

Eaton Global Supplier Excellence Manual

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Powering Business Worldwide

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1 Scope

This manual defines the minimum requirements, processes, and systems for doing business with Eaton, as well as aligns to Eaton's Customer Specific Requirements. The manual outlines processes used to ensure that Eaton's supply base is providing top-level service while continually improving to prevent quality and delivery disruptions. It is the responsibility of the Supplier's leadership to ensure compliance with this manual.

Additional business-specific requirements are referred to in Section 10. The business-specific requirements shall be in addition to the requirements in the body of the document unless otherwise specified. Section headings throughout this manual will be highlighted with the acronyms in Table 1.

Table 1

Aerospace	Electrical	Mobility
<u>AER</u>	<u>ES</u>	<u>MG</u>

1.1 Business Communication

Suppliers shall:

- Communicate all documentation in English unless otherwise specified by the Eaton business.
- Communicate any significant changes in business climate including but not limited to acquisitions, divestitures, pending litigation, or any activity that may change financial viability in the Supplier's organization on an immediate basis to the regional Supplier development engineer / Eaton representative on Eaton email. Suppliers need to ensure that Eaton meets the business objectives without compromising ongoing Operations.
- Register for the Eaton Supplier Portal at My.Eaton.com.
- Maintain a current Supplier Profile at My.Eaton.com.
- Log in to the Eaton Supplier Portal regularly to stay current on business communications.

The My.Eaton.com portal contains the framework of digital infrastructure for doing business with Eaton. The following documents, tools, and more can be found on the Eaton Supplier Portal:

Documents

- Eaton's Code of Ethics
- Supplier Code of Conduct
- Terms and Conditions
- Sustainability

Tools

- WISPER
- Supplier visualization
- Supplier invoicing
- Eaton Route
- Eaton University for Suppliers
- Supplier Diversity Portal - <https://eaton.supplierone.com>

2 Reference Material

[AIAG](#) - Automotive Industry Action Group site where suppliers can find information on APQP, PPAP, PFMEA, MSA, Control plan, and Special Processes.

[AS/EN/JISQ9100](#) - Internationally recognized aviation, space, and defense organizations Quality Management System (QMS).

[Dun & Bradstreet](#) - Largest Global Commercial Database where a supplier can obtain a D-U-N-S number.

[Eaton Route](#) – Web-based application for obtaining shipping instructions.

[Eaton's Supplier APQP](#) - Standard Supplier APQP process developed by Eaton for purchased parts

[IATF16949](#) - Internationally recognized automotive Quality Management System (QMS)

[ISO17025](#) – General requirements for the competence of testing and calibration laboratories

[ISO9001](#) - Internationally recognized Quality Management System (QMS)

[NAS 412](#) - Defines general practices and standard terms for the prevention of Foreign Object Damage (FOD) to aerospace products and operating environments.

[Purchase Order Terms](#) - Eaton's standard PO Terms and Conditions

[Responsible Business Alliance \(RBA\)](#) - committed to supporting the rights and well-being of workers and communities worldwide affected by global supply chains.

[Responsible Minerals Initiative \(RMI\)](#) - supports responsible sourcing of minerals from conflict-affected and high-risk areas.

[SD-013](#)– Eaton Aerospace Group Counterfeit Product Prevention Policy.

[Supplier Code of Conduct](#) - Outlines Eaton's expectations for suppliers regarding workplace standards and business practices.

[The Sustainable Procurement Pledge \(SPP\)](#) - enables procurement professionals to drive responsible sourcing through personal engagement.

[United Nations Sustainable Development Goals](#) - promotes and coordinates the implementation of the 17 Sustainable Development Goals (SDGs)

3 Terms & Definitions

Term	Definition	Where used
AIAG	Automotive Industry Action Group is a not-for-profit association where professionals from a diverse group of stakeholders work collaboratively to streamline industry processes via global standards development and harmonized business practices.	2, 7, 7.3
APQP	Advanced Product Quality Planning (APQP) is a structured method of defining and establishing the steps necessary to ensure that a product meets expectations and that the Supplier's manufacturing processes can consistently meet these requirements.	2, 6.2, 7
Eaton Business	Eaton Business may refer to any subset of Eaton as a whole. Ex. (divisions, groups, plants)	All
Control Plan*	A written description of the system used to monitor and control the output of processes that produce products. The Control Plan should include controls for the prevention of failures identified in the PFMEA	7, 7.3
DMR	A Defective Material Report (DMR) is a method by which all non-conforming conditions are reported to the supplier and corrective action is requested. This is synonymous with Supplier Corrective Action Requests (SCARs), Quality Notification (QN), Q2	6.1, 7.5, 7.7, 8.1, 9.2
DMR Fee	A \$ 500 USD Administration Fee (Excluding VAT and GST) shall be charged to Suppliers for each DMR issued due to a non-conformance, regardless of the value of the rejected lot received or the number of parts being rejected.	9.2
DPPM	Defective Parts per Million (DPPM) is Eaton's inbound quality metric	6.1, 8.1
EHS	Environmental Health and Safety	0, 8.5
FMEA*	Failure Modes & Effects Analysis (FMEA) is a structured analytical tool that identifies the potential failure modes in a design (DFMEA) or process (PFMEA), the likelihood of the failure to occur, and the potential impact of a failure on the component or system (i.e. Severity).	7.2, 7.3
IDEAS	Innovation Drives Excellence Achievement and Savings (IDEAS) is a program Eaton has for suppliers to submit ideas to improve and provide cost savings.	9.1
MSA*	Measurement System Analysis (MSA) is an experimental and mathematical method of determining variation within a measurement process.	7.3
Nadcap	A program governed by a conglomerate of aerospace manufacturers (Subscriber User Members) and is administered by the Performance Review Institute (PRI).	10.3
OTD	On-time Delivery (OTD) based on a percentage of product received within the delivery window.	6.1, 8.1
Pass -Through Characteristics	Component characteristics with potential fit or function issues that do not undergo inspection and where defects may not be detected within Eaton but could cause non-conformance to the end-user or customer.	3
PPAP*	Production Part Approval Process (PPAP) defines requirements for production part approval including production and bulk materials.	2, 6.1, 7.3, 7.7, 8.1, 7.3, 9.2
Resilinc	Cloud-based supply chain risk management software Resilinc only applies to direct material suppliers that have been given access through Eaton's website	5.1, 5.2
ROHS/Reach	RoHS stands for Restriction of Hazardous Substances. It is an 'EU legislation restricting the use of hazardous substances in EEE and promoting the collection and recycling of such equipment.' REACH stands for Registration, Evaluation, Authorization, and Restriction of Chemicals. It is a regulation of the European Union.	4.1
Special Characteristics	Characteristics designated in the Design Record (drawings and specifications) that, with reasonable anticipated variation, could significantly affect a product's safety or compliance with applicable standards or regulations and/or are likely to significantly affect customer satisfaction with a product. Terms: 'key', 'critical', 'safety' 'significant', '-' or 'pass through', designated by symbols in the Design Record are generally referred to herein as 'Special' or critical to quality	7.2, 7.3
Special Processes	A process that creates a characteristic that cannot be measured, monitored, or verified without destructive testing.	2, 4.1, 7.3, 7.7

