



POWIN

**Global Supplier Management System Manual
(GSMS Manual)**

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

Document Revision Chart

The following chart lists the revisions made to this document tracked by version. Use this to describe the changes and additions each time this document is re-published. The description should include as many details of the changes as possible.

Rev.	Date	Description of Change	Approved by	
1.0	04.19.2023	New Release	VP Procurement	Jason E.
			VP Quality	Dean N.
			COO	Stuart B.
		Revised by: Jason E.	EHSS Manager	Jessica S.
2.0	05.18.2023	Updated Section 1.3 to include Supplier EHS Rep and Powin EHSS Manager. Updated Section 3.3.8 to include regulatory compliance regulations when transporting hazardous goods.	EHSS Manager	Jessica S.
			VP Procurement	Jason E.
		Revised by: Jessica S.		

Contents

1.	Introduction	4
1.1.	Purpose and Scope	4
1.2.	Supplier Quality Policy.....	4
1.3.	Roles and Responsibilities	5
2.	Powin Supplier Qualification Process.....	7
2.1.	Health, Safety, Environmental, and Quality Requirement (HSEQ)	7
2.2.	Supplier Qualification Process – Details	8
3.	Production Part Approval Process (PPAP).....	8
3.1.	Introduction.....	8
3.2.	PPAP Elements and Powin Requirement.....	8
3.3.	Change Request:.....	9
4.	Powin Supplier Quality Key Requirements.....	15
4.1.	Supplier Top Management Commitment	15
4.2.	Supplier / Sub-Supplier Facility Audits.....	16
4.3.	Supplier Development and QBR	16
4.4.	Supplier – Quality & Reliability Based Disqualification from AVL/APL	16
4.5.	Test and Inspection Reports	16
4.6.	Impact of Non-conformance	17
4.7.	Replacement and Repair Costs.....	18
4.8.	Supplier Corrective Action Request (SCAR)	19
4.9.	Supplier Change Notification (SCN)	19
4.10.	End of Life (EOL)	19
4.11.	Quality Terms and Conditions	20
4.12.	Responsibility Matrix:	20
5.	Abbreviations	20
6.	Annexure A – Supplier Qualification Process – Phase Reviews and Stage Gate Details	21
7.	Annexure B – Technical Compliance Report.....	21
8.	Annexure C – Product Development Lifecycle	21
9.	Annexure D – Powin PPAP Templates (Inspection Reports, PFD, FMEA, QCP, PDI, PSW).....	21
10.	Annexure E – Intentionally Left Blank.....	21
11.	Annexure F – Powin Packaging and Labeling Guidelines	21
12.	Annexure G – Supplier Change Notification & Supplier Deviation Request Forms	21
13.	Annexure H – Supplier Corrective Action Report (SCAR).....	21
14.	Annexure I – Supplier Score Card	21
15.	Annexure J – Supplier Quality Supplemental Purchase Order Conditions Manual	21
16.	Annexure K – Powin Code of Business Conduct & Ethics	21



1. Introduction

1.1. Purpose and Scope

This document defines the minimum Powin requirements and expectations of the Global Supplier Management System (GSMS) comprising Quality, Commercial, Technical, Environmental, and Safety requirements. Focus is on planning, manufacturing process controls for products and services provided to Powin. Additional requirements will be communicated on a case-by-case basis and/or will be addressed in other business-related documents.

1.2. Supplier Quality Policy

Our mission is to ensure Powin has a robust Supplier Management program that measures Supplier performance and drives continuous Supplier improvement. Powin and its Suppliers are jointly involved in a continuous improvement process in the following areas to achieve optimal performance in product safety, quality, on-time delivery, and cost:

- Supplier & Product Qualification and Supplier Quality Performance. Suppliers shall ensure quality and service level per Powin requirements and under Powin External Product Qualification Process (EPQP), with the goal of selecting and approving suppliers, qualifying parts / products, and monitoring Supplier performance.
- Supplier Change Notification (SCN). Suppliers (including sub-suppliers and subcontractors) should not make any changes to part designs, materials, manufacturing processes, manufacturing locations, or logistic flows without prior Powin written approval.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

- **Continuous Improvement.** Suppliers shall monitor their processes and product quality performance and shall demonstrate continuous improvement with effective tracking methods.
- **Management System.** Suppliers should have certifications to demonstrate the capability of ISO9001 Quality Management System, ISO14001 Environmental Management System, and ISO45001 Occupational Health and Safety. In some cases, ISO certifications are not required but Suppliers should demonstrate that they have, and follow a Quality Management System, Environmental Management System, and Occupational Health and Safety Policies and Procedures similar to the ISO standards.
- **Responsiveness and Customer Satisfaction.** Suppliers shall provide dedicated resources, commitment, maximum responsiveness and professionalism on the analysis and resolution of quality issues.
- **Cost Recovery and Accountability.** Supplier shall have full responsibility for their parts, including the financial cost of all non-conforming materials/products and their direct and indirect impacts.

1.3. Roles and Responsibilities

Supplier	Name	Powin	Name
Cust. Service Rep.		Buyer	
Quality Rep.		SQE	
Technical Rep.		Engineer	
Management Rep.		Management Rep.	
EHS/Safety Rep.		EHSS Manager	

1.3.1. Supplier

- Provides all parts and services as outlined in the Purchase Order (PO), drawings, and/or specifications. Note: Unless otherwise specified, refers to the corporation, company, partnership, sole proprietorship, or individual with whom Powin places a PO.

