Index

A. Purpose ................................................................................................................................................3
B. Intent .....................................................................................................................................................3
C. Scope....................................................................................................................................................3
D. Cummins Supplier Code of Conduct .................................................................................................4
E. Acronyms and Definitions....................................................................................................................5-9
F. Enterprise Risk Management .............................................................................................................10-11
G. Quality System Requirements ............................................................................................................12-13
H. Continual Improvement.......................................................................................................................14-15
I. Supplier Selection................................................................................................................................16
J. Design Control......................................................................................................................................17
K. Advanced Product Quality Planning (APQP) .................................................................................18-19
L. Production Part Approval Process (PPAP) .........................................................................................20-25
M. Non-Conforming Material ................................................................................................................26-28
N. Maintenance and Improvement .........................................................................................................29-30
  1. Process, Product, and Supplier Change Control
  2. Quality Data
O. Perpetuating the SQI Program............................................................................................................31
P. Other Cummins Quality Requirements for Suppliers ........................................................................32-33
  1. Record Retention
  2. Access to Supplier Sites
  3. Quotation Criteria
  4. General
Q. Additional Information.........................................................................................................................34-35
Cummins Supplier Quality Improvement Program

Continual Improvement

Supplier Selection

ISO/TS

PPAP

APQP

Maintenance
A. Purpose

Bought out finished and direct purchased material make up over 70% of the total cost of the Cummins finished product. Therefore, it is essential to have clear, documented requirements and interaction processes between Cummins and its direct material suppliers.

The Supplier Handbook communicates Cummins Customer Specific Requirements and expectations to Cummins direct material suppliers. These requirements and expectations are known as the Supplier Quality Improvement Program (SQIP), which is depicted in the logo on the previous page.

B. Intent

The SQIP was developed with three basic principles.

1. Incorporate quality as one of the key considerations in new supplier selection.
2. Assure that quality tools and processes are utilized by suppliers in the development of, and revisions to their products and processes.
3. Provide a framework for sustaining and improving the quality of supplier products and processes.

C. Scope

This Supplier Handbook applies to all suppliers of direct material to Cummins Inc., referred to as Cummins in this Supplier Handbook.
D. Cummins Supplier Code Of Conduct

Cummins values its global supply partners who share the Company’s commitment to quality and value, and who operate under a philosophy that focuses on integrity and "doing the right thing."

To support that philosophy, Cummins has a Code of Business Conduct for our employees and a Supplier Code of Conduct specifically for its supply base worldwide. The supplier code outlines the Company’s expectations that all suppliers will comply with certain business and ethical standards and to the laws of their respective countries, all other applicable laws, rules and regulations. The code applies to all businesses that produce goods or provide services for Cummins and any subsidiaries, joint ventures, divisions or affiliates.

Compliance with the principles of the Cummins Supplier Code of Conduct is required to do business with Cummins. Cummins requires a verification response from all suppliers before they are added to the supplier database. Since Cummins does business around the world, it has translated the code and response letter into 14 languages so that the intentions and expectations are clear.

For more information on the Supplier Code of Conduct or to complete the Supplier Code of Conduct Response Letter, visit the Cummins Supplier Portal www.supplier.cummins.com under the heading Corporate Responsibility.
E. Acronyms and Definitions

Cummins and industry standard acronyms are used throughout the Supplier Handbook for brevity.

1. **AIAG** – Automotive Industry Action Group is an industry organization that, among other responsibilities, provides administrative support to the Automotive, Truck and Heavy Equipment industries for supplier quality requirements, and distributes related manuals and publications.

2. **APQP** – Advanced Product Quality Planning is a structured process for producing a quality plan, which supports the development and production of a product that will satisfy the customer. Reference the AIAG manual (Advanced Product Quality Planning and Control Plan – APQP©) for a complete description.

3. **BU** – A specific Business Unit within Cummins.

4. **Business Continuity Planning** – (BCP) The Business Continuity Plan is a collection of guidelines and procedures that proactively outline disaster mitigation and response before, during and after the occurrence of an adverse incident, facilitating the continuity of critical functions. An adverse incident is an internal or external event or situation which may result in unacceptable interruption to the organization’s operational status and/or its ability to provide customer service. The objective of the business continuity plan is to help establish & maintain a basic level of operations following a disruptive event until normal operations can be fully restored.

5. **Component Certification** – A process whereby the supplier certifies, in some cases with measurement data, that components are within specification.

6. **Cummins Seven Step Problem Solving** – A disciplined method for problem solving which emphasizes analysis for the true root cause and verification that the corrective action is effective in eliminating the root cause. The Seven Steps in the process are:
   1) Identify the Problem
   2) Determine and Rank Potential Root Causes
   3) Take Short Term Action and Containment
   4) Gather Data and/or Design Test
   5) Conduct Tests, Analyze Data, Identify Root Cause(s), Select Solution
   6) Plan and Implement Permanent Solution
   7) Measure, Evaluate and Recognize the Team
7. **Classification of Characteristics (C of C)** – The process of classifying product and process characteristics for the optimum utilization of engineering, manufacturing, and supply base resources. In TS16949 terms these are Customer Designated Special Characteristics. C of C has four types of characteristic:

   a. **Critical Characteristic** – A dimension, material property, physical feature, etc. which, if not to specification could be a safety risk, or will certainly cause operational failure or a loss of performance.

   b. **Major Characteristic** – A dimension, material property, physical feature, etc. which if not to specification will probably cause operational failure, loss of performance, increased service cost or disruption to manufacturing.

   c. **Minor Characteristic** – A dimension, material property, physical feature, etc. which has not been classified as Key, Critical or Major. It exists only as a general class to describe characteristics that do not fit other classifications. Although not classified as Critical, Major, or Key the supplier is responsible for ensuring these characteristics meet the print specification. Cummins Turbo Technology calls these Standard Characteristics.

   d. **Key Characteristic** – A dimension, material property, physical feature, process, etc. that has been identified as being key to subsequent manufacturing or assembly operations. Key characteristics may be identified by the SQI Engineer.

   e. **Significant Minor (aka Six Sigma Characteristic)** – A measurable dimension, material property, physical feature, or other characteristic that has been identified by Dimensional Variation Analysis (DVA) or other analysis as being important to be monitored during the manufacturing of the component.

   **Note:** Classification of Characteristics is intended to serve as a guide for the development of supplier process quality plans – not to relieve suppliers of the responsibility to produce all features to specification.

8. **CQMS** – Cummins Quality Management Solutions. This refers to a group of key quality functions and the various software tools that support those functions.

9. **Direct Material** – Components and assemblies used in Cummins’ production processes that become part of the salable product. They are typically included as a Bill of Material item.
10. **Direct Part Marking** – Defined by Cummins Engineering Standard (CES)18287 which prescribes methods for bar-code identification (1D, 2D, etc) on required products.

11. **Disruption Score** – The process at Cummins of assigning a numerical score to material non-conformances based on the significance of the disruption to the Cummins’ assembly process.

12. **DQR** – Drawing Quality Review – A detailed cross-functional review of each drawing which ensures that the component is producible to the specification, drawings are accurate and complete, and suitable for PPAP (when applicable), prior to final release of the drawings.