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Supplier Site Assessment (SSA)	SSA is an Eaton-designed tool to evaluate the business management systems of a supplier's manufacturing site and assess the supplier's compliance with Eaton system requirements.	4.2.1, 9.3,
Supplier Visualization	An Eaton tool is used to communicate Inventory levels. Also known as Supplier Vis.	6.1
Supplier Sustainability Maturity Assessment (SSMA)	SSMA is an Eaton-designed assessment designed to gain an understanding of our suppliers' sustainability maturity level on related topics and provide feedback to improve or maintain their performance.	4.2.2
Tier-1/Sub-Tier Supplier	Tier-1 – A supplier that sells directly to Eaton. This is inclusive of all types of suppliers. Sub-Tier – A supplier providing products or services to an Eaton Tier-1 Supplier that impact the quality of the end item	4, 4.1, 5.1,7, 7.3,7.4,7.6, 7.7, 9.2
WISPER	Worldwide Interactive Supplier Performance Evaluation Resource (WISPER) is an online system that is Eaton's primary method for evaluating and managing direct material suppliers. WISPER only applies to suppliers that have been given access through Eaton Supply Chain or Supplier Quality.	1.1, 4.1, 6.1, 7.5, 9.2

* These documents are governed by the AIAG APQP manual which should be referenced by suppliers when preparing and maintaining such documents for their processes.

4 Expectations of the Supplier

Supplier's leadership shall:

- Review, understand, and ensure compliance with this manual as a part of doing business with Eaton.
- Adhere to all requirements including all Purchase Order Terms and Conditions.
- Confirm agreement to conduct business ethically as outlined in Eaton's Supplier Code of Conduct on the link shared by Eaton -[Supplier code of conduct | Eaton](#).
- Ensure that Eaton requirements are adequately communicated to their Sub-Tier suppliers.

4.1 Quality Management System Requirements

[Click for additional business-specific requirements. AER ES MG](#)

Suppliers shall maintain a minimum current revision certification by a 3rd party registrar to an internationally recognized quality management system specified by each Eaton business group:

- Aerospace – AS/EN/JISQ9100
- Electrical – ISO9001
- Filtration – ISO9001
- Mobility – IATF16949

Based on business-specific or customer requirements Eaton may require:

- Additional quality management system certifications.
- Special Process certifications/assessment.
- Sub-tier supplier's certifications.

Suppliers whose 3rd party certification status changes shall notify the Eaton Commodity Manager, as well as the Purchasing and Quality managers at each of the affected Eaton businesses within 24 hours following communication from the accrediting agency.

Suppliers shall maintain evidence of certification status in WISPER unless otherwise stated by Eaton.

4.2 Eaton Assessment & Approval

[Click for additional business-specific requirements. AER ES MG](#)

Suppliers shall be capable of meeting Eaton's quality, delivery, cost, EHS, and continuous improvement requirements. Eaton will assess these requirements as a part of its supplier selection process through the Supplier Site Assessment (SSA) and other qualification activities. Suppliers shall be active and compliant in the supplier assessment and qualification process. The process will include but is not limited to the following:

- Registration to industry standards and certifications.
- Quality and delivery performance.
- Cost competitiveness.
- Current financial health.
- Assessment results and corrective actions.

4.2.1 Supplier Site Assessment (SSA)

The SSA is one of the minimum requirements for doing business with Eaton. Each supplier manufacturing location doing business with Eaton must have its own DUNS Number and is required to have an approved SSA on file. The SSA is DUNS Number specific and is valid for 3 years unless a risk assessment tool dictates a different validity period. It will initially be performed as a self-assessment, which may lead to an onsite assessment. Eaton reserves the option to perform periodic Process and Quality onsite audits as part of a Validated SSA process.

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SSA will be applicable on supplier type-

- For distributors, sales offices, head office, or catalog part suppliers, distributor-type SSA is required.
- In case the head office and manufacturing site are the same, manufacturer-type SSA is required.

The Supplier should complete the SSA as per the agreed time plan from the SSA request date.