1.3.2. Supplier Organization – Customer Service Representative

- Primary contact within the Supplier’s organization for key communications with Powin, including any quality, delivery, or commercial issue resolution.

1.3.3. Supplier Organization – Quality Representative

- Communicated qualification and production quality requirements with Supplier organization.
- Serves as the key interface with Powin for quality aspects.
- Communicates Supplier performance, process changes, and test & inspection reports to Powin.
- Responds to process improvement, non-conforming material disposition, corrective action, and surveillance auditing.

1.3.4. Supplier Organization – Technical Representative

- Reviews and implements process changes or improvements to meet Powin specifications.
- Communication with the Powin Responsible Engineer must be done with the knowledge of the SQE.

1.3.5. Supplier Organization – Management Representative

- A person with executive responsibility or someone who reports directly to a person with executive responsibility, will serve as a contact for Powin under this Manual, and oversee compliance to the requirements stated in this Manual.
- The Quality Management Representative withing the Supplier’s organization that is responsible for the implementation and maintenance of the Supplier’s QMS. Powin expects the Quality Representative to be able to effectively communicate quality issues with Powin’s SQE and/or other representatives.

1.3.6. Supplier Organization – Environmental, Health and Safety Representative

- Communicates environmental, health, safety and sustainability (EHSS) requirements with Powin.
- Communicates environmental, social, governance (ESG) guidelines with Powin.
- Serves as the key interface with Powin for EHSS and ESG aspects.

1.3.7. Powin Sourcing / Buyer / Purchasing / Procurement Representative

- Supplier’s main contact for commercial aspects – negotiates price, delivery terms, terms & conditions.
- Places the PO for qualification and production.
- Note: The roles and responsibilities of the Sourcing Representative apply to a Regional Category Manager, Global Category Manager, Buyer, or other business equivalent sourcing delegate.

1.3.8. Powin Supplier Quality Engineer (SQE)

- Communicates qualification and production quality requirements to Supplier.
- Serves as the key interface with Supplier for quality aspects.
- Communicates Supplier qualification acceptance to the Supplier.
- Coordinates process improvement, non-conforming material disposition, corrective action, and surveillance auditing.

1.3.9. Powin Responsible Engineer

- Approves nonconforming management, document changes, and qualification requirements.
- Communication with Supplier Technical Representative must be done with the knowledge of the SQE.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

- Note: For the purposes of this document the Responsible Engineer applies to the Design Engineer, Materials Engineer, Applications Engineer, or other Engineering representative.

1.3.10. Powin Management Representative

- Powin contact with executive responsibility will serve as Powin Management Representative. Usually the VP of Quality.
- Powin Management Representative is responsible for and overseeing the Supplier Management Process and be able to effectively communicate issues with Suppliers and other representatives.
- Supplier's main contact for any escalation to Powin.

1.3.11. Powin EHSS Manager

- Communicates environmental, health, safety and sustainability (EHSS) requirements to Supplier.
- Communicates environmental, social, governance (ESG) guidelines with Supplier.
- Serves as the key interface with Supplier for EHSS and ESG aspects.
- Communicates Supplier EHSS and ESG qualification acceptance to the Supplier.

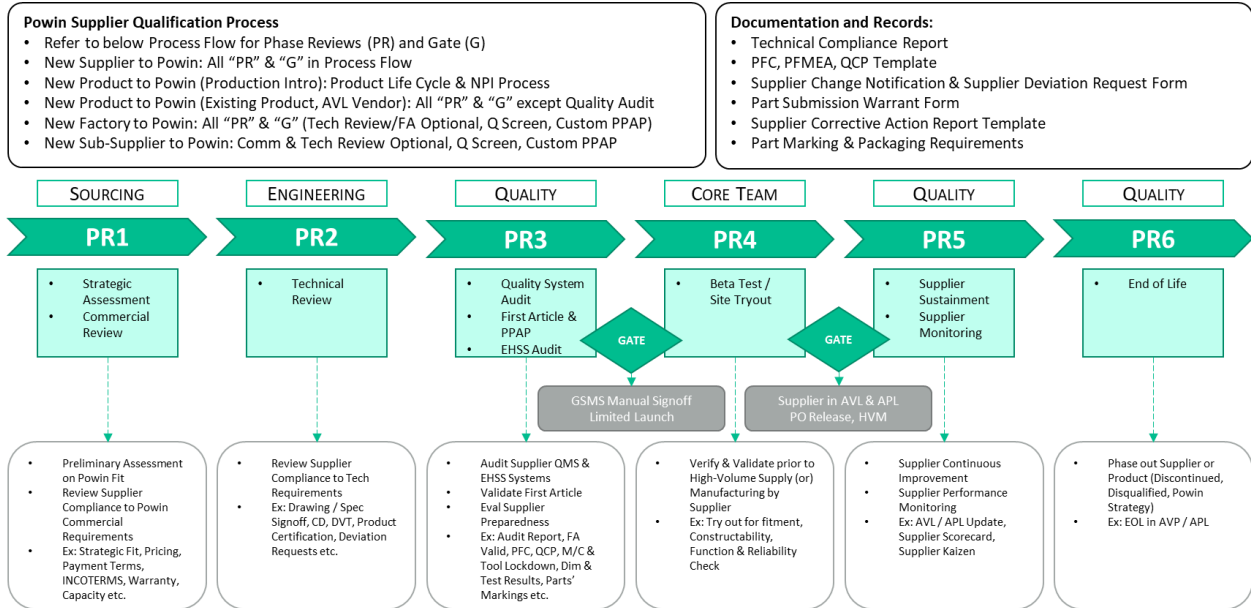
2. Powin Supplier Qualification Process

This section explains the Powin qualification process for (1) New Suppliers to Powin, (2) New Product to Powin, (3) New Factory to Powin, and (4) New Sub-supplier to Powin.