13. **EDI** – Electronic Data Interchange is a document standard which when implemented acts as common interface between two or more computer applications in terms of understanding the document transmitted.


15. **In-plant Defect PPM** – The number of parts with supplier-caused defects found within a Cummins facility versus the number of parts received from that supplier by the Cummins facility, reported as parts per million (PPM) on a monthly basis.  

   **Note:** For suppliers with multiple producing locations, each producing location will be considered separately.

16. **International Material Data System (IMDS)** – A global data repository for product content used by the automotive industry and used to gather data for various reporting requirements.

17. **iSCM** – A supplier portal used by some Cummins BU’s. Suppliers to the Engine Business are required to register in iSCM.


22. **MCM** – Master CAD Model – A master CAD model is a 3-D computer-based solid geometry model, which is a complete and accurate representation of the design intent for a produced item. For castings and forgings, it includes parting line definition, draft geometry, and fillet/round geometry.
23. **MQV** – Manufacturing Quality Verification – A process used by Cummins and Cummins’ suppliers to reduce defects sent to customers by looking at FMEA findings and historical data, such as OEM defects, warranty, and customer touch points, and ensuring that steps have been taken to prevent these defects from reaching our customers. Steps can include, but are not limited to, design changes, process design changes, and fail-safing.


25. **MSA** – Measurement System Analysis – A process to determine that measurement systems are capable of measuring to the desired accuracy and repeatability. Reference the AIAG manual (Measurement System Analysis - MSA) latest edition for a complete description.

26. **OEM** – Original Equipment Manufacturer.

27. **OEM Defect PPM- Supplier** – The number of Supplier Caused OEM defects divided by the number of units shipped expressed in parts per million (PPM).

28. **Pass-Thru Characteristic (PTC)** – (a.k.a. customer touch point) – A part characteristic which is not controlled or functionally tested in the Cummins assembly process where any issue would first be discovered by the Cummins Customer. May be represented using this symbol. △

29. **PCC** – Production Capability Certification – Cummins verification that supplier production capability and readiness will meet full production timing and volumes sometimes also known as run at rate. The intent is to identify manufacturing problems prior to full production that typically don’t become evident until full production runs are initiated. The process is used to verify supplier capacity and the supplier's ability to meet fluctuations in demand (+ 20%).

30. **PCM/VPCR** – Product Change Management is the system through which Cummins typically controls changes to existing product. A Value Package Change Request is the Cummins document that details the specifics of and approvals for the individual changes.

31. **PPAP** – The Production Part Approval Process is the process used to ensure new or changed components, as well as changes to production processes, meet Cummins quality requirements. It is often used in conjunction with APQP. No new or changed parts can be shipped to Cummins before a PPAP is approved by a Cummins SQIE. Reference the AIAG manual (Production Part Approval Process – PPAP) for a complete description.

32. **Quality System** – Third Party Registration – Certification by an independent registrar which is qualified by a national accreditation body to perform audits to an accepted standard such as ISO/TS 16949:2009 and ISO9001:2008 and to register the audited facility for a given scope.
33. **RPS** – Rapid Problem Solving process.

34. **SCAR** – Supplier Corrective Action Request.

35. **SCR** – Supplier Change Request – Process suppliers are required to use to request approval of a change to a product or process. This process may also be referred to as Product Change Notification (PCN) in some business units.

36. **SIM** - Supplier Information Management – The supplier master data portal used by all Cummins BUs. All Cummins suppliers are required to register in SIM.

37. **SIP** – Supplier Improvement Process.

38. **Six Sigma** – Statistically based improvement process used throughout Cummins. Suppliers will be requested to participate where significant opportunities for improvements are identified.

39. **Source Release** – Process for ensuring the quality of non-PPAP approved components. Requirements include, but are not limited to: Record of Conformance, 3 Piece full dimensional layout, SPC or 100% inspection of special characteristics, material/performance test results, and Prototype Data Report (PDR) requirements when requested. This is a batch approval process that must be completed prior to each shipment.

40. **SQIE** – Supplier Quality Improvement Engineer is the person(s) at Cummins responsible for the ensuring suppliers execute various elements of the SQIP such as APQP, PPAP, and SCAR’s.

41. **SQIP** – Supplier Quality Improvement Program is the Cummins term for the process to be followed by Cummins SQIE’s with suppliers of direct materials. This is also referred to as the Cycle in this Handbook.

42. **Supplier Scorecard** – A Cummins purchasing system that rates the supplier in the categories of Price/Cost, Quality, Delivery, Technology, and Attitude/Administration.

43. **TCO** – Total Cost of Ownership – A cost modeling tool that systematically accounts for all costs related to purchasing decision. TCO evaluates all costs, direct and indirect, incurred throughout the life-cycle of an item, including acquisition and procurement, operations and maintenance, and end-of-life management. Sum of all expenses/costs associated with the purchase and use of equipment, materials and services.

44. **VPI** – Value Package Introduction is the Cummins process for new product introduction. This process is the vehicle through which Cummins satisfies the requirements of APQP.
F. Enterprise Risk Management

1. Prohibited and Restricted Substances Policy and Requirements

Consistent with its commitment to contribute to a cleaner, healthier, safer environment, Cummins has identified substances that are restricted or prohibited from our products. Consequently, suppliers must be aware of and adhere to these standards for materials or components supplied to Cummins.

The Cummins Suppliers Guide to Prohibited and Restricted Substances is a compilation of Cummins Engineering Standards which are applicable to all Cummins direct material part numbers even if not yet listed on the Cummins drawing. The Cummins Suppliers Guide to Prohibited and Restricted Substances also includes those substances which are prohibited from being used in any processes in Cummins Facilities and no Cummins Supplier of Direct or Indirect Material should ship any of these substances into any Cummins facility.

The Suppliers Guide to Prohibited and Restricted Substances are available on the Cummins supplier portal www.supplier.cummins.com by following the path Environmental Stewardship>Environmental Standards>Prohibited Materials.

2. Conflict Minerals

The U.S. Securities and Exchange Commission (SEC) adopted rules as directed by Section 1502 of the Dodd- Frank Wall Street Reform and Consumer Protection Act of 2010. These rules require manufacturers that file certain reports with the SEC to disclose whether the products they manufacture or contract to manufacture contain Conflict Minerals that are “necessary to the functionality or production” of their products. These requirements were enacted to further the humanitarian goal of ending violent conflict and human rights abuses in the Democratic Republic of the Congo and adjoining countries (Covered Countries) which have been partially financed by the exploitation and trade of Conflict Minerals. Such SEC reporting manufacturers must declare whether or not any 3T/G in their products which originated from the “Covered Countries” came from Conflict-Free Smelters.
There are currently 4 minerals identified as conflict minerals (Tin, Tungsten, Tantalum and Gold, or 3T/G) and the U.S. Secretary of State may designate other minerals in the future. Furthermore, other countries or regions may pass similar “Conflict Minerals” regulations in the future.

