Appendix D

Program Deliverables

*28TH JUNE 2028*

**Appendix D – Summary of Quality Chain Deliverable Items**



Note: This section summarizes the Key Quality Chain Deliverables required by this SOR. The list is provided as a ***reference aid only*** **and is therefore not necessarily *all inclusive*** with respect to each and every deliverable specified either in the main body or the appendices of this SOR.

Quality Chain Process is a methodology that highlights the connectivity of all Quality Elements within the GVDP in support of developing “Defect Free” products.

The purpose of Quality Chain is a Quality execution at all levels of design and manufacturing with a greater emphasis on early prevention and detection of all potential failure modes, prior to delivering products to our customers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reference Appendix** | **Reference Paragraph** | **Item** | **Required By Date** | **Submit to GM** |
| Appendix B | --- | DFMEA Communication and Risk Assessment Updates | On Request | Buyer’s Lead Engineer |
| Appendix B | --- | Tooling Plan and MRD Dates | On Request | Buyer’s Lead Engineer |
| F17 | 1.1.1 | GM1927-03 (CG4338) Sub-Tier Management Requirements |  | Buyer’s Lead Engineer |
| CG4355 | 6.1.1 | Assessment Sub-Tier Assessment Worksheet Requirements | Prior to TKO | Buyer’s Lead Engineer |
| F17 | 2.2.8 | GM Global Supplier Quality Manual GM1927 Requirements |  |  |
| F17 | 3.1.1 | Quality and Manufacturing System Controls Requirements | With Quote | Buyer’s Lead Engineer |
| F17 | 4.0 | GM1927-1 Production Readiness Requirements | As Required | GQTS |
| F17 | 4.1.4 | Electrical or Electronic Content Requirements | Sourcing +10 weeks | Buyer’s Lead Engineer |
| F17 | 4.2.4 | Tier 1 Sub-Tier Supplier Management Requirements | TKO -4 weeks | GQTS |
| F17 | 4.4.1 | PFMEA Requirements | Prior to Math Release | Buyer’s Lead Engineer |
| F17 | 4.5.7.1 | DFMEA / PFMEA Gap / Risk Analysis Summary GM1927-21 Requirements | Prior to Math Release | Buyer’s Lead Engineer |
| F17 | 4.5.7.3 | Supplier Critical Characteristics Requirements | TKO -4 weeks | GQTS |
| GM1927 | Task 8 | DFMEA / DRBFM Deliverables |  |  |
| GM1927 | Task 12 | PFMEA Deliverables | TKO -4 weeks | Buyer’s Lead Engineer |
| GM1927 | Task 13 | Control Plans Deliverables |  |  |
| GM1927 | Task 17 | Lessons Learned Deliverables |  |  |
| G1 | 3.3 | Design Failure Mode and Effects Analysis (DFMEA) and Design Review Based on Failure Modes (DRBFM) | G2 – Table 3.1 | Buyer’s Lead Engineer  Buyer’s Validation Engineer |
| G1 | 3.4.1.4 | Program Specific ADVP&R Approval | G2 – Table 3.1 | Buyer’s Validation Engineer |
| G1 | 3.4.1.5 | ADVP&R Impacts based upon Engineering Change Requests (ECR) | Within 3 calendar days | Buyer’s Validation Engineer |
| G1 | 3.4.2.2 | Sample selection (GMW15760) Deliverables | As Required | Buyer’s Validation Engineer |
| G1 | 3.5 | Component Environmental Test Plan and Deliverables | As Required | Buyer’s Validation Engineer |
| G1 | 4.2.1.2 | Supplier Internal / External Test Facility accreditation certificates (ISO17025) | As Required per  Region of Sale | Buyer’s Validation Engineer |
| G1 | 4.2.2 | Supplier Design Review Based on Test Results (Physical and/or Virtual Simulation) Deliverables | As Required | Buyer’s Validation Engineer  Buyer’s VDDV Engineer |
| G1 | 4.2.3.7 | Supplier Evaluation Results (Physical and/or Virtual Simulation) | G2 – Table 4.5 | Buyer’s Validation Engineer  Buyer’s VDDV Engineer |
| G1 | 4.2.3.9 | Supplier Part/Assembly Retention (post Physical Test) | Upon Request thru SORP | Buyer’s Validation Engineer |
| G1 | 4.3 | Virtual Design, Development and Validation (VDDV) Requirement Deliverables | G4 | Buyer’s VDDV Engineer |
| G1 | 4.5 | Supplier and Sub-Tier Supplier’s ADV Status (Physical and/or Virtual Simulation) | G2 – Table 4.5 | Buyer’s Validation Engineer  Buyer’s VDDV Engineer |
| G1 | 4.7 | Supplier Regulatory Compliance and Certification Deliverables | As Required per  Region of Sale | Buyer’s Validation Engineer |
| G1 | 4.10.1 | Supplier Business Record Retrieval Requirement | No more than 24 hours, after request | Buyer’s Validation Engineer  Buyer’s VDDV Engineer |
| G1 | 5.3 | Commodity Validation Sign-Off Deliverables | VDC -1 week | Buyer’s Validation Engineer |
| G2 | Table 3.1 / 3.1a | ADV Planning Documentation Requirements | G2 – Table 3.1 / 3.1a | G2 – Table 3.1 / 3.1a |
| G3 | --- | Completed “Supplier Task List” of Key Validation Activities and Deliverables | With Quote | Buyer’s Validation Engineer |
| G3 | --- | Supplier's Contact Information for the VCRI | With Quote | Buyer’s Validation Engineer |
| G4 | --- | Appendix G4 (CAE Tasks and Deliverables) | VAA -4 weeks | Buyer’s VDDV Engineer |
| G4 | 3.1 | General Supplier Inputs | Section 3.1.1 | Buyer’s VDDV Engineer |
| G4 | 3.2 | CAE Models | Section 3.2.2 | Buyer’s VDDV Engineer |
| G4 | 3.3 | Analysis | Section 3.3.2 | Buyer’s VDDV Engineer |
| G5 | 3.1 | Software Verification and Validation Tasks and Deliverables | G5 – Table 3.1 | Buyer’s Lead Engineer  Buyer’s Validation Engineer |