2.1. Health, Safety, Environmental, and Quality Requirement (HSEQ)

- ISO 9001: Powin requires all Suppliers to demonstrate compliance to ISO 9001, Alternative standards such as ISO/TS 16949, AS 9100, ISO 13485 can be accepted.
- ISO 45001: Powin recommends Suppliers to certify according to ISO 45001, a framework that allows the organization to consistently identify, control, and decrease risks associated with health and safety within the workplace.
- ISO 14001: Powin recommends Supplier to certify according to ISO 14001, a framework that allows the organization to minimize how their operations negatively affect the environment and to continually improve. Powin requires all Supplier to comply with applicable laws, regulations, and other environmentally oriented requirements, which is an obligatory requirement.

2.2. Supplier Qualification Process – Details



- For all Phase Review details and Stage Gate details in the above-mentioned qualification process, refer to Annexure A "Supplier Qualification Process – Phase Reviews and Stage Gate Details."
- Refer to Section 3 for all PPAP details in the above-mentioned qualification processes.
- If Supplier does not pass any of the PR stage gate up to PR4, high volume production is not authorized by Powin.
- Powin has the right to add new PRs or remove any of the above-mentioned PRs as deemed necessary.

3. Production Part Approval Process (PPAP)

3.1. Introduction

PPAP is a framework to ensure that Powin's design / specification has been understood by the Supplier and to prove that the Supplier can produce the parts that meet all the requirements consistently. This section explains the Powin PPAP and the compliance required from the Supplier. PPAP compliance is mandatory requirements for the Supplier before starting HVM or Powin's product. PPAP documents are live documents and Supplier is responsible for reviewing and updating all the relevant documents when there is a modification or improvement done to the manufacturing process or product after starting HVM till the product EOL. Powin expects every Powin production part to go through the PPAP process as explained below.

3.2. PPAP Elements and Powin Requirement

3.2.1. Design Documents Sign-off:

Design documents are Drawings, Specification, Datasheets, or Design Records of a product. If Powin is responsible for design, design documents are sent to Supplier by Powin. If Supplier is

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

responsible for design, design documents must be maintained in Supplier's Document System and a controlled copy of the documents must be shared with Powin. This is a very important process to ensure that the Supplier and Powin are discussing, reviewing, and are in agreement with the same design documents. Technical Compliance report shall be signed off by Supplier and Powin as part of this process.

3.3. Change Request:

Change request is a process that documents the detailed description of a change and its approval.

- **Supplier Deviation Request (SDR):** When a Supplier requires a change in or deviation from the drawing or specification to facilitate the manufacturability of a component without affecting its form, fit, function of the product. SDR should be raised, and approval should be taken from Powin. Refer to Annexure G for SDR Form.
- **Supplier Change Notification (SCN):** When a Supplier is planning for a change in design / factory / process / material / sub-supplier / subcontractor that affects the form, fit, and/or function of the product, SCN should be raised, and approval should be taken from Powin. Refer to Annexure G for SCN Form.

3.3.1. Critical Parameters:

Critical Parameters are parameters which are critical to quality / critical to functionality of the Powin Product. These details are included by Powin in its Drawing or Specification as Critical to Quality (CTQ) feature of Critical Dimension (CD).

Suppliers are required to study and capture these Critical Parameters and incorporate them in the Supplier's Control Plan through a clearly defined method such as:

- Process Capability Study to demonstrate the process is in control and capable or meeting CTQ feature or CD.
- Statistical Process Control (SPC) to monitor and control the CTQ feature or CD.
- Go / No-Go gaging or Poka-Yoke device with a documented calibration and maintenance program and records.

3.3.2. First Article:

First Articles are prototype samples manufacturer using the production machinery, tools, and process that was allocated (or) designed for Powin's HVM. Any deviation in product or process shall be communicated and approval must be taken by the Supplier prior to First Article Production. Sample size shall be a minimum of 10 pieces or as agreed with Powin.

First Article Samples must be inspected by the Supplier per the Powin Drawing / Specification and results should be submitted to Powin for review and approval. Once First Article samples and inspections are completed and results are found satisfactory all the relevant documents such as but not limited to PFD, QCP, FMEA, Inspection Reports, Test Reports, etc. should be revisited and modified by the Supplier.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

Note: As deemed necessary, shipment of the First Article samples to a specified location may be requested by Powin. Supplier shall coordinate and ship the samples accordingly.