Cummins may periodically survey suppliers of products it determines may contain conflict minerals. Surveyed suppliers will be expected to conduct any upstream due diligence necessary to make an applicable declaration and report the results via approved avenues communicated to the supplier by Cummins.

3. When requested, Suppliers are required to submit a Business Continuity Plan (BCP)
   a. Suppliers may use Cummins BCP template for assistance in creating BCP for the suppliers company.
      The BCP template is available on www.supplier.cummins.com by following the path Corporate Responsibility>Business Continuity Planning.
   b. Suppliers are expected to provide BCPs for the Primary/Major Facilities that produce high risk components as identified by Cummins.
   c. The BCP must be an “active” document and Suppliers are responsible for reviewing and updating BCPs at a regular frequency (at least annually).
   d. The Supplier shall submit latest version of the BCP to CMI on an annual basis.
G. Quality System Requirements

1. A quality system is an integral part of a successful quality program. It is not, however, a guarantee of quality products and processes. A quality system establishes disciplines. Only when the disciplines are in place and effectively executed will the benefits be derived. Functioning quality systems lead to sustained improvements within an organization.

2. Supplier quality system requirement by Cummins:

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<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Cummins</td>
<td>All Direct Material Supplier</td>
<td>All Applicable Suppliers (3)</td>
<td>By Approval Only (1)</td>
</tr>
</tbody>
</table>

Note 1: Cummins will allow no exceptions for suppliers who ship products to Cummins plants who are TS16949:2009 registered. While Cummins would like all suppliers to be ISO9001:2008 registered, exceptions for suppliers who ship to plants which are not TS16949 registered exceptions are allowed, see Note 2.

Note 2: The minimum acceptable quality system registration for a new supplier to Cummins is ISO9001:2008 unless written approval of exception is given by the applicable Cummins Purchasing Quality Leader. Similar approval is required for the use of any supplier who is not ISO9001:2008 registered (see Note 1).

Note 3: All suppliers who meet the AIAG applicability rules for becoming an ISO/TS16949 supplier shall pursue certification. In the meantime, as a minimum, these suppliers shall follow PPAP and APQP rules and all requirements listed in this manual.

Note 4: Suppliers who are not registered to ISO9001:2008 must have systems in place to ensure they meet Cummins Quality, Cost, and Delivery needs.

3. The supplier shall maintain their Quality System Registration through their registrar’s surveillance program and will notify the Cummins SQIE of any change in their registration status such as a new certificate number, suspension, revocation or switch to another registrar. The supplier must submit a copy of their registration to Cummins.
4. The Supplier shall include the requirements of the Cummins Supplier Handbook in any scope of registration to ISO/TS16949 issued by an International Automotive Task Force (IATF) recognized and IATF contracted certification body in order for the ISO/TS16949 certificate to be recognized as satisfying Cummins criteria for third party registration/certification.

5. Cummins expects its Tier 1 suppliers to manage the quality of their supplier base. Cummins understands that Cummins Tier 1 suppliers must occasionally use suppliers who are not ISO9001:2008 registered due to factors such as supplier size, volume, specialty products, etc.. Cummins does not prohibit the use of these suppliers.

6. Cummins requires that Cummins Tier 1 suppliers allow and facilitate Cummins visits and audits of Tier 2 suppliers as requested.

7. Suppliers are encouraged to apply the principles outlined in “CQI-19 AIAG Sub-Tier Supplier Management process guidelines” to all their sub-tier suppliers. Cummins reserves the right to require a supplier apply the principles outlined in CQI-19 to address issues identified in the supplier’s sub-tier supplier development and management process.

8. ISO/TS 16949 and ISO9001:2008 contain numerous clauses such as “…when required by the customer” or “…where specified by the customer.” The Cummins Supplier Handbook is Cummins repository for these requirements. All items in this Cummins Supplier Handbook shall be considered Cummins’ “customer requirements.”

9. It is impossible to cover every conceivable situation with a blanket statement or definition. If a situation occurs that is not covered by the Cummins Supplier Handbook, the Cummins SQIE is the main point of contact for getting questions answered and situations resolved. The Cummins SQIE has the authority to request data above & beyond the stated requirements in the Cummins Supplier Handbook if it is deemed pertinent to protect the interests of Cummins.
H. Continual Improvement

1. Cummins expects suppliers to monitor the outputs of their quality system and continually improve in quality, service, and cost. This philosophy should be fully deployed throughout the supplier’s organization. Continual improvement in product characteristics means optimizing at a target value and reducing variation around that value. This assumes that product characteristics currently meet specifications. Cummins customers have high expectations of the quality of the Cummins products and in order to meet these expectations we are equally demanding of our supply base.

2. Suppliers are expected to apply continual improvement techniques to non-product characteristics that impact quality, service, and cost such as machine downtime, floor space utilization, first-time PPAP approvals, testing methods, process flows, etc. Lean manufacturing methods are a proven way of achieving these improvements and are encouraged by Cummins.

3. Suppliers are encouraged to adopt Six Sigma as a formal improvement process, particularly when aimed at improving quality or reducing costs.

4. The suppliers ‘quality objectives’ shall be in line with Cummins quality objectives, particularly PPM (zero defects), lead-time, and improvement targets.

5. Suppliers with high value, chronic or repeat quality issues are expected to participate in any Cummins driven problem solving initiative.

6. Suppliers are expected to implement Cummins Manufacturing Quality Verification (MQV) tool as part of their continual improvement process when directed by their SQIE or as part of APQP during a VPI program. MQV is a tool for identifying past and potential defects and ensuring that those defects cannot reach Cummins or its customers. Cummins uses MQV as an APQP tool and as a tool to drive continual improvement.

Note: Suppliers are expected to put in additional methods of control for Pass-Thru Characteristics (PTCs) whether they are defined on the Cummins Drawing or not. The Cummins SQIE can help identify potential PTCs. MQV is the preferred method for identifying the actions taken to control these characteristics.
7. Suppliers shall use statistical tools for managing and improving processes wherever possible. Statistical tools may include but are not limited to Statistical Process Control.

8. Suppliers shall comply with continual improvement methods such as Annual Layout when requested. Annual Layouts are conducted to ensure continuing conformance to all Cummins requirements and shall include a complete layout inspection (including sub-components) to the Cummins drawing, confirmation of compliance to any engineering standards on the drawing, confirmation of compliance to the material specification on the drawing, and updated capability information for any special characteristics.

9. Supplier shall conduct an Internal Quality Management Systems audit at least once per year. Suppliers should implement a Layered Process Audit program to promote continuous improvement within their facility.

   Note: Suppliers to the Columbus Midrange Engine Plant are required to implement an LPA program that includes Process Control Audits as well as Error Proofing Verification audits. Suppliers should refer to AIAG CQI-8: Layered Process Audits for guidance on establishing an LPA program.

10. For electronics components, supplier is expected to evaluate the manufacturing process for the application of Process Average Testing (PAT). This should be discussed with the Cummins SQIE for appropriate application of PAT.
I. Supplier Selection

1. For potential suppliers to Cummins, the selection team from Cummins will assess the supplier against specific requirements including Quality, Total Cost of Ownership (TCO), Technical, Regulatory, Financial, Warranty Commitment, Target Cost and Future Cost Reductions.

