Supplier Quality Manual – Industrial Electric Mfg. (IEM)

IEM – SQM – 001
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Contents

Introduction

Purpose

The purpose of this manual is to define Industrial Electric Manufacturing (hereafter referred to as IEM) processes and requirements for Suppliers. The manual is intended to be communicated with all IEM suppliers, clarify IEM's expectations of processes and requirements that come with the administration of this manual, to eliminate any ambiguity and improve communication between IEM and its suppliers. The goal is to meet and/or exceed customer requirements for quality, cost, and on time delivery.

Scope

This manual is applicable to all suppliers providing production components and/or services to IEM.

As part of our company policy and to support the requirements of our customers Industrial Electric Manufacturing (IEM) must periodically update our approved supplier list. This document contains Industrial Electric Manufacturing's expectations of our vendors.

Ownership/responsibility

IEM's Supplier Quality team is responsible for content within this module.

Application

This manual and all requirements stated within are part of the supply contract and purchase order at all locations of IEM.

To cover all requirements for products and services, specific supplements to this standard can be agreed upon, but must be documented in the supply contract and/or purchase order.

Quality management system of supplier

1. IEM requires its suppliers to implement and maintain an established and documented Quality management system with specific goals to ensure product quality, on-time delivery, continuous improvement and reduction of defects.
2. IEM prefers that all suppliers possess at least one of the following standards.
    a. ISO 17025
    b. ISO-9001
    c. AS9100

    Suppliers are encouraged to be certified to ISO 14001. Any exceptions must be approved by the director of the supply chain and require further action.
3. IEM supplier quality may request evidence from the supplier to verify the effectiveness of their subcontractor's QMS, performance monitoring and other applicable assessments.
4. All suppliers to IEM are responsible for management and control of their own suppliers. Visits and audits conducted by IEM on supplier's subcontractors are not considered part of management and control of subcontractors.
5. Maintain documented training for all personnel.
6. Maintain an organization chart showing the relationship of the Quality Assurance department to other management functions available.
7. Use stamps, stickers, or other markings to indicate inspection and test status.
    a. Ensure stamps, stickers, etc. issuer and use are adequately controlled.
8. Ensure purchase orders, drawings and specifications are reviewed by quality assurance prior to start of production to ensure planning is complying.
9. Ensure written procedures in use of the control of purchase materials and services.
10. Maintain an approved supplier list.
11. Periodically evaluat procurement sources for continued conformance to specified requirements.
12. Ensure materials and services are purchased only from suppliers listed on the approved suppliers list.

13. When specified, only customer-approved sources are used for the procurement of materials and services.
14. Suppliers shall have documented processes to verify that incoming material is properly identified, segregated, and inspected for conformance to specified requirements prior to storage or release to production.
15. Certificates of conformity (CofC) and test reports required for purchased materials are to be maintained as a quality record.
16. Ensure adequate controls in place to ensure that the latest revision of drawings, specifications etc. are used by engineering, production and quality assurance.
17. Use documented work instructions used for all manufacturing and inspection operations performed.
    a. Work instructions to include in-process and final inspection operations as appropriate to ensure conformance to specified requirements.
18. Product identification is maintained throughout the manufacturing process.
19. There is a documented procedure for the calibration of Inspection, Measuring and Testing Equipment used in the acceptance of deliverable items.
20. Nonconforming material is identified, segregated, and controlled pending its final disposition.
21. Procedures include the documentation of the root cause and effective corrective action for the nonconformance.
22. Reworked and / or repaired product re-inspected prior to being returned to production.

Supplier Selection (RFQ/Selection)

1. IEM buyers will select suppliers from its current supply base and other supplier listings in line with procedure OP-74-01 supplier evaluation. Customer selected suppliers must be approved prior to doing business with them.

2. All present and potential suppliers to IEM shall be able to demonstrate with objective evidence that they have implemented and maintain a Quality management system that conforms to requirements detailed in ISO 9001:2015. Third party registration to ISO 9001 is preferred by IEM for all suppliers.
3. A supplier qualification assessment by IEM supplier quality engineer on behalf of buyer may be required prior to approval of purchasing agent. The supplier quality questionnaire is structured to evaluate the suppliers QMS conformance to ISO 9001 standard requirements.
4. The Supplier's employees must be competent and qualified for their job function. The Supplier must ensure this through appropriate internal or external training courses. A training record must be available for all employees producing a product or service for IEM.
5. The supplier shall be able to demonstrate, upon request, compliance with local, national, and international standards and regulations regarding health, safety, and environmental issues relevant to the supplier's business.
6. At the discretion of supplier quality, for new or current suppliers the technical, quality, manufacturing, engineering, purchasing, delivery, capacity, and business issues shall be reviewed to ensure the supplier has clear understanding of IEM's requirements and expectations. IEM understands the supplier's capabilities, risks, and limitations. In some cases, Tier 2 suppliers may be required to identify subcontractors and/or suppliers of Raw materials in their quotes.
7. The supplier accepts the manufacturing feasibility of product by submitting a quote to IEM. IEM buyers with input from