3.3.3. Process Flow Diagram (PFD), Failure Mode and Effective Analysis (FMEA) and Quality Control Plan (QCP):

- Process Flow Diagram (PFD): PFD captures in a standardized format, information associated with the various steps of the process & provides a visual representation of a process. All steps necessary to produce a product from the point of incoming material to delivery of the final product. Refer to Annexure D for the standard template of Powin's PFD.
- Failure Mode and Effective Analysis (FMEA): FMEA is a structured approach to discovering potential failures that may exist within the process (PFMEA). Refer to Annexure D for the standard template for Powin's FMEA.
- Quality Control Plan (QCP): Control Plan is a document that outlines the measurement, inspections, tests, and checks put in place to control the production parts and processes. Critical Parameters (CTQs and CDs) should have specific controls defines as described above. Refer to Annexure D for the standard template of Powin's Control Plan.

3.3.4. Machine Lockdown:

Supplier shall summarize every machine that is allocated for Powin Production and ensure that the same is utilized during HVM. Supplier must ensure that the relevant machine details (Machine Number, Line Number / Bay Number etc.) is entered in QCP. Any changes in these machines shall be communicated though Change Notification process and written approval shall be obtained from Powin.

3.3.5. Tool, Jig, and Fixture Lockdown:

Supplier shall summarize the Tool, Jig, and Fixture that is allocated for Powin Production and Inspection and ensure that the same is utilized during Powin production. Supplier must ensure entry of all the details are maintained in a Jig and Fixture List and communicate the same to Powin. Any changes shall be communicated through Change Notification and approval shall be obtained from Powin.

The calibration, validation report and maintenance schedule along with records for a last the previous five years shall be maintained at the supplier end for all tools, jigs, and fixtures. These documents and records shall be made available to Powin during factory visits, QBRs, and upon request.

3.3.6. Dimension Results:

Supplier is responsible for developing inspection process and documenting the results through its associated reports covering all parts of the manufacturing process (Incoming, In-Process, and Final Product Control). Inspections and its associated report should cover every dimension requirement in Powin drawing, specification, QCP, or relevant standards.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

Dimension inspection report should cover the product characteristics, specification, and measurement tools, measurement results, & assessment recording each dimension as a variable (the actual number) wherever possible or as an attribute (“ok” or “not ok”) only when variable data is not possible. Sample size shall be discussed and agreed with Powin as per QCP. Refer to Annexure D for a standard template of Powin’s Inspection Report.

3.3.7. Test Results:

Supplier is responsible for developing test process and documenting the results through its associated reports covering all parts of the manufacturing process (Incoming, In-Process, and Final Product Control). Testing and its associated report should cover every requirement in Powin drawing, specification, QCP, and relevant standards. Sample size shall be discussed and agreed with Powin in QCP. Refer to Annexure D for standard template of Powin Inspection Report.

Following tests are the minimum requirements that should be considered and conducted in agreement with Powin:

- **Raw Material Test** – test done to ensure that Raw Material meets all the requirements. Ex: mechanical test of steel, Certificate of Compliance (CoC) or Certificate of Analysis (CoA).
- **In-Process Test** – test done to ensure that all Manufacturing Process meets all the requirements. Ex: Soldering pull test.
- **Final Test or FAT** – test performed on the Finished Product to ensure that it was manufactured as per the agreed and robust manufacturing process. Ex: Coating Thickness Test, Unit Assembly Test etc.
- **Design Verification Test (as applicable):** test performed on the product to ensure the reliability of the product and its conformance to product design. Ex: salt spray test, thermal cycling, vibration test etc.

Note: Supplier using test equipment to perform product testing as part of the manufacturing process should perform Gage R&R study and / or calibration to ensure that the tester’s Repeatability and Reproducibility is within the acceptable limit.

3.3.8. Packaging:

The Supplier and its Sub-Suppliers should comply with Powin Packaging and Labeling Guidelines. The Supplier also should take into consideration the safe loading and unloading of goods at the destination. Any deviation against Powin requirement, must be approved by Powin Logistics and SQE. The Supplier shall implement the packaging for goods under production. Powin will verify the integrity of the packaging and provide feedback. In case of any damages (or) non-conformance reported against the packaging of goods, Supplier is responsible for implementing corrective actions. Refer to Annexure F for Powin Packaging and Labeling Guidelines.

In case of dangerous goods (DG), Supplier is responsible for ensuring packaging is in compliance to the following standards, based on transport mode and country or origin and acceptance:

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

Transport Mode	Regulatory Reference
International Air	IATA DGR Packaging Instructions 966, 967, 969, 970 Section II
International Vessel (Ocean)	IMDG Code Special Provision 188
United States Ground	49 CFR 173.185(c)
International Ground	ADR Special Provision 188
Canada Ground	TDGR Regulations Special Provision 34

Note: Supplier is also responsible for adherence to the relevant packaging test protocol as per ISTA standard.

3.3.9. Part Marking / Labeling and Traceability:

Supplier must ensure Part marking and labelling of all Powin products per the Powin guideline. Below mentioned basic six elements of traceability must be included:

- **Identification:** Powin part number (including extensions and color coding where applicable).
- **Configuration:** Revision from PO & Drawing/Specification. Software version with electronic products.
- **Vintage:** Lot code, Date code, Heat number, Serial number, etc. identify the part or batch or parts.
- **Branding:** Unique identifier for where the part was manufactured (not the distributor or broker).
- **Country of Origin:** Country in which the product was manufactured.
- **Pedigree:** Documentation and records associated with the part or batch of parts further described below.
- Refer to Annexure D for Powin Packaging and Labeling Guidelines.