4.2.2 - Supplier Sustainability Maturity Assessment (SSMA)

All Suppliers who wish to do business with Eaton are required to complete the Eaton Supplier Sustainability Maturity Assessment (SSMA) before becoming an active Eaton supplier. The SSMA represents all the supplier's locations and operations and requires annual follow-up on open actions and recommendations that are identified.

Suppliers should complete the initial SSM before receiving the first purchase order and respond to annual requests for follow-up within 4 weeks of each request.

Eaton is aligned to following the United Nations Goals:

8 - Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

12 - Ensure sustainable consumption and production patterns

13 - Take urgent action to combat climate change and its impacts

4.3 Right of Access

Suppliers shall provide a right of access to Eaton, its customers, and relevant government agencies to allow for the evaluation of quality system documentation and records, conducting audits, and verifying product conformance. The right of access applies to Tier 1 and Sub-Tier Suppliers.

5 Planning

5.1 Business Continuity

[Click for additional business-specific requirements.](#) **AER ES MG**

To increase Resiliency in our Eaton Supply Chain, suppliers shall create and share (upon Eaton's request) contingency plans to address the types of issues and risk that could potentially impact its ability to perform. Those risks include, but are not limited, to the following:

- Event-based risks
 - Fires, Chemical spills, Natural disasters, Terrorist threats, medical emergencies, labor shortages or unrest
- Sub-tier supplier's potential disruptions and disasters
- Pandemic preparedness plan
- IT disaster recovery and IT security
- Disruptions due to financial and regulatory non-compliance
- Human Resource guidelines for security, drug screening, and background checks
- Geopolitical risk

The contingency plans shall include the following:

- Team organization
- Roles and responsibilities
- Communication plan

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- Escalation procedures
- Recovery plan
- Steps to facilitate quick response
- Reaction and resumption of parts and services

Eaton suppliers are expected to develop, deploy, and maintain these contingency plans and to share them with Eaton as required. Applicable suppliers shall use the Resilinc software for this purpose.

5.2 Risk Management

[Click for additional business-specific requirements.](#) **AER ES MG**

Resilinc is Eaton's Supply Chain Risk Management software application. This database stores supplier risk mitigation and business continuity planning and is used for sensing and detecting supply chain risk.

Suppliers shall register in Resilinc upon Eaton's request and maintain details of their "Supplier Profile" including up-to-date contact information. In the event of a risk incident, suppliers are required to respond to inquiries and report the impact within 1 business day.

Eaton also uses financial health assessment software to manage our supply chain's financial viability. Upon request, suppliers will comply with financial solicitations initiated by Eaton.

5.3 Performance Expectations

[Click for additional business-specific requirements.](#) **AER ES MG**

Supplier scorecards and Supplier Business Reviews (SBR) are primary tools to assess and manage Supplier performance. Eaton expects Suppliers to maintain a zero defects culture and zero delivery disruptions through the execution of continuous improvement plans.

6 Support

6.1 Infrastructure

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall:

- Obtain a D&B D-U-N-S number from www.dnb.com for each location doing business with Eaton.
- Pay an annual software fee for ongoing support and maintenance of Business Systems.
 - Fees are assessed once per supplier per year to cover all supplier locations and are based on the amount of annual business with Eaton worldwide.

6.1.1 WISPER

WISPER provides the Supplier and Eaton with the following:

- DPPM/OTD Performance Data
- Defective Material Reports (DMRs)
- PPAP / First Article Submission Tracking
- Part & Shipment Information

Suppliers shall register in WISPER upon Eaton's request and maintain the details of their "Supplier Profile", including up-to-date contact information (See also 4.1). WISPER-specific training is available within the WISPER application under the Help & Training link.

6.1.2 Supplier Visualization

Supplier Visualization (Supplier Vis) gives Eaton and suppliers shared visibility of forecasts, purchase orders, inventory, schedules, material receipts, and the ability to create advanced shipping notices (ASN). An Eaton representative will contact the supplier when it is time to register for access and become trained on using Supplier Vis. Please do not register until notified to do so.

6.2 Organization Knowledge & Competency

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall designate key resources responsible for interacting with Eaton to conduct business effectively. At a minimum the following knowledge and demonstrated competencies shall exist within each Supplier's organization:

- APQP
- Quality Management
- Manufacturing Engineering
- Formal problem solving (8D,A3,six sigma)
- Supply Chain Management
- Materials Resource Planning

Suppliers shall be able to demonstrate their employees who are involved in the processing of Eaton parts have the necessary competence, training, education, or experience.

There should be resource planning based on the aforementioned to address employee turnover.

6.3 Document Control & Retention

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall retain adequate quality system records, including records associated with:

- Management reviews
- Internal audits / 2nd Party audits
- Calibration
- Change management
- Maintenance
- Root cause corrective actions

Suppliers shall retain quality performance and planning documents; including but not limited to:

- Control Charts
- First Article Inspection
- PPAP
- Material and Special Process certifications
- Inspection/Test Results
- Gauge/Test Equipment Verification
- Calibration and Performance Test methods
- Product and Process Validation test result

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The Supplier's quality system shall ensure that:

- Latest engineering drawings and specifications are available at the manufacturing, test, and inspection locations.
- A review process is established in that system to confirm that applicable drawings and specifications are at the latest revision level with the issuing source.
- The applicable documentation is available for manufacturing, testing and inspection by the part revision stated on the Eaton contract/PO.
- Quality records are maintained in sufficient detail with evidence of actual results of required tests and verifications.
- Where variable or quantitative data exists, it is maintained and available upon request.
- Quality records are stored in a location or media that prevents exposure to elements that would compromise the integrity of the information and will allow retrieval upon request by Eaton business.
- All non-electronic quality records are documented in ink or other permanent marking.
- Even after discontinuing supply to Eaton, Suppliers shall continue to maintain all foregoing records for the retention periods specified by Eaton and to provide such records to Eaton on request. This obligation to maintain records survives termination, expiration, or completion of any supply agreement or purchase order.