2. As a supplier or potential supplier you will be asked for a copy of your ISO/TS 16949 or ISO9001 certificate which covers the producing plant location and product proposed for delivery to Cummins.

3. Additionally, you will be asked to complete a Supplier Selection Assessment as a prelude to a site visit by the selection team. During the site visit, qualified members of the selection team will perform a Supplier Selection Assessment and/or a Focused Quality System Assessment. The selection team will be comprised of representatives of engineering, manufacturing, purchasing, quality and finance. The Supplier Selection Assessment looks at many of the supplier’s systems in detail with the objective of determining which areas need to be improved prior to launching a Cummins product at that facility. The Focused Quality System Assessment, rather than looking for the presence of an entire quality system, focuses on the effective implementation of the system and looks for evidence of routine execution.

4. Process/Product audits of similar products being run on the process proposed for Cummins may also be included as part of the Supplier Selection Process.

5. When the selection team completes their evaluation and a selection is made, the new supplier is formally introduced into the Cummins Supplier Quality Improvement Program.

6. Suppliers which sell $5 million or more to Cummins in a country of import shall have a resident technical resource to handle sorting, screening, and issue resolution. Suppliers which sell less than $5 million to Cummins in a country of import shall use a third party for these types of activities at the supplier expense. Special arrangements can be made between the Cummins Plant and the supplier at the request of the Cummins Plant or Cummins purchasing. In some cases, suppliers which sell less than $5 million to Cummins in a country of import may be required to have a resident technical resource.
J. Design Control

1. Design control refers to the ‘ownership’ of the design of the component being sourced.
   
a. Cummins Design Control – The component is wholly designed, developed and specified by Cummins. Suppliers are encouraged to participate in the design of these products to contribute their knowledge and expertise (e.g. process requirements, cost reduction opportunities etc.). If a component is under Cummins design control, it is Cummins’ responsibility to address quality issues arising from the design.

b. Supplier Design Control – The component is wholly designed and developed by the supplier to meet a Cummins specification, performance requirement, and technical profile. If a component is under the Supplier’s design control, it is the supplier’s responsibility to address quality, reliability, and durability issues arising from the design.

   i. The supplier is responsible for completing Design Failure Mode Effects Analysis, Design Reviews, and specific product testing that demonstrates compliance to expected reliability and durability (life).

   ii. Supplier may be required to complete a Design Responsibility Agreement (DRA) to document the responsibility for Part Design, Graphics, Intellectual property, and right to use between Cummins and the Supplier.
K. APQP

1. The requirement of APQP is crucial to the development of new products and processes, the revision of existing products and processes, and moving components from one supplier to another. Its single most important tenet is that quality does not just happen, it must be planned. Quality must be in the design of the product as well as in the development of the process that will produce the product. Three key outputs of APQP are the Process Failure Mode and Effects Analysis, Control Plan, and PPAP. Suppliers are expected to be knowledgeable of and follow the APQP process.

2. As a supplier to Cummins awareness of at least two APQP processes happen in conjunction with one another:

   a. Cummins initiates an APQP process internally in the development of new products (through VPI).

   b. As a supplier of a component or assembly to the new Cummins product, the supplier shall initiate an APQP process of its own when engaged by Cummins. The supplier's level of involvement will vary depending on where the responsibility for design control resides for the component or assembly that the supplier will be supplying.

   Note 1: Cummins New Product Introduction Process, known at Cummins as Value Package Introduction (VPI), contains some Cummins-specific requirements not explicitly defined in APQP. You will be made aware of the additional requirements as you are engaged in the VPI process by the Cummins SQIE. Required task completion dates will be assigned and monitored by the Cummins SQIE.

   Note 2: Suppliers are required to utilize the APQP process regardless of the risk of their particular process. The level of oversight will vary depending on risk.

   Note 3: Suppliers providing prototype components to Cummins as part of a VPI program are required to comply with source release requirements prior to shipment of any material to Cummins.

3. Each supplier participating in a New Product Introduction (VPI) project must be able to provide evidence of meeting our APQP checklist requirements for their component. APQP is applicable to VPI components, the revision of existing product designs, and to source changes (moving a component from one supplier to another). Some APQP elements need not be re-developed in every case. If the supplier and the Cummins SQIE determine that an APQP element is not affected by the change, no action is required other than documenting the consideration. If an element is affected by the change, prior work is updated accordingly.
4. The Cummins SQIE will engage a supplier for APQP activity with required task completion dates at the appropriate time in the Product/Process development cycle.

5. Cummins requires suppliers with projects deemed as high risk to participate in the Cummins Safe Launch process. This may apply to new components, changes from one supplier to another, and for some component design or process changes. Suppliers expected to complete this activity will be notified by their Cummins SQIE. Safe Launch includes but is not limited to:

   a. **Production Capability Certification (PCC Run)** – Test of capacity and quality run by the supplier with Cummins personnel present. Similar to “run at rate.”
   
   b. **Source Release** – A process for ensuring non-PPAP approved parts meet quality requirements.
   
   c. **Component Certification** – A process whereby the supplier certifies, in some cases with measurement data, that components are within specification. Requirements for Component Certification will be identified by the Cummins receiving plant.
   
   d. **Preliminary/Inspection Control Plan** – Detailed plan for increased inspection frequencies during the safe launch timeframe.

6. Suppliers are required to use Cummins Electronic systems for submission of APQP, PPAP and Source Release documentation. Documentation submission requirements will be defined by the Cummins SQIE and may vary by business unit.

7. Cummins has developed a formal APQP review process. This review process brings the supplier’s management; Cummins plant management, engineering, purchasing, and others together at different stages of the APQP process to review status of APQP activities associated with a specific component. Cummins suppliers shall participate in Cummins formal APQP process as requested by their Cummins SQIE contact.
L. PPAP

1. PPAP (Production Part Approval Process) is a basic element of the Cycle. PPAP applies to both new and existing product and is intended to assure that the new or revised products and processes are production ready. PPAP can be the end result of APQP or a process in its own right to manage smaller changes. Regardless of whether Cummins initiates a new or revised component design, or whether the supplier initiates a change to an existing component or process, a PPAP must be approved by Cummins SQIE prior to production parts being shipped from the supplier to Cummins. Suppliers must be knowledgeable of and follow the AIAG PPAP process.

2. Cummins requires suppliers to follow the latest version of the AIAG PPAP manual.

3. Suppliers must obtain written approval from Cummins for product or manufacturing process changes before shipment of components to Cummins (ref M2, a-e). Unapproved changes cause serious issues often in spite of the fact that they were made by the supplier with the best of intentions. Cummins must be notified of pending changes using the Cummins Supplier Change Request Process (SCR). Informed decisions are then made on the impact of the changes and whether a full, partial, or no PPAP submission is required. It is the supplier’s responsibility to ensure that Cummins has approved the PPAP before any parts are shipped to a manufacturing location.