3.3.10. Limited Launch (LL)

Limited Launch batch is a pre-HVM production samples manufactured using the machinery, tools, and process that was allocated (or) designated for Powin HVM. Supplier shall manufacture a limited quantity of said product and inspect is 100% per the Powin Drawing / Specification and results should be submitted to Powin for review and approval. Once verified and found satisfactory, LL samples should be sent to the location requested by Powin. Quantity for LL shall be 20 pieces minimum unless otherwise mutually agreed between Supplier and Powin SQE. Upon occasion, Powin Quality may require statistical process control (SPC) data in addition to inspection results.

Note: Only process allocated (or) designated for Powin HVM should be used and no deviation are allowed in the product or process during LL samples manufacturing.

LL samples shipped to Powin will be validates and relevant rest results will be shared. This is called Tryout Result and if the result is “Not Ok” or “OK, but Observations to be Complied”, Supplier shall take action to correct the reported observations. Once the correction is

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

implemented and verified, Supplier shall send the information and verification results to Powin for review and approval. Upon approval from Powin or if the Try Out results are satisfactory, Powin will issue PO for high-volume production and the Supplier can move ahead with HVM.

3.3.11. Pre-Dispatch Inspection and Document Package:

3.3.11.1. Pre-Dispatch Inspection:

- Suppliers shall perform Pre-Dispatch Inspection for every Powin shipment as per the Sampling Plan in Annexure D. Pre dispatch inspection includes but not limited to:
- Raw Material Verification: Verification RMTC, Samples: Minimum 1, Acceptance – No Deviation
- CTQ / CD features shall be reported per QCP requirements.
- Dimension Inspection as in QCP / Drawing
- Visual Inspection as in Control Plan – Samples as per Annexure D, Acceptance: Critical – Zero Defect, Major & Minor Defect – AQL 1.5
- Product Testing as in the Control Plan – Samples as per Annexure D, Acceptance – Zero Defect
- Packaging and Loading Inspection including photos prior to closure and post-closure.
- Other Inspection and Testing as listed in Control Plan – Samples as per Annexure D.
- In some cases, a PDI report is not required. The Powin SQE will determine if PDI shall be required.

If the Pre-Dispatch Inspection results are not Satisfactory as per the criteria mentioned above,

- **If PDI Report as not been approved by Powin or their representative, the Batch will not be shipped or accepted!**
- Batch is considered a Reject. Supplier should mutually agree with Powin on 100% inspection or Tight Samples Inspection depending on the CTQ factor of the parameter/component which is out of specification. Refer to Annexure D for Tight Samples Plan.
- Supplier is solely responsible for making sure that all the defective products are quarantined and only products that meet the Powin requirements are shipped.
- Supplier is responsible for analyzing the root cause for the defect and implementing Corrective and Preventative Action. Until actions are reviewed and approved by Powin and implemented at Supplier, Pre-Dispatch Inspection should be performed at a higher sampling rate. Refer to Annexure D for Sampling.

3.3.11.2. Document Package:

Supplier shall send the document package from above mentioned PDI for every Powin shipment prior to shipment. All these (as applicable per purchased commodity) should be made available to Powin SQE and designated representative upon request but should be

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

submitted to and kept in record by the Supplier. If CoC or Inspection / Test Reports are not shared, Powin has the right to reject the material. List of documents are:

- Certificate of Conformance (CoC)
- Raw Material Test Certificate (RMTC) Report
- Inspection Report – Dimension, Visual, Surface Treatment and other Inspection as per Control Plan
- Product Test Reports
- SPC Record for Critical Parameters (if any)
- Special Inspection for Test requested by Powin (if any)
- Packaging and Loading pictures.

3.3.12. Part Submission Warrant (PSW)

All the documents are data for PPAP elements should be compiled and submitted for Supplier for Powin review and approval. PSW is the form that summarizes the whole PPAP package. This form also shows the reason for the submission (initial submission, design change, process change) and the level of documents submitted and sign off between Powin and Supplier. Refer to Annexure D for Powin PSW Form.

PRODUCTION PART APPROVAL PROCESS (PPAP)

<u>PPAP ELEMENTS</u>	<u>OUTPUT</u>	<u>RESPONSIBILITY</u>
Design Documents	Master Drawing List	Supplier
Change Request	SCN, SDR	Supplier
Critical Parameters	Drawing, Control Plan	Powin / Supplier
First Article	FAI Report	Supplier
PFC, FMEA, & QCP	PFC, PFMEA, QCP	Supplier
Machine Lockdown	PFD, Control Plan	Supplier
Tool, Inspection Jig & Fixture Lockdown	Jig & Fixture Master List	Supplier
Dimensional Results	Inspection Report	Supplier
Test Results (Material & Performance)	Test Report	Supplier
Packaging	Packaging Spec	Powin / Supplier
Part Marking & Labeling	Marking & Label Spec	Powin / Supplier
Limited Launch	Inspection Report / Tryout Report	Powin / Supplier
PDI & Document Package	PDI Reports	Powin / Supplier
Part Submission Warrant	PSW Form	Supplier