**APPENDIX D - Summary of Deliverable Items**

Note: This section summarizes the Program Deliverables required by this SOR. The list is provided as a ***reference aid only*** **and is therefore not necessarily *all inclusive*** with respect to each and every deliverable specified either in the main body or the appendices of this SOR.

**\*Specific Main Document 1 that is used for this SOR is listed in the “SOR Table of Contents”.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reference Paragraph (From SOR Main Document 1\*)** | **Item** | **Version** | **Required By Date** | **Submit to GM** |
| 1.2 | Bill of Materials and Exploded Illustration of System Design | NA | NA | NA |
| 3.2 | Supplier Key Corporate Information | --- | With Quote | Buyer’s Buyer |
| 3.3 | Resource Plan(1) | Draft | With Quote | Buyer’s Lead Engineer |
| Final | With Award |
| Update | As Requested, |
| 3.8 | Supplier Proposed Revisions to SOR | --- | With Quote | Buyer’s Buyer |
| 4.1.1 | Program Plan | Draft | With Quote | Buyer’s Lead Engineer |
| Final | With Award |
| Update | As Requested |
| 4.1.1 | Program Expense Summary | --- | Monthly | Buyer’s Buyer |
| 4.1.1 | Major Program Imperative Status | --- | Monthly | Buyer’s Lead Engineer |
| 4.1.1 | Build Plan | Draft | As Required | Buyer’s Buyer |
| 4.1.1 | Reliability Program Plan | --- | As Required | Buyer’s Validation Engineer |
| 4.1.1 | Service Readiness Plan | --- | As Required | Buyer’s Service  Readiness Engineer |
| 4.1.1 /  4.2.1.12.2 | Recyclability Forecast (if applicable) | Original | With Quote | Buyer’s Lead Engineer |
| Final Form | Design Release |
| 4.1.1.1 | Engineering Plan | Draft | With Quote | Buyer’s Lead Engineer |
| Update | As Requested |
| 4.1.2.3 | SSTS (from RASI) | NA | NA | NA |
| 4.1.3.2 | Open Items List | --- | Every 2 Weeks | Buyer’s Lead Engineer |
| 4.1.3.4 | Problem Notification | --- | As Required | Buyer’s Lead Engineer |
| 4.1.3.8 | Mass Reporting | Original | With Quote | Buyer’s Lead Engineer |
| Updates | As Requested |
| 4.2 | Design Information | --- | As Requested | Buyer’s Lead Engineer |
| 4.2.1.3 | Product Concept, Development, and Release Level Math Data Files | --- | As Required | Buyer’s Data  Management Manager |
| 4.2.1.4 | Dimensional Engineering Plan | --- | As Required | Buyer’s Dimensional Engineer |
| 4.2.1.6 | Math Data | NA | NA | NA |
| 4.2.1.6 | Supplier Deliverables (*Design Schedules*) | --- | As Required | Buyer’s Data  Management Manager |
| 4.2.1.10 | DFM/A | --- | As Required | Buyer’s Validation Engineer |
| 4.2.5 | Pre-Production Build Documents | --- | If Required | Buyer’s Lead Engineer |
| 4.3.1 | Test Reports (from RASI) | --- | Within 2 Weeks of Test | Buyer’s Validation Engineer |
| 5.0 | CCA Lifecycle Plan | Initial | With Quote | CCA.LifecyclePlan@gm.com |
| Updates | As Required  (Minimum Annually) |
| Appendix G2 | ADV Deliverables | --- | As Required | Buyer’s Validation Engineer |
| Appendix G5 | Supplier Capability Assessment Questionnaire External Supplement (CG3001) | Final | With Quote | [CG3001@gm.com](mailto:CG3001@gm.com) |
| Appendix M | Supplier Concept Sheets | Original | With Quote | Buyer’s Buyer |

(1): Define all people and identify key personnel for the following functional areas: Quality Engineering, Product Engineering, Experimental Material Coordination, Manufacturing Engineering, Data Management (Manager), etc. Please indicate name, phone number, and email address.

“End of Appendix D Document”