour

- Colour will signed off on final parts, not plaques. Parts will be assessed in a calibrated light cabinet at 0,45 and 90 degrees orientation under D65 light, assessed against the final plaque. Parts will also be assessed in situ within / outside of the vehicle for colour harmony.
- Grain Plaque to be acquired directly from the grain supplier, not by McLaren.
- Grain level expected by build phase:

Build Phase	Graining Requirement
XP	T1 parts grain mark up completed
VP - Start	T3 parts fit/finish assessment during build
VP - End	T3 parts grain go sign off
VP to PP	T4 grained parts submitted for approval
SOP	Maintain grain appearance as per master

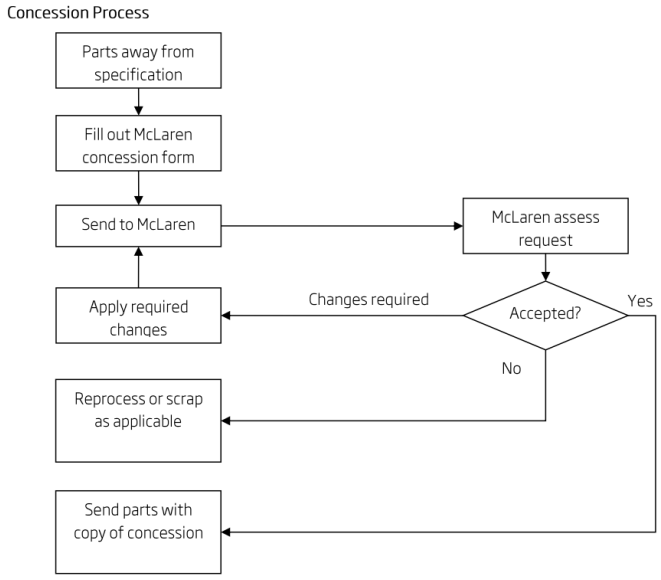
- It is vital to involve the graining supplier, toolmaker and McLaren engineer during the tool design. Prior to tool graining the ungrained part must have dimensional approval from McLaren. After the ungrained parts has been dimensionally approved and the grained plaque reviewed, you will be give the authorisation to grain the tool. Grained parts must be re-approved via PPAP.

18.0 Acceptance criteria (IATF 16949 section 8.6.6)

- Boundary samples must be agreed and signed off McLaren Audit and SQA departments, otherwise they will not be considered.
- Boundary samples must be clearly identified, referred to in the control plan and CQP.
- Most instances will require 2 identical samples: one for you and the other for McLaren.

19.0 Control of nonconforming outputs (IATF 16949 section 8.7)

- You may request a concession by submitting a concession request from McLaren at least three days prior to the scheduled shipment. This is applied equally to sub-components: McLaren must agree for any requests for concessions from sub-suppliers.



20.0 Identification of statistical tools (IATF 16949 section 9.1.1.2)

Capability Expectations:

Projected Volume	Cpk Safety and Legislation Features	Cpk Non Safety and Legislation Features
<1000 parts	1.33	1.15
>1000 parts	1.67	1.33

- The features that do not meet the above capability expectations should be subject to 100% inspection.

21.0 Customer satisfaction – supplemental (IATF 16949 section 9.1.2.1)

- McLaren SQA will monitor and report on the following Key Performance Indicators to allow suppliers to focus their improvement activities:
  1- Reject Parts: Ratio of the number of reject parts found by McLaren in supplier's deliveries measured against the total number of parts delivered. This will be calculated monthly
  2- Downtime: The amount of lost production time resulting from a supplied parts quality concern which is

confirmed as supplier liability. Downtime will be calculated monthly.

3- Quality Concern Report (QCR): The number of reports open against each supplier at each month end.

4- Concessions: A record of the number of parts which the supplier has requested to supply with deviations from the agreed technical contracts. The number of open concessions at the end of each month will be reported.

- McLaren SQA will send out KPI reports in January and July each year.

22.0 Nonconformity and corrective action (IATF 16949 section 10.2)

- Corrective action reporting: A copy of the 8D report should return to McLaren SQA a minimum of 3 times, at completion of the following stages:-
  - Within 24 hours of notification: stock check, containment action and its verification
  - Within 3 weeks of the notification date: Root cause and permanent corrective action
  - After 8 weeks from the notification date: Corrective action verification and assessment

History of Revision

No.	Cause of modification	Date	Modifier	Approved
1	First issue	10.05.2019	Mina Sergious	Steffen Dehner
2				
3				
4				
5				