Picture 3: Production part Approval Process

4. Powin Supplier Quality Key Requirements

4.1. Supplier Top Management Commitment

Powin Expects our Supplier’s Top Management demonstrates commitment to Quality, Environment, Health, and Safety by having Key Performance Indicators (KPI) that measures performance. At a minimum, the following management review records must be available to Powin SQE upon request:

- Customer Complaints
- Average Outgoing Quality
- Production Quality
- Incoming Quality
- Internal Audit Report
- On-Time Delivery
- Injury rates & lost time rates for current year & past 3-years
- Fatalities reported in the past 5 years
- Citations received in the past 5 years from local, state, provincial, or federal government

4.2. Supplier / Sub-Supplier Facility Audits

Powin reserves the right to perform periodic on-site assessments of the Suppliers facility, quality systems, records, and inspection of products ready for shipment. A Powin representative or Powin appointed third-party will conduct a site assessment at the initial qualification, on-boarding at the time when product is being produced for final release to Powin, inspections such as Process inspection, final product inspection, pre-dispatch inspection, and as well as when there are non-conformances detected that require corrective action verification.

4.3. Supplier Development and QBR

A Formal Quarterly Business Review (QBR), Annual Business Review (ABR), or Ad Hoc Business Review shall be set up with the Strategic, Key and Qualified Suppliers to review the Supplier performance. Powin shall make an overall assessment of the Supplier's performance in quality, cost, delivery, environmental, health & safety compliance, technical and management capability on a regular or as needed basis. The assessment shall be recorded in Powin Supplier Scorecard. Result of such assessment shall be fed back to Supplier and if needed, Powin will initiate programs to attempt to improve the Supplier's current capabilities and maybe transferring some of the in-house capabilities of Powin. This activity shall be focused on Powin strategic supply chain partners.

- Strategic QBR – Assemblies, Controllers, etc.
- Key ABR – Hardware, Small structures
- Qualified Ad Hoc – Probation or concerns may require additional reviews – rating of scorecard.

4.4. Supplier – Quality & Reliability Based Disqualification from AVL/APL

Powin, at its sole discretion, at any time may notify the Supplier of the decision or intention to revoke the qualification approval granted to a Supplier or place a Supplier under a probation period with conditions Powin will determine.

- Quality Non-Conformance Reports and Supplier Corrective Action Requests
- Responsiveness: unsatisfactory response, late response from Supplier, or failure to respond to Corrective Action Requests or other legitimate Powin requests.
- Change in Supplier's manufacturing or process capability that leads to Quality and Reliability issues.
- Unsatisfactory of insufficient results following audit.

4.5. Test and Inspection Reports

The Supplier shall ensure that the Supplier and each or its Suppliers submit test and inspection reports to Powin and maintain these records withing the Supplier's QMS. These records should be made available to Powin upon request. The test and inspection reports should include dimensional, functional, and reliability results and other quality checks for proper process control and/or as required by Powin specification. Refer to Annexure D for Reports.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

- **Suppliers Waiver.** In the case that the Supplier has not been fully qualified by Powin, Supplier Qualification Waiver process should be completed and approved by Powin. Supplier should meet all the requirements mentioned in the waiver form and in addition to that, Powin (or) its approved 3rd party source inspection is mandatory to be conducted in the factory and it should pass this check before dispatching the parts for shipment. The source inspection shall cover at a minimum the checks in the approved QAP and it will be conducted for every batch of shipment.
- **New Suppliers.** Once the manufacturer/Supplier has been qualified and approved by Powin Supplier Quality Department to be on the Powin AVL, the frequency of source inspections shall be performed as per the QCP.
- **Suppliers with Corrective Actions.** Suppliers with unresolved non-conformances/complaints shall be subject to tightened outgoing inspection. This inspection will be performed by either the Supplier's appointed QC personnel or by a 3rd party inspection company. Cost to perform such inspection shall be borne by the Supplier. As a standard rule, Supplier shall be following the sample plan in the Annexure D (or) alternate plan defined as per QCP. Method and requirement of inspection must be approved by Powin SQE before implementation.

4.6. Impact of Non-conformance

For any project delay that has been caused by a material related quality issue either at the manufacturer before the dispatch or during construction, the damages incurred shall be charges back to the Supplier including the cost or remediation.

4.6.1. Duties of Supplier.

Responses for all scenarios described below shall cover all regions worldwide where Powin Products are deployed and shall include the following:

- **Response Time.** Supplier shall respond to all service call request by Powin by email and in accordance with the terms set forth in Table 1 below. All response times are triggered from the first communication sent by Buyer to Supplier with a request of support. All response times and work hours shall be during business hours (0800 – 1700hrs at the location of the incident), exclusive of weekends and holidays, except in cases where a demonstrable safety risk and restoration of the equipment to a safe condition as soon as possible.
- **Analysis and Resolution Plans.** Supplier shall prepare an Analysis and Resolution Plan for each issue identified in Buyer's request for service. All Analysis and Resolution Plans must be submitted by email to Buyer in accordance with the timeframes specified in Table 1. The Analysis and Resolution Plan shall contain a level of detail and Resolution reasonably acceptable to Buyer and commensurate with the severity of the Capacity Loss and shall be signed by Supplier's Quality Team lead.
- **Resolution.** Supplier is responsible for resolving all service call requests within the timeframes specified in Table 1. A resolution will be achieved when the defective Powin Product has been repaired or replaced such that the unit is now functioning as intended ("Resolution") under the Powin Product Warranty.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