Note 1: Some Cummins locations may batch certain changes and approve on a calendar basis (e.g., twice yearly).
4. Cummins-specific PPAP information:
   
a. Where the PPAP manual states “…contact the customer” or “…contact the customer product approval activity” that person is the SQIE at Cummins.
   
b. The Submission Level (1 through 5) required by Cummins is defined by the SQIE for each PPAP submission.

   **Note 1:** A Level 5 submission may include supplier site activity such as a Process/Product Audit or other means of verifying the capability of the production system in addition to the onsite completion of the PPAP

   **Note 2:** Per AIAG manual, the supplier must complete all elements of a PPAP regardless of the submission level chosen, unless specifically waived in writing or via electronic system by Cummins SQIE.

   **Note 3:** In cases where PPAP volumes are very low, a “Special Level 4” PPAP may be utilized. You must get approval from your Cummins SQI engineer to use this variation.

   **Note 4:** “Off The Shelf” Components: A part that is sold to the general public direct from the manufacturer or through a distributor network and is not being modified in any way to suit Cummins specific needs. These parts may be commercially available as a catalog item.

      i. Suppliers providing off the shelf items to Cummins must be ISO9001 certified at a minimum.

      ii. A Level 1 PPAP will be submitted by the supplier to Cummins using the appropriate Cummins PPAP system to signify the supplier has appropriate controls in place for production of the part. Any inspection/test data relevant to product dimensions or part function are to be retained on site by the supplier and available for review by Cummins upon request. Cummins SQIE has the right to request additional data as part of PPAP where there are questions regarding the shelf rule applicability.

   c. Three sample parts are the default requirement for dimensional verification during PPAP with some customers requiring more than three samples. The Cummins SQIE will notify the supplier if other than three sample parts are required.

   **Note 1:** Cummins’ drawings state specific Engineering, Material, Process, Inspection standards and product notes that are required to enable the supplier to manufacture the part. Compliance to these standards and notes shall be confirmed in writing by the supplier during the PPAP process. The supplier may use the dimension report/ISIR and material/performance documents to record their compliance statements.

   **Note 2:** Cummins subscribes to the AIAG requirements regarding dimensional results for each manufacturing process. (e.g. Cells or production lines and all cavities, molds, patterns or dies)

   **Note 3:** When specified on the drawing, a master cad model may become a source for product definition. Verification of features only defined by the MCM must be agreed with the SQIE. Engineering approval for the MCM measurements is required.
d. Whenever a Cummins Engine Business Unit drawing references Cummins Engineering Standard 10012, Source Approval, all changes, regardless of their nature must be reviewed by Cummins engineering. Cummins engineering will determine the level of testing required prior to making the change. Tests may be performed by Cummins, the supplier or a combination of both. The supplier has the obligation for maintaining evidence of the test results (regardless of who performed the tests) per the PPAP requirement “Material, Performance Test Results”, and for evidence of Cummins Engineering approval(s) per the PPAP requirement “Engineering Approval.”

Note 1: Some Source Approval testing may extend beyond the need date for production parts. In these cases, Cummins Engineering may authorize PPAP Interim Approval until the testing has been satisfactorily completed. Cummins Product Engineering must provide approval to permit Interim PPAP approval for any components that have not completed source approval testing.

Note 2: Other, non-Source Approval functional, material or performance testing which is required on the drawing falls under PPAP element “Material, Performance Test Results.”

e. Many Customers of Cummins require material content be reported in IMDS. Where requested, suppliers shall use the International Material Data System (IMDS – www.mdsystem.com) to report material composition information for components provided to Cummins.

f. Process Flow Diagrams, PFMEAs and Control Plans shall comply with the latest editions of AIAG APQP, PPAP, and FMEA.

i. Process Flow Diagrams, PFMEAs and Control Plans shall use a process numbering scheme or sequencing method that is consistent to ensure traceability to each document.


Note 1: Use of operator instructions in place of a control plan is not acceptable.

g. Cummins PPAP Run Size Expectation:

i. When annual usage is over 3600 pieces, a 300-piece run, with 100 of the 300 pieces used for statistical analysis is required. High Volume PPAP’s will not be fully approved without sufficient data. The Cummins SQIE and the supplier will agree to the requirements per these instructions. A 30-piece machine study is NOT appropriate for PPAP approval.
h. Low and Ultra-Low Volume PPAP Rules:
   i. When estimated annual usage is less than 3600 pieces, AIAG PPAP rules apply with the following Control Plan specific requirements: 1) The supplier shall document in their Control Plan that they will either: perform 100% inspection and record the results or conduct an initial process study with a minimum of 30 production pieces and maintain SPC control charts of the special characteristics during production, and 2) that they will conduct first piece full layout inspection to verify set-up. 100% inspection or SPC Control Charts for Special Characteristics and set-up records containing the first piece inspection data shall be maintained per AIAG PPAP Record Retention requirements. The Cummins SQIE may require Pre-control as defined by Cummins on special and any identified special characteristics.
   ii. In cases where annual usage is less than 360 pieces and statistical analysis of data impractical (e.g., normal manufacturing runs of less than 30 pieces) the supplier, upon agreement with the Cummins SQIE, may use a Special Level 4 PPAP. This variant of the AIAG PPAP process is a Level 4 PPAP that requires submittal of the following elements: Design Record, Process Flow, Process FMEA, Control Plan, Dimensional Results, Material/Performance Test Results, Measurement Systems Analysis, and Part Submission Warrant. In addition, the supplier shall document in their Control Plan that they will perform 100% inspection of special characteristics and record the results, and conduct first piece full layout inspection to verify set-up. 100% inspection for Special Characteristics and set-up records containing the first piece inspection data shall be maintained per AIAG PPAP Record Retention requirements. Special Level 4 PPAP’s are intended only for those components with such low volumes that statistical information is invalid.
   iii. The significant production run shall consist of at least one month production quantity of the Demonstrated Capacity (e.g., Capacity = 2100 pieces, PPAP run size = 175 pieces).
   i. Interim Approval of a PPAP shall only be used on an exception basis. The Cummins SQIE will review the supplier PPAP submission and decide if an Interim approval is allowed using the Cummins guidelines. All interim approvals will require a detailed action plan to resolve the issues that prevented Full PPAP Approval. Material covered by an Interim approval that fails to meet the agreed to plan can be rejected.
   j. Cummins suppliers must have the ability to submit PPAP documentation electronically. Documentation submission requirements will be defined by the Cummins SQIE and may vary by business unit.
5. Cummins Special Characteristics: The AIAG PPAP manual refers to customer’s “Special Characteristics.” Special characteristics at Cummins are indicated on engineering drawings with the following symbols:

<table>
<thead>
<tr>
<th>Characteristic Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>![Critical Symbol]</td>
</tr>
<tr>
<td>Key</td>
<td>![Key Symbol]</td>
</tr>
<tr>
<td>Major</td>
<td>![Major Symbol]</td>
</tr>
<tr>
<td>Significant Minor</td>
<td>![Six Sigma Symbol]</td>
</tr>
</tbody>
</table>

a. Special characteristics are to be documented in the “Initial Process Study” of PPAP.
b. In addition to the Critical and Major drawing characteristics, the Cummins SQIE may specify other characteristics as Key characteristics for process control purposes. The process capability of any Key characteristics is to be documented the “Initial Process Study” of PPAP.
c. Unless otherwise directed by the Cummins SQIE, all special characteristics are to be statistically studied and included in PPAP “Initial Process Study.” In general, Cummins requires a Capability or Performance Index greater than or equal to 1.67 as acceptance criteria for initial studies at the time of PPAP on special characteristics.