Retention time shall be agreed upon and communicated per each Eaton business or shall otherwise be provided in the applicable supply contract.

7 Operation

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall implement service and production controls necessary to meet quality, delivery, and other performance measures that impact Eaton or Eaton's Customers.

Suppliers shall be responsible for documenting and executing processes for supplied products to ensure the product meets Eaton's expectations. Some of the key processes include:

- Contract Review
- Design & Development
- Product Realization
- Production and Service Provisions
- Control of Non-Conformance
- Sub-Tier Management
- Change Management

Eaton expects suppliers to utilize the AIAG's "Advanced Product Quality Planning and Control Plan" (APQP) document. You can find further information on the Supplier Portal.

7.1 Contract Review

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall have a defined review process to ensure that all technical, quality, and purchase order requirements can be achieved before committing to supply products or services to Eaton.

- The review shall be coordinated with the applicable functions of the organization, including but not limited to Quality, Engineering, Manufacturing, and Supply Chain.

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- The review shall include an evaluation of the following at a minimum:
 - Engineering Drawings and all applicable specifications
 - Additional technical requirements within the PO
 - Quality system requirements
 - Commercial requirements
 - Forecast and delivery expectations.
- If some Eaton requirements cannot be met or only partially be met, Suppliers shall notify Eaton before the agreement.
- The results of the Supplier's reviews shall be documented and retained.
- If changes to contract requirements are made, the Supplier shall ensure the relevant functions are made aware of the changes and the impact of the change is re-assessed to ensure the requirements can still be achieved.

7.2 Design & Development

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers responsible for the design of products sold to Eaton shall establish and implement a process for design and development. The design and development process shall include:

- Planned stages with required tasks, resources, responsibilities, and design reviews defined for each stage.
- Approval from authorized persons to progress to the next stage, including Eaton approvals where applicable.
- Identification of characteristics that are essential to satisfy requirements through appropriate evaluation techniques such as DFMEA.
- Identification of any critical items, including special characteristics, and the specific actions to be taken for these items.
- Evidence of design and development reviews and their outputs, such as technical reports, calculations, test results, etc., are documented such that they can demonstrate that the design for the product or service meets the specification requirements.

7.2.1 Testing & Validation

When testing is required to confirm the design requirements can be met, the tests shall be planned, controlled, and documented to ensure the following:

- Test plans or specifications identify the test item being tested and the resources being used, define test objectives and conditions, parameters to be recorded, and relevant acceptance criteria.
- Test procedures describe the test methods to be used, how to perform the test, and how to record the results.
- The correct configuration of the test item is submitted for the test.
- The requirements of the test plan and the test procedures are observed.
- Monitoring and measuring devices used for testing shall be controlled.

7.2.2 Configuration and Data Management

Suppliers shall have a process to control changes made to the design of products supplied to Eaton. Suppliers shall implement a process to notify Eaton regarding any changes to the design before their implementation.

Changes that impact the Form, Fit, Function, Interchangeability, and Interoperability of the current system configuration shall be submitted for approval to Eaton through an Engineering Change Proposal (ECP).

Design and development changes shall be controlled by the configuration management process requirements.

7.3 Product Realization

[Click for additional business-specific requirements.](#) **AER ES MG**

Before a product is supplied to Eaton, Suppliers shall implement the following (as required, see sections 7.3.1-7.3.8):

- Process flow
- PFMEA
- Control Plan
- MSA
- Process Capability
- Inspection
- Capacity analysis
- PPAP

Completion of the above processes for legacy parts will be determined by the Eaton business being supplied.

7.3.1 Process Flow Chart (PFC)

PFC shall:

- Show the sequence of operations of product manufacturing including outsourcing process.
- Indicate process controls such as inspection points, test stations, or quality checks.
- Show the flow of materials through the process, including inputs and outputs.
- Identify automated processes and manual assembly.

7.3.2 Process Failure Modes and Effects Analysis (PFMEA)

PFMEA shall:

- Be completed for the production processes of each product.
- Show the risks associated with each process step of the product manufacturing.
- Show implemented controls for mitigating the highest risks.
- Identify special characteristics and all applicable specifications in print.

7.3.3 Control Plan

Control plans shall be:

- Documented.
- Followed for each supplied product.
- Used to control high-risk processes and, special characteristics and all applicable specifications identified in the PFMEA.
- Able to identify and control Special Characteristics to ensure conformance.
- Specific in context to process, machine, control methods, and reaction plans.
- Basis for operator and Inspection work instructions.

7.3.4 Measurement System Analysis (MSA)

MSA shall be completed by the AIAG MSA reference manual as follows:

- For all special characteristics being measured and properly documented
- Product or process characteristics that the supplier or Eaton has identified as critical to control the process.
- Gage R&R <10% and %Tolerance <10% is an acceptable measurement system.
- Gage R&R 10%-30% and %Tolerance 10%-30% may be acceptable based on the importance of the application, cost to measure, repair, etc.; Eaton approval needed.
- Gage R&R >30% and/or %Tolerance >30% are not acceptable; every effort shall be taken to improve the measurement system.

7.3.5 Process Capability

Process capability study shall be completed for:

- All special characteristics.
- Product or process characteristics that the supplier or Eaton has identified as critical to control the process.