TABLE 1			
Issue Type	Response Time	Analysis & Resolution Plan	Expected / Max Resolution Window
High (>50% Capacity Loss due to Product Failure / Safety Issue / Repeat Issue)	24 Hours	48 Hours	72 Hours / 96 Hours
Medium (0-50% Capacity Loss)	24 Hours	48 Hours	120 Hours / 192 Hours
Low (Non-Capacity-Loss Related Issue)	48 Hours	72 Hours	120 Hours / 240 Hours

4.7. Replacement and Repair Costs.

All costs associated with Supplier’s services hereunder shall be borne by the Supplier:

- All parts and labor required to restore full equipment functionality.
- Travel costs of Supplier’s field service personnel necessary to respond to Powin’s requests for service.
- Supplier shall reimburse Powin, or the end user, for damages incurred as a result of lost energy during the time in which Powin Products were not functioning, in addition to Powin’s personnel time spent on troubleshooting, repairing, and managing resolution process. It is the responsibility of Powin to accurately track and report all costs incurred. Powin’s data necessary to determine such damages shall be available for examination by Supplier and work order data shall be considered the definitive source of downtime and lost revenue information, and such data shall be deemed Confidential Information under the terms of the Master Service Agreement (MSA) and/or contract.
- **Shipping Costs.** Supplier is solely responsible for all costs, associated with shipping of replacement parts to Powin and for all return shipping costs including packing costs. Supplier shall ship replacement parts within the Expected or Maximum Resolution window set forth in Table 1 of Section 4.6 of this Agreement regardless of whether Supplier has received the return units from Powin.
- **Technical Support.** Supplier shall provide, at no cost to Powin, a technical support contact to respond to service requests for the Powin Products each local region where Powin Products are sold. Such Support line shall be available from 0700 – 1800hrs local time.
- **Availability of Supplier’s Personnel.** Supplier representatives shall be available for periodic phone calls with Powin. The frequency of such calls (daily, weekly, or other predetermined frequency) will be mutually agreed upon by the Parties. Reasonable efforts shall be made to schedule conference calls at least 48-hours in advance and to coordinate with all Parties’ schedules. In the event that a particular subject matter expert from the Supplier is unavailable, Supplier shall designate an alternate point of contact capable of supporting the specific issue under investigation.

4.8. Supplier Corrective Action Request (SCAR)

The Supplier will be issued a Supplier Corrective Action Request (SCAR) for a material or design related nonconformance noted in the deviation record or found during construction and post construction phase. Containment, Root Cause and Corrective / Preventative Actions must be put in place thirty (30) business days after being notified by Powin unless otherwise agreed.

Unresponsiveness to a SCAR will have a negative impact on the Supplier's performance rating (consequence to stop shipment and to Supplier's disqualification). Refer to Annexure H for Powin Supplier Corrective Action Request (SCAR) 8D Form. Supplier should have the below to receive, process, and close SCAR issued by Powin:

- The Supplier shall have a documented process for receiving and preventative action process. This process should include a disciplined approach to determine the root cause of problems and developing, implementing, and verifying the actions required to solve the problem.
- The Supplier corrective and preventative action process shall include recording and reporting the below information:
 - Problem Statement
 - Root Cause Analysis and Results (at a minimum 5-Why, Fish Bone etc.)
 - Solution (Corrective and Preventative) and associated implementation plan
 - Verification of implementation and effectiveness

4.9. Supplier Change Notification (SCN)

The Supplier shall ensure that itself and all its Suppliers notify Powin for any changes in design, factory, process, material, sub-supplier, subcontractor that affects form, fit, and/or function thirty (30) days before implementing the change.

- **Fit:** The external dimensions and associated tolerances of the Product, as specified by the Vendor and/or Contractor and/or Powin.
- **Form:** The visual appearance including shape, color, marking, and surface finish of the Product, as specified by the Supplier and/or Contractor and/or Powin.
- **Function:** The electrical, mechanical, thermal, and performance characteristics of the Product, as specified by the Supplier and/or Contractor and/or Powin.

Copy of notification shall be sent to Powin SQE or designated representative by the Supplier and will be subject to the requirements of the Powin SCN Process. Refer to Annexure G for SCN Form.

4.10. End of Life (EOL)

End of Life process involves not only discontinuing the production of an existing Product but also continuing to address the market needs that the product addresses – which might lead to the development of a new Product. Powin requires its Suppliers to provide notice for a product at EOL or any new Product to be introduced to the market. For the Powin projects/clients using the Product, EOL concerns include disposing of the existing Product responsibly, phasing into a different Product, and ensuring that the disruption will be minimal during the transition, and that critical after sales support (as required by Powin/Powin's customer and as indicated in the warranty terms) is sustained.

GLOBAL SUPPLIER MANAGEMENT SYSTEM MANUAL

4.11. Quality Terms and Conditions

Refer to Annexure J for the Powin Supplier Quality Supplemental Purchase Order Conditions (SPOC). By signing of this GSMS Manual, Supplier agrees that the Quality Terms and Conditions set forth in the GSMS Manual are incorporated into and govern all POs between Powin and the Supplier.