Note 1: It is important to consult the Initial Process Studies section of the PPAP manual for the discussion on stability and acceptance criteria for initial studies. Per these discussions, initial study acceptance criteria of quality indices between 1.33 and 1.67 may require some improvements after careful review of the data.

Note 2: The supplier shall maintain on-going capability data for all Cummins Special Characteristics. Ongoing process capability is to be maintained at Ppk ≥ 1.33. The requirement for maintenance of ongoing process capability is to be included in the production Control Plan. The supplier shall provide capability information to Cummins within 1 business day of request. In some cases, suppliers will be requested to provide capability on a routine basis (e.g. monthly).
d. While statistical studies are specified on special characteristics, this does not mean that the other characteristics on Cummins Engineering drawings may be ignored. All characteristics must meet specification and it is in the supplier’s best interest to understand their capability on ALL features. All Significant Minor (A.K.A. Six Sigma characteristic) are to be studied using a minimum 30 piece sample and must demonstrate a capability or performance index of 1.0. Six Sigma Characteristics must also have a control plan item assigned to demonstrate conformance to specification over time.

Note 1: The Dimensional Results section of PPAP is where the measurement results for these characteristics are reported for the number of Sample Product required.

e. Current Calibration records are required for all gages/measurement equipment used to inspect Cummins product. Measurement Systems Analysis (MSA) is required for any measuring equipment used to inspect the special characteristics identified on the Cummins drawing or as defined by the Cummins SQIE. The Anova method, as detailed in MSA 4th edition is the preferred method for submittal to Cummins. MSA acceptance limits shall be as follows:

% Tol Ratio (Precision to Tolerance)
- P/T Ratio is less than 10% is acceptable
- P/T Ratio between 10 and 30% is marginally acceptable
- P/T Ratio greater than 30% is unacceptable.

% R&R (Repeatability and Reproducibility)
- R&R less than 10% is acceptable
- R&R between 10% and 30% is marginally acceptable
- R&R greater than 30% is unacceptable.
M. Non-conforming Material

1. In the event that quality problems are experienced with product provided by a supplier, Cummins’ corrective action process may escalate through several phases depending on the adequacy and timeliness of the supplier’s response and the effectiveness of the actions taken. It may also go straight from problem notification to Senior Management depending on severity and urgency.

Note 1: Reworked or repaired material is considered non-conforming unless prior approval of these processes was granted by the Cummins SQIE and appropriate Cummins Engineering resources.

2. Cummins will notify the supplier when a nonconformance has occurred. At the time of notification, the supplier will also be advised if a corrective action response is required.

   a. When an MNC is issued to the supplier, it is Cummins’ expectation that the supplier takes immediate action to contain any additional defects. The supplier is expected to take appropriate corrective action to prevent additional defects from being produced or reaching any Cummins site. Cummins SQIE’s may check supplier’s actions taken as part of the Cummins Process/Product audit process.

   b. The MNC gives the supplier the opportunity to document actions taken and Cummins suggests that the supplier document these actions. In some cases, a Cummins Plant may request that the supplier respond to an MNC. If response is requested, the supplier is expected to comply.

3. If a SCAR (Supplier Corrective Action Request) is issued, the following must take place:

   a. Supplier is required to take immediate containment actions to enable Cummins facilities to operate and protect Cummins from further non-conforming product.

      i. The supplier shall submit documented containment results within 24 hours of notification of non-conformity.

      ii. The supplier’s containment process must cover all possible areas of potential defects including:
          1. Supplier’s manufacturing location.
          2. All potential transportation links (e.g. supplier to ship, ship to warehouse, warehouse to Cummins, etc.).
          3. All warehousing operations from the supplier through the Cummins facility.
          4. The notifying Cummins facility and any other potential Cummins facilities.
          5. The AIAG inventory containment form shall be submitted to Cummins Inc to document containment has taken place at all possible inventory locations.
b. Root cause shall be identified and short term action in place within 48 hours of finding the defect.
   If a part is “required” to complete the root cause analysis, the 48 hours begins when the supplier
   receives the part. However, all attempts shall be made to complete the root cause analysis without
   having component physically in hand. Photographs, measurement data, and defect descriptions
   are usually sufficient for this purpose.

c. Long term action plan submitted within 10 working days of receipt of SCAR.

d. Long term action plan in place within 30 days of finding the defect. Past Due SCARs will be escalated
   to Cummins management for further review.
   i. Timeliness of suppliers’ responses to these due dates are measured and included in the Supplier
      Balanced Scorecard.

e. Cummins reserves the right to institute third party sorting/certification of product at the Suppliers
   location if a Supplier Corrective Action is inadequate or in the case of a recurring defect. Any charges
   accrued associated with the activities conducted by the Third party will be at the Supplier’s expense.

f. Suppliers are required to use the systems specified by their Cummins SQIE to respond to MNC’s
   and SCAR’s.

g. PFMEA and Control Plan are to be reviewed and relevant revisions made as part of the problem solving
   process. The expectation is that these documents will be submitted as part of the completed SCAR
   response. Proprietary process documentation requires evidence that the review has been completed
   by the Cummins SQIE. Process changes as a result of the problem solving process are expected to
   be submitted to Cummins for review using the SCR process and PPAPs completed where required.

4. All SCAR responses will be reviewed by appropriate Cummins quality personnel (e.g. SQIE) for adequacy.
   Suppliers are expected to submit evidence of problem solving tools used during root cause investigation
   of the issue. The Cummins preferred format for Root Cause investigation is 3P-5Why; however other tools
   such as Cause & Effect Matrix, Fishbone Diagram, etc. may be used. Unacceptable responses will be
   returned to the supplier for further work.

Note 1: Cummins follows 7-Step problem solving methodology. Reference the AIAG manual (Seven-Step
Problem-Solving Process for Truck and Heavy Equipment Suppliers) for detailed information.

Note 2: If the supplier has institutionalized a different problem solving methodology (e.g., 8D) that is proven to be
consistent with the intent of the Cummins Seven Step, the supplier’s response may be accepted using their format.
5. Repetitive nonconformance, adverse quality trends, or other issues may escalate the corrective action process to include, but not be limited to:
   a. Formal Process/Product Audit of the supplier’s facility by Cummins Supplier Quality, looking for systemic issues.
   b. Focused problem solving activity with agreed measures and targets and routine progress reporting into Cummins.
   c. Submission of capability information on selected characteristics.
   d. Submission of Paynter Charts tracking defects and Step 3 and Step 6 action monthly.
   e. Participation in 6 Sigma projects.
   f. Participation in a formal Cummins Supplier Improvement Process program (SIP).
   g. Participation in Controlled Shipping/Consequential Management activities, which may include Third Party containment/component certification processes that are provided at supplier’s expense. These actions will be implemented at the direction of Cummins Purchasing Supplier Quality Leader. These activities will be monitored at a senior level at Cummins and require the active participation of senior management at the supplier.