Process Capability Study shall be completed under the following circumstances:

- New product launch
- Change to the product or process affects a Special Characteristic

The process capability studies shall be summarized with the following indices:

- Cp – Process Capability
- CpK - Process Capability Index
- Pp – Process Performance
- PpK – Process Performance Index

Unless otherwise defined by Eaton, the minimum requirements for capability and stability indices

- CpK > 1.67
- PpK > 1.33

If the acceptance criterion is not satisfied, the Supplier shall contact Eaton with a corrective action plan and a modified Control Plan providing for 100% inspection/verification and/or error-proofing mechanism. Variation reduction efforts shall continue until the acceptance criteria are met, or until approval is obtained from Eaton.

Note: 100% inspection methodologies are subject to review and concurrence by Eaton.

7.3.6 Inspection

Inspection plans shall be established to ensure conformity with 100% of the characteristics defined in the engineering drawing. Suppliers shall have the ability to:

- Inspect all finished products produced for Eaton.
- Utilize appropriate measuring and monitoring infrastructure and resources.
- Provide Eaton with evidence of inspection data.

Suppliers shall only use reduced-frequency inspection plans when:

- Acceptable process capability can be demonstrated.
- Existing process controls are in place to maintain process capability.
- Historical records justify that 100% quality levels can be maintained.
- Sampling plans are by an industry-accepted standard.

Sampling inspection will be suspended and replaced by 100% inspection under the following circumstances until historical records can indicate the feasibility of sampling inspection again:

- A Defect or discrepancy is identified at Eaton or the Supplier
- Manufacturing process change is implemented.
- Design change is implemented.

7.3.7 Capacity Analysis

Suppliers shall monitor and track manufacturing capacity, or complete and maintain a capacity analysis and share the records when requested by Eaton that:

- Demonstrates production can perform to Eaton's expectation of full volume ordering.
- Identifies and understands the capacity of all bottleneck operations.
- Incorporates the following factors:

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- Quality performance/ yield
- Planned Maintenance
- Unscheduled downtimes

7.3.8 PPAP

PPAP submissions shall be:

- Based on the latest edition of the AIAG PPAP Manual.
- Submitted at Level 3 unless otherwise specified.
- Produced using production tooling and processes.
- Produced at production line rate.
- Compliant with all Eaton Design Records and PO requirements.
- Submitted as instructed on PPAP request.
- Submitted with sample parts as instructed.

Suppliers may be required to perform re-validation PPAP as directed by the Eaton business.

Possible circumstances are:

- 12 months of inactivity.
- Revision change.
- Special business requirements.

PPAP Status (as determined by Eaton):

- Approved
 - Meets all Eaton requirements.
 - Supplier is authorized to ship production quantities.
- Interim Approval – 90 days maximum
 - One or more elements of PPAP are non-compliant, requiring corrective action.
 - Containment measures taken.
 - Authorizes supplier to ship for a limited time and/or piece quantity.
 - Approval expiration is determined by each business.
 - Corrective actions implemented to be reflected in PPAP re-submission.
- Rejection
 - Product or documentation doesn't meet Eaton's requirements.
 - Supplier is not authorized to ship any product.
 - Corrective actions implemented to be reflected in PPAP re-submission.

7.4 Production & Service Provision

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall implement production and service provisions in accordance with the requirements outlined in the below sections in addition to their quality management system.

7.4.1 Product Identification

Suppliers shall have a documented process for part identification including revision level throughout the facility. The identification process shall include the ability to differentiate product status in all areas including the following:

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- Production
- Rework
- Repair
- Scrap
- Testing
- Laboratories
- Storage areas
- Office area

7.4.2 Product Traceability

Suppliers shall establish a lot traceability system that:

- Tracks components throughout the value stream, from raw material through shipment to Eaton.
- Includes all process steps including inspection and test procedures, rework, and Sub-Tier supplier operations.
- If additional traceability is required by the customer, the supplier to ensure compliance with traceability specifications.

7.4.3 Product Preservation

Where the following restrictions apply, Suppliers shall ensure compliance with the subsequent processes:

- Shelf life
 - Materials shall be tracked and controlled to prevent expired material from being used in production.
- Handling
 - Processes shall be deployed to ensure appropriate handling throughout the manufacturing process and storage to prevent damage, corrosion, or other contamination.
 - For electronic components, this shall include appropriate steps to prevent Electrostatic Discharge (ESD)
- Packaging
 - Processes shall be deployed to ensure packing and preservation are sufficient to prevent damage or corrosion to the product during storage and shipping to Eaton.

7.4.4 Preventative Maintenance Plan

Suppliers shall have a preventative maintenance program that is:

- Documented with history of repairs.
- Monitored for proper schedule attainment.
- Utilized to increase uptime and predict failures of machines.
- Utilized to reduce quality defects and loss of time.
- Utilized to maintain acceptable levels of consumable indirect material and machine parts

7.5 Control of Non-Conformance

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall utilize a process to:

- Identify and segregate non-conforming or suspect material to prevent unintended use or delivery.
- Ensure containment of suspect material that has previously shipped to Eaton.
- Control material dispositioned as scrap until physically rendered unusable.
- Retain documented information regarding a non-conformance.

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Suppliers shall notify Eaton immediately upon suspicion of non-conforming products. Notification shall be provided via email to the purchasing and quality contacts at the affected Eaton business, and include a detailed description of the non-conformance, the products affected, and the initial containment actions taken.

Initial containment actions shall be completed within 24 hours of identification of non-conformance. Further containment and disposition of the non-conformance shall be agreed on with Eaton.

Suppliers are responsible for implementing containment actions mandated by Eaton as a result of non-conformance. For example: Controlled Shipping, Source Inspection, or Third-Party Inspection.

When Eaton identifies a Supplier non-conformance, a Defective Material Report (DMR) shall be issued to the Supplier via WISPER or another system. All costs related to containment and the effect of the shipping of non-conforming material will be the responsibility of the supplier.