4.12. Responsibility Matrix:

Different Phases of Supplier Management System and its associated responsibilities between Powin and Supplier have been explained in Table 2 – Responsibility Matrix. Supplier shall ensure that he/she adheres to all the responsibilities and submit all the relevant records as stated in Table 2.

TABLE 2 – Responsibility Matrix (P – Performer & F – Facilitator)			
Process	Record	Powin	Supplier
Commercial Review (CR)	Commercial Review Checklist	P	F
Technical Review	Technical Compliance Report	P	P
Quality System Assessment	Supplier Audit Checklist	P	F
First Article	FAI Inspection Report	F	P
PPAP Compliance	All PPAP Elements & Signed PSW	F	P
Limited Launch	LL Inspection Report & Try Out Report	P	P
GSMS Manual Signoff	Signed Manual	F	P
PSW Sign Off	PSW Form	P	P
High Volume Production	Document Package	F	P
Supplier Performance Monitoring	Supplier Score Card	P	F
Supplier Continuous Improvement	Kaizen Report etc.	F	P

5. Abbreviations

1	AVL – Approved Vendor List	21	MSA – Master Service Agreement
2	APL – Approved Products List	22	EOL – End of Life
3	PDL – Product Development Live Cycle	23	RMTC – Raw Material Test Certificate
4	SQ – Supplier Quality	24	FA – First Article
5	PPAP – Production Part Approval Process	25	SPC – Statistical Process Control
6	PSW – Part Submission Warrant	26	NDA – Nondisclosure Agreement
7	SDR – Supplier Deviation Request	27	SQE – Supplier Quality Engineer
8	SCN – Supplier Change Notification	28	HVP – High Volume Production
9	PFD – Process Flow Diagram	29	PO – Purchase Order
10	FMEA – Failure Mode Effect & Analysis	30	DMS – Document Management System
11	QCP – Quality Control Plan	31	QMS – Quality Management System
12	CTQ – Critical to Quality	32	ISO – Int’l Organization for Standardization
13	CD – Critical Dimension	33	OHSAS – Occupational Health & Safety Assessment Series
14	SC – Special Characteristics	34	HSEQ – Health, Safety, Environment & Quality
15	AQL – Acceptance Quality Level	35	PR – Phase Review
16	PDI – Pre-Dispatch Inspection	36	IATA – International Air Transport Association
17	SCAR – Supplier Corrective Action Report	37	IMDG – International Maritime Dangerous Goods
18	8D – The 8 Discipline for Problem Solving	38	ISTA – International Safe Transit Association
19	COC – Certificate of Compliance	39	
20	APQP – Advanced Product Quality Planning	40	

6. Annexure A – Supplier Qualification Process – Phase Reviews and Stage Gate Details
 - PRO-PROC-001 Supplier Qualification Process
7. Annexure B – Technical Compliance Report
 - FM-PRO-001 Technical Compliance Report
8. Annexure C – Product Development Lifecycle
 - PRO-PROC-002 Product Development Lifecycle (PDL)
9. Annexure D – Powin PPAP Templates (Inspection Reports, PFD, FMEA, QCP, PDI, PSW)
 - TE-ENG-001 – Powin FMEA Template
 - TE-MFG-001 – Powin Process Flow Diagram
 - TE-QA-001 – Powin PDI Template
 - TE-QA-002 – Powin Quality Control Plan (QCP) Template
 - FM-QA-001 – Powin Part Submission Warrant (PSW) Form
10. Annexure E – Intentionally Left Blank
11. Annexure F – Powin Packaging and Labeling Guidelines
 - PRO-LOG-002 Powin Supplier Labeling & Packaging Guidelines
12. Annexure G – Supplier Change Notification & Supplier Deviation Request Forms
 - FM-ENG-001 Supplier Change Notification (SCN)
 - FM-ENG-002 Supplier Deviation Request (SDR)
13. Annexure H – Supplier Corrective Action Report (SCAR)
 - FM-QA-002 Supplier Corrective Action Report (SCAR)
14. Annexure I – Supplier Score Card
 - Intentionally Left Blank
15. Annexure J – Supplier Quality Supplemental Purchase Order Conditions Manual
 - QA-03 Supplier Quality Supplemental Purchase Order Conditions (SPOC) Manual
16. Annexure K – Powin Code of Business Conduct & Ethics

SUPPLIER ACKNOWLEDGEMENT CERTIFICATE

This is to certify that _____ (name of company), have read, understood, and agree to the requirements that Powin had stated in the Manual.

Having reviewed the Powin Global Supplier Management System Manual, _____ (name of company) will be responsible for Quality Assurance matters and hereby agrees to the terms and conditions as of _____ (date).

Supplier has received a copy of Powin Global Supplier Management System Manual and associated Annexures.

Supplier will take all the necessary measures to ensure that the Manual and associated Annexures are disseminated to all appropriate departments and personnel within Supplier's organization, such that the requirements of the Manual are adhered to at all relevant levels.

Supplier acknowledges that this Manual may be modified and updated from time to time and agrees to take all appropriate measures to ensure that the Supplier always remains in compliance with the most current revision of the Manual.

Supplier will immediately notify the appropriate Quality representative at Powin of any failure on the part of the Supplier to comply with the latest version of the Manual.

This Certificate will remain effective until revoked in writing by Supplier.

Company: _____

Name: _____

Title: _____

Date: _____

Note: Powin protects the environment. Please use electronic signed copies.