6. The final escalation of the corrective action process, if required, is a meeting of the supplier’s highest management with appropriate Cummins’ Plant, Purchasing or Corporate senior management. The supplier must be prepared at this meeting to commit resources to resolve the issues. Failure to follow through with these commitments would initiate re-sourcing activity by Cummins.

7. Cummins monitors supplier-caused disruption costs to Cummins and its Customers. Costs associated with supplier caused disruptions will be recovered from the supplier. Typically these costs could arise from:
   a. Nonconforming material detected within Cummins or by its customers.
   b. Supplier caused warranty issues.
   c. Line stoppages at Cummins or its customers due to supplier issues.
   d. SQI work beyond normal planned activity.
N. Maintenance and Improvement

The Maintenance element perpetuates the Cycle and establishes on-going updates and monitoring of Cummins’ relationship with the supplier. This element contains both Cummins and supplier responsibilities.

1. Process/Product Supplier Change Control
   a. The supplier shall notify the Cummins SQIE of any proposed process or product changes as described in the AIAG PPAP manual.
   b. The supplier shall obtain approval for all process and product change requests from their Cummins SQIE prior to implementing a change. Proposed changes shall be approved using the Cummins Supplier Change Request Process (SCR). Informed decisions are then made on the impact of the changes and whether a full, partial, or no PPAP submission is required. It is the supplier’s responsibility to ensure that Cummins has approved the PPAP before any parts are shipped to a manufacturing location.
   c. Changes to the suppliers direct material supply base require the supplier to submit a Supplier Change Request (SCR). Upon approval of the Supplier Change Request the supplier may be required to submit a PPAP by the Cummins SQIE.
   d. The supplier shall gain approval from the Cummins SQIE using the Supplier Change Request process when any alternate process is to be used. Note: An alternate process is one that is different than the process used during PPAP.
   e. Products produced on alternate processes may be subject to increased inspection and test requirements as agreed with the SQIE. In all cases Item 1.d. applies.

2. Quality Data
   a. The supplier shall maintain routine quality data (e.g., quality indices updates, reliability test results, any data collection defined in control plans, etc.) that are required by the Cummins Engineering drawing, agreed to in the APQP/PPAP elements of the Cycle, or established as part of a corrective action plan. Such data shall be made available to Cummins upon request and provided within one (1) business day of such request.
   b. When a PPAP submission for a part has not been made to Cummins in the last 24 months, the requirement for the next PPAP, regardless of the change to the part or process, is a complete PPAP submission which shall include updated dimensional data, Control Plan, PFMEA, and updated Process Capability data at a minimum, as well as any other information requested by the Cummins SQIE.
c. Supplier shall perform and maintain results for any required Functional Reliability Verification (FRV) testing that is identified on the component drawing by a functional reliability specification. Functional Reliability verification is intended to be ongoing and conducted by the supplier during the life of a component or sub-assembly to assess the ongoing capability of the component or sub-assembly to meet a functional reliability specification. Possible verification methods include but are not limited to: Fail-safing, in-process checks, process control, dimensional checks, and test-to-failure audit.

d. Cummins will monitor the quality performance of the supplier primarily through In-plant and OEM Defect PPM measures. Cummins will report these measures to the supplier. Zero PPM is the goal for both measures. Failure to meet this goal may result in corrective action activity as described in Section M, Non-Conforming Material. Cummins will set interim goals (targets) for suppliers who cannot immediately meet the zero defect goal. These targets will be reduced each year with the expectation that these suppliers will eventually meet the zero PPM goal.

e. Direct Part Marking (DPM) – Suppliers must familiarize themselves with CES18287 and other applicable Cummins engineering standards as well as AIAG documents referenced within them. It is the direction of Cummins to have identified components electronically marked with a 2D mark. Suppliers must ensure 100% readability by the receiving Cummins Plant(s) during APQP, and that they have traceability of each component within their facility's database. The electronic mark will be part of the PPAP process. It is important that the supplier work closely with the receiving Cummins Plant(s) to ensure readability and traceability. Electronic part marks that are unreadable or missing will be handled as non-conforming material. Each Cummins Plant must be harmonized to accept the same mark from a supplier in the event that a component is a supplier to more than one Cummins plant.

f. Cummins will monitor the reliability performance of selected suppliers’ components (especially suppliers with design control) through Warranty claims per engine, service campaign and temporary repair practice. Cummins will report these measures to the supplier.

i. The Suppliers must have the ability to submit Failure investigation electronically.

ii. The Supplier shall monitor and participate to reduce field warranty claims. It is important to control problem resolution time in their processes.

iii. In the event a reliability/safety problem results in a recall, the supplier shall work with Cummins to urgently remediate the problem.
O. Perpetuating the Supplier Quality Improvement Program

APQP and PPAP continue to provide inputs to the Maintenance element as new products and processes are developed and existing products and processes are improved. Likewise, Maintenance provides input to future APQP and PPAP projects with information on suppliers’ performance history. Following the elements of the program along with sincere execution of ISO/TS 16949 will promote the upward slope of Continuous Improvement. Supplier performance in all elements of the program will be considered in future sourcing decisions.
P. Other Cummins Supplier Specific Requirements

1. Record Retention
   a. The supplier shall maintain PPAP records for the life of the product plus one year.
   b. The supplier shall maintain inspection and test records for three years minimum.

2. Access To Supplier Sites
   a. The supplier shall allow on-site verification activities as required by Cummins and Cummins’ customers.
   b. The supplier shall allow on-site Process/Product Audits and System Assessments when requested by Cummins.
   c. The supplier shall allow and facilitate visits by Cummins personnel to their suppliers for purposes of audit, PPAP review, APQP review, review of corrective action effectiveness, or any other reason related to the quality of components produced for Cummins.
   d. The supplier shall allow direct communication with their manufacturing facility on quality issues.

3. Quotation Criteria – When submitting a quotation, the following criteria shall be addressed:
   a. Clear understanding and agreement on the product specifications, requirements and applications.
      Supplier is encouraged to seek participation in the Drawing Quality Review (DQR) process to ensure full understanding of Cummins Print requirements.
   b. Internal capabilities sufficient to manufacture products at consistent, acceptable, quality and performance levels.
   c. Recommendation of any changes that will prove advantageous to product quality, performance, price and delivery.
   d. Notice of any exceptions to be included with quotation bid.