7.6 Sub-Tier Management

[Click for additional business-specific requirements.](#) [AER](#) [ES](#) [MG](#)

Suppliers shall maintain appropriate documentation of their Sub-Tier suppliers/contractors including:

- Qualification records on products purchased through these Sub-Tier suppliers.
- Quality and performance test data on products purchased through these Sub-Tier suppliers.

Suppliers shall have documented processes for the following Sub-Tier suppliers:

- Assessment and qualification process including steps for on-going approval.
- Communication of Eaton requirements including but not limited to:
 - Engineering drawings, specifications, quality expectations, and contractual requirements.
- Non-conformance corrective action.
- Change management control.
- Capacity planning
- Performance monitoring.

Eaton reserves the right to specify or approve Sub-Tier suppliers used by its Suppliers for work performed on Eaton material. This applies to all Suppliers including special processes (Non-Destructive Testing, Heat Treating, Welding, Chemical Processing, Plating and Coatings, etc.), material testing services, and distributors.

7.7 Change Management

[Click for additional business-specific requirements.](#) [AER](#) [ES](#) [MG](#)

All changes to the product or process shall be:

- Submitted to Eaton receiving location in writing.
- Submitted through Eaton's Supplier Change Request (SCR) form on the Supplier Portal.
- Aligned with PO terms on Interchangeability.
- Approved by Eaton before implementation.

Examples of changes requiring approval can be found in Table 2. If there is any question that a change approval is needed, the Supplier shall contact an Eaton representative for clarification.

Suppliers are responsible for ensuring continuity of current approved revision of conforming products to Eaton before implementing changes, during the change request evaluation and approval process. No changes impacting Eaton products can be implemented until approval of the change request (SCR) is confirmed by Eaton. Once the change request (SCR) is approved by Eaton, the change implementation process follows, Eaton is to validate and approve the actual change before authorizing shipments of parts under the new revision.

Table 2:

Type of change	Examples
Product Design	<ul style="list-style-type: none"> A change to the engineering drawing of the product or sub-assemblies; including dimensional, material, specification changes or appearance attributes
Manufacturing Process/ Inspection Sequence	<ul style="list-style-type: none"> A change in the manufacturing process or method that may have an impact on the form, fit, or function of the product, including: New or modified tooling, dies, and mold patterns, or reintroduction of inactive tools, dies, and mold patterns. Upgrade or rearrangement of existing tooling or equipment Process changes related to components of production products internally or externally. Change in testing or validation method. Tooling / Equipment transferred to a different plant site or additional manufacturing site.
Material/ Source	<ul style="list-style-type: none"> New source of the raw material Use of non-equivalent raw material
Sub-Supplier Source	<ul style="list-style-type: none"> Change of Tier-1 Supplier manufacturing location Change of Sub-Tier Supplier or change of existing Sub-Tier Supplier's manufacturing location
Special Process	<ul style="list-style-type: none"> Changes to heat treating, plating, welding, painting, or other process changes that cannot be verified without destructive testing
IDEAS	<ul style="list-style-type: none"> Continuous Improvement IDEAS that satisfy expectations outlined in Section 9.1 Future innovation or changes that may not have a set implementation schedule, or the resources needed yet, but that the Supplier would still like to capture – or even partner with Eaton to complete

Eaton may elect to require formal PPAP submission and approval or other Product Realization process. In these cases, Suppliers shall not ship products to Eaton sites before approval.

For continuous improvement-related change requests, please see section [9.1 IDEAS](#)

Failure to contact Eaton and obtain written approval before implementing changes and shipment of the product shall result in:

- Issuance of a DMR.
- Supplier compensating Eaton for all associated collateral costs and expenses.
- Possible New Business Hold.

8 Performance Evaluation

Eaton measures Suppliers on key performance indicators utilized to monitor the overall health of its supply chain and drive future business decisions.

8.1 Performance Measures

[Click for additional-business specific requirements.](#) **AER ES MG**

Eaton considers the following inputs when evaluating supplier performance:

- Quality
 - $DPPM = (Defective\ Units\ Shipped) / (Total\ Units\ Shipped) * 1,000,000$
 - *Third-Party Certifications*
 - *DMR and Corrective Action response time*
 - *PPAP/FAI performance*
- Delivery
 - $OTD = (line - items\ delivered\ on\ time) / (total\ line - items\ shipped) \%$
 - *Payment Terms*
 - *Purchase Price Variance*

Suppliers shall monitor performance scorecards on [Login \(eaton.com\)](#) and take corrective actions when results do not meet Eaton's expectations.

Failure to take corrective actions may result in the supplier being listed as a focused supplier, which could lead to enhanced monitoring and affect future business opportunities.

8.2 Business Reviews

[Click for additional business-specific requirements.](#) **AER ES MG**

The Supplier Business Reviews facilitate the effective management of the supplier relationship. It follows a standard approach of annual planning, goal setting, and follow-up. Eaton shall notify the Supplier if it has been selected for Supplier Business Review. Suppliers shall include relevant stakeholders from their organization in this Business Review such as:

- Supply Chain
- Quality
- Manufacturing
- Business Leadership

Suppliers shall execute any action plans identified through the Supplier Business Review.

8.3 Audits & Assessments

[Click for additional business-specific requirements.](#) **AER ES MG**

Eaton may conduct audits or other assessments periodically to evaluate Suppliers in areas such as quality, cost, delivery processes, and expectations. Audits and assessments may be scheduled due to risk, performance, or customer requirements.

8.4 Supplier Internal Audits

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall conduct internal audits at planned intervals to evaluate the effectiveness of the quality management system.

The Internal audit program shall be planned and include the frequency, method, and individuals responsible for conducting audits. The audit program shall include the following scope at a minimum:

- Compliance with documented business processes defined in the Quality Management System.
- Process audits that demonstrate compliance with the documented manufacturing process.
- Product audits that demonstrate conformity with the products or services provided to Eaton.

8.5 Supplier Management Review

[Click for additional business-specific requirements.](#) **AER ES MG**

Supplier's leadership shall conduct a management review at planned intervals. The following information about Eaton products and services shall be included in addition to the existing requirements for management review outlined by the Supplier's Quality Management System

- Eaton performance measures
- EHS metrics

8.6 Performance Recognition

[Click for additional business-specific requirements.](#) **AER ES MG**

Eaton recognizes Suppliers who achieve benchmark performance levels in the standard metrics of cost competitiveness, quality, [IDEAS](#), and delivery performance. The highest-performing suppliers receiving our top award shall also display high-value contributions of value engineering, innovative technology, service, and sustainability while embracing the highest standard of ethics and values in working in partnership with Eaton.

9 Improvement

Eaton requires all Suppliers to pursue continuous improvement. Suppliers shall be able to demonstrate documented plans for improvement in their goals and objectives. The plans shall include responsible people, resources needed, and timing for planned improvements.

9.1 IDEAS

[Click for additional business-specific requirements.](#) **AER ES MG**

Eaton encourages creativity, innovation, and ingenuity in improving doing business together. We require supplier-initiated cost reduction and improvement suggestions and open dialogue so that we can reduce waste and improve quality.

Eaton's formal program for collaborative continuous improvement is the IDEAS program (Innovation Drives Excellence, Achievement, and Savings). Suppliers can submit IDEAS by using the Supplier Change Request (SCR) form on the Supplier Portal. Before an IDEAS submission can be implemented it is important to continue to follow all change management processes, see section [7.7 Change Management](#).

9.2 Preventative & Corrective Action

[Click for additional business-specific requirements.](#) **AER ES MG**

Suppliers shall implement actions to prevent non-conformances in their processes and products. Suppliers shall utilize disciplined problem-solving methods to correct and prevent non-conformances in quality and delivery.

Should a supplier not conform to requirements as outlined in this manual or product quality standards, Eaton will work with the supplier to obtain corrective actions. As described above in [7.5 Control of Non-Conformance](#), a DMR will be written for each product non-conformance found within Eaton or its customers. The DMR in WISPER or another business system will serve as a Corrective Action Request (CAR).

Corrective action shall be executed by the following timeline from the Supplier's receipt of DMR:

- Containment - 24 hours
- Root Cause Analysis & Corrective Action Plan Defined – 10 business days.

Corrective action shall:

- Focus on system-level improvements to prevent reoccurrence within the organization.
- Utilize a disciplined closed-loop problem-solving method that works to encompass all possible outcomes.
 - Examples: 8D, A3, 3 Legged 5 Whys, Ishikawa Diagrams
- Be submitted to Eaton for review and approval.
- Avoid generalized root causes, such as "Operator Error" or "Training".
- Acknowledge that retraining is insufficient and further actions shall be taken to error-proof.
- Ensure all quality system documents affected are updated to accurately reflect the changes.

A \$500USD Administration Fee (Excluding VAT and GST) shall be debited from Suppliers for each DMR issued due to a non-conformance, regardless of the value of the rejected lot received or the quantity of parts being rejected. The supplier is responsible for paying administrative fees for defective parts. These fees will be debited from the supplier's payment cycle without requiring supplier approval. Failure to pay these fees may result in :

- Escalation to the Supply Chain Management (SCM) team.
- Potential impact on new business opportunities.

Collateral costs incurred by Eaton as a result of the Supplier's failure to meet Eaton's quality requirements will be assessed separately from the DMR fee. Examples of such costs are as follows:

- Sorting
- Line disruption/speed reduction
- Premium freight
- Premium product cost paid to support production.[
- Overtime
- Outside processing & testing required
- Rework i.e. labor, tooling, and fixturing
- Scrap
- Reimbursement of all charges from customer
- Added inspection certification of product, etc.
- Warranty costs
- Onsite verification / Audits

DMRs may also be issued for poor delivery performance or other supply-related issues (logistics, trade compliance, etc.). Additionally, DMRs may be issued for systemic repeating non-conformances (DMRs will be identified by applicable cause codes). These will be assessed for any collateral costs and may additionally have an administration fee attached to them per the discretion of the Business.

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Examples of systemic repeating issues include, but are not limited to:

- Failure to notify Eaton of changes.
- Failure to communicate Eaton requirements to Sub-Tier suppliers.
- Non-compliance with regulatory/industry requirements
- Failure to contain and respond to DMR on time.
- Failure to respond with corrective action for quality system findings
- Failure to provide PPAP submission against PPAP Request letter (PRL) agreed date.
- Failure to meet Eaton PPAP package requirements on first submission.

9.3 Supplier Development

[Click for additional business-specific requirements. AER ES MG](#)

Each Eaton business may select Suppliers for development who present the greatest opportunity for improvement and the greatest potential impact on the organization. Supplier development engineers may work with the selected suppliers to ensure the improvement goals are met.

If Eaton sees continued performance measure misses it can mandate one or more of the following actions:

- Supplier scorecard Corrective Action
- Focus Supplier Process / Supplier Quality Performance Improvement (SQPI)
- Business Reviews
- On-Site Process Audits
- Business-specific corrective actions
- Supplier Site Assessment (SSA)

Suppliers selected for development projects shall demonstrate a willingness to improve and show evidence of internal continuous improvement efforts. Continued unsatisfactory performance or failure to take steps to improve performance may result in a suspension of new business.

Under certain circumstances, a supplier may be selected for development as a result of a positive relationship. In these cases, it will be explicitly noted to the supplier that they are not being selected due to failure to meet expectations.