4. General
   a. The supplier shall use the AIAG reference manuals for APQP, SPC, PPAP, FMEA and MSA processes.
   b. Supplier shall notify Cummins of any changes within their management structure within two weeks of changes taking effect. This includes changes in ownership as well as any changes to contacts related to doing business with Cummins.
      i. The supplier shall appoint a ‘quality contact.’ This individual will be the prime path for communication of these handbook requirements to the supplier’s organization.
c. Supplier shall ensure that contact information in all Cummins Electronic Systems is current. This update is required twice yearly at a minimum. (i.e., SIM, iSCM, Cummins Supplier Portal).

d. The supplier shall have the ability to communicate electronically with Cummins to address APQP, PPAP, SCAR, MNC, Source Release, RFQ, Scorecard, Survey, and Supplier Change Requests.

e. Any tooling, gauges etc. provided by Cummins shall be controlled within the suppliers system (e.g. for calibration requirements).

f. The supplier shall meet Cummins packaging requirements as defined in the Cummins packaging standards titled A. “Global Packaging Standard Production Components”, and/or B. “New and ReCon Parts Packaging Standards”. These standards are available for download through the Cummins Supplier Portal.

g. The supplier shall comply with any Customer Specific Requirements applied to Cummins by its customers.

h. Suppliers shall evaluate the effectiveness of each of the applicable special processes listed below with the associated manual:

   AIAG CQI-9   Special Process: Heat Treat System Assessment
   AIAG CQI-11 Special Process: Plating System Assessment
   AIAG CQI-12 Special Process: Coating System Assessment
   AIAG CQI-15 Special Process: Welding System Assessment
   AIAG CQI-17 Special Process: Soldering System Assessment

Evaluation shall be self-assessment. The self-assessment shall be conducted annually at a minimum, but may be repeated as needed. The self-assessment may be conducted as part of the supplier’s internal quality audit or conducted separately. The self-assessments are to be retained on-site, but made available for review by Cummins upon with request.

Additionally, this requirement shall apply to any sub-tier suppliers that perform these processes for the direct supplier to Cummins.

Suppliers to certain Businesses at Cummins may be required to comply with ISO-3834 Standard Quality Requirements for Welds. Where Customers require this level of weld control, the Cummins SQIE will notify the supplier of the expectation. Use of this standard supersedes the requirement for AIAG CQI-15.
Q. Additional Information

1. AIAG Ordering

Cummins does not provide AIAG manuals to its supply base; however, suppliers are expected to obtain copies for their organization. All manuals (PPAP, APQP, etc.) referenced in the Handbook may be ordered by contacting the AIAG at:

   Automotive Industry Action Group
   26200 Lahser Rd., Suite 200
   Southfield, MI 48033-7100 USA
   Phone (248) 358-3003
   Fax (248) 799-7995

or, ordering information is available on AIAG’s web site at:

   www.aiag.org

For information on distributors outside the United States with non-English language publications, see the AIAG web site:

   https://www.aiag.org/staticcontent/Intl/index.cfm
2. Forms

Many forms utilized in the Cycle are those referenced through PPAP, APQP, etc. **Of all those referenced forms, the one that is required to be used without modification is the Automotive Industry Part Submission Warrant (PSW) illustrated in PPAP.** Other referenced forms (e.g., the Control Plan in APQP), are preferred to be used without modification; however, supplier modified forms are acceptable provided all information contained on the reference format is included.

Other forms utilized in the Cycle may be Cummins-required (e.g., Advanced Quality Planning Status Report) or Cummins-preferred (e.g., Seven Step Problem Solving). The Cummins SQIE will answer supplier questions on whether a form must be used without modification (Cummins-required) or if the form may be substituted with a form meeting the intent (Cummins-preferred).

3. Revision Control

a. This Handbook is a controlled document. It is the responsibility of Cummins Purchasing to distribute the latest revision to each supplier. This will be accomplished by posting the Handbook on the Cummins Supplier Portal (www.supplier.cummins.com). It is the supplier’s responsibility to ensure compliance to customer specific requirements by periodically monitoring the website for change.

b. Cummins utilizes Lotus Notes® for electronic mail.

c. The preferred software for electronic mail attachments incoming to Cummins is Microsoft® Word®, Excel®, Project®, PowerPoint® or Adobe PDF®.
Revised Log – 2014

<table>
<thead>
<tr>
<th>Page</th>
<th>Revision Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Revised Cummins Supplier Code of Conduct paragraph with latest information from Cummins Inc. Supplier Portal.</td>
</tr>
<tr>
<td>6</td>
<td>Revised definition of 6 Sigma characteristic to significant minor.</td>
</tr>
<tr>
<td>8</td>
<td>Added definition for disruption score, MCM, changed NCMR to MNC to align with CQMS.</td>
</tr>
<tr>
<td>8</td>
<td>Added definition of Pass thru characteristic.</td>
</tr>
<tr>
<td>8</td>
<td>Revised definition of PPAP to include process changes.</td>
</tr>
<tr>
<td>10</td>
<td>Revised Section F to include other aspects of Enterprise Risk Management (BCP, Conflict Minerals).</td>
</tr>
<tr>
<td>13</td>
<td>Added TS Audit Scope Statement: The Supplier shall include the requirements of the Cummins Supplier Handbook in any scope of registration to ISO/TS16949 issued by an IATF-recognized and IATF-contracted certification body in order for the ISO/TS16949 certificate to be recognized as satisfying Cummins criteria for third party registration/certification.</td>
</tr>
<tr>
<td>13</td>
<td>Added CQI-19 as a suggested practice for sub-tier supplier development with option for Cummins to mandate.</td>
</tr>
<tr>
<td>14</td>
<td>Added note to #6 on pass thru characteristics to MQV requirements.</td>
</tr>
<tr>
<td>15</td>
<td>Updated annual layout expectations and LPA requirements.</td>
</tr>
<tr>
<td>17</td>
<td>Added DRA requirement in J. Design Control section.</td>
</tr>
<tr>
<td>20</td>
<td>Removed reference to AIAG Truck Specifics.</td>
</tr>
<tr>
<td>21</td>
<td>Removed “standard products” revised Off the Shelf rules.</td>
</tr>
<tr>
<td>21 &amp; 22</td>
<td>Revised Dimensional layout section, added End of Line defect requirements and MCM requirements for PPAP.</td>
</tr>
<tr>
<td>22</td>
<td>Moved revised IMDS section to PPAP section of handbook.</td>
</tr>
<tr>
<td>23</td>
<td>Created new section, revised rules, and PPAP run size for Low and Ultra-Low Volume PPAP. Removed reference to AIAG Truck industry requirements, added Pre-control expectations for low and ultra-low volume products.</td>
</tr>
<tr>
<td>24</td>
<td>Added to note 2 “On-going process capability is to be maintained at Ppk ≥ 1.33. The requirement for maintenance of ongoing process capability is to be included in the production Control Plan” – MOVED TO PAGE 15 (PPAP).</td>
</tr>
<tr>
<td>29</td>
<td>Added 24 month re-PPAP submission requirement for current product change PPAPs.</td>
</tr>
<tr>
<td>33</td>
<td>Revised CQI Document notes to clarify expectations on the supply base. Moved LPA requirement to continuous improvement section and specific to CMEP supply base.</td>
</tr>
<tr>
<td>33</td>
<td>Revised name of Packaging standards and identified location for download.</td>
</tr>
<tr>
<td>33</td>
<td>Added ISO-3834 Standard Quality Requirements for Weld certification where required.</td>
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</table>