10 Business-Specific Requirements

Each Eaton business has certain specific requirements for its Suppliers that may or may not apply to another Eaton business. Suppliers should review the business specific requirements below for those Eaton businesses supplied.

10.1 Electrical Group

Access the link below for the Electrical group-specific addendum to Eaton Supplier Excellence Manual (SEM).

This document contains additions to SEM which detail specific requirements to be met by suppliers of the Electrical group.

[Eaton-Electrical-business-specific-requirements](#)

10.2 Mobility Group

Access the link below for the Mobility Group-specific addendum to the Eaton Supplier Excellence Manual (SEM). This document contains exceptions and/or additions to the SEM that pertain only to those suppliers selling to Mobility Group.

[Eaton-Mobility-business-specific-requirements](#)

10.3 Aerospace Group

Access the link below for the Aerospace Group-specific addendum to the Eaton Supplier Excellence Manual (SEM). This document contains exceptions and/or additions to the SEM that pertain only to those suppliers selling to Aerospace Group.

[Eaton-Aerospace-business-specific-requirements](#)

10.4 Filtration Group

Access the link below for the Filtration Group-specific addendum to the Eaton Supplier Excellence Manual (SEM). This document contains exceptions and/or additions to the SEM that pertain only to those suppliers selling to Filtration Group.

[Eaton-Filtration-business-specific-requirements](#)

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Date	Revision	Changed Sections
12/15/2014		Release as controlled document
09/01/2023	19	<p>1.1 Added Eaton University for Suppliers</p> <p>4.1 Eaton commodity manager included for 3rd party certification changes notification</p> <p>4.2.1 added language to indicate each location doing business with Eaton must have a DUNS number.</p> <p>5.1 Updated language</p> <p>5.2 Updated language</p> <p>6.1 added language to indicate each location doing business with Eaton must have a DUNS number</p> <p>6.1.1 WISPER training is now under Help 7 Training link.</p> <p>6.3 added language to clarify retention time expectations.</p> <p>7.7 added language to clarify that after SCR is approved, the validation and approval process of implemented change follows. Supplier to continue shipping PPAP approved parts until new revision is approved.</p> <p>9.2 DMR Timeline changed from 24/5/10 to 24/10</p> <p>10.1 ES:</p> <p>7.3.4 added special characteristics as equivalent language for critical to quality features</p> <p>10.2 Vehicle is now Mobility Group (MG) - MG addendum reviewed and updated to revision E</p> <p>10.3 AER:</p> <p>7.3.7 Added Note 3</p> <p>7.7 SCR is not applicable for sub-tier special processes if supplier is on AER ASL and holds NADCAP certification for the special process performed.</p>
09/01/2024	20	<p>1.1. Added language to indicate reaching out to supplier development engineer / Eaton representative for any significant change and Supplier Diversity Portal added in Tools</p> <p>2. In Reference Material added RBA, RMI, SPP, United Nations sustainable development goals</p> <p>3. In terms & definitions SSMA added. In the definition of special characteristics added 'critical to quality'</p> <p>4. Added link for supplier code of conduct</p> <p>4.1. Updated language & special process assessment added under business-specific or business requirements.</p> <p>4.2.1 Added SSA applicability as per supplier type for clarification.</p> <p>4.2.2 Added Supplier Sustainability Maturity Assessment (SSMA)</p> <p>5.1 Risk Management removed from heading. Added Geopolitical risk under risk of business continuity.</p> <p>5.2 'on Resilinc' removed from heading. Added financial health assessment software to manage Eaton's supply chain financial viability.</p> <p>6.3 Added 2nd Party audits under document retention for quality system records.</p> <p>7.3.1 Added PFC under product realization,</p> <p>7.3.2 PFMEA is shifted from 7.3.1. Updated PFMEA should cover all applicable specifications in print.</p> <p>7.3.3 CP is shifted from 7.3.2. Added Control plan should cover special characteristics and all applicable specifications.</p> <p>7.3.4 MSA is shifted from 7.3.3. Added MSA shall be properly documented for characteristics being measured.</p> <p>7.3.5 Process capability is shifted from 7.3.4</p> <p>7.3.6 Inspection is shifted from 7.3.5</p> <p>7.3.7 Capability is shifted from 7.3.6, Added Supplier shall share the records of Capability when requested.</p> <p>7.3.8 PPAP is shifted from 7.3.7</p>

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	Revision	Changed Sections
09/01/2024	20	<p>7.4.2 Added If additional traceability is required by the customer, the supplier to ensure compliance with traceability specifications.</p> <p>7.4.4 Added Monitored for proper schedule attainment under preventive maintenance program.</p> <p>7.5 Added. All costs related to containment and the effect of the shipping of non-conforming material will be the responsibility of the supplier.</p> <p>7.7 Added 2 new examples under table 2 for Manufacturing process/ Inspection sequence and Material / Material source.</p> <p>8.1 Added supplier can monitor performance on scorecard and added point to make supplier accountable for corrective actions.</p> <p>9.2 Administration Fee 'charged' replaced with 'debited'. Added point to make supplier responsible for paying DMR administrative fees and failure of payment may result into which actions. Under systemic repeating issues bottom two examples added. Removed- 'Failure to provide PPAPs as requested prior to first production shipments. Added 'contain and' in failure to respond to DMR on time.</p> <p>9.3 Added SQPI under continuous performance measure mandate.</p> <p>10.1 Under Electrical Business addendum all requirements are covered in one link.</p> <p>10.2 Mobility Addendum is updated.</p> <p>10.3 All requirements for Aerospace business are covered in Initial release of Aerospace Addendum</p> <p>10.4 Filtration business addendum of initial release are added.</p>

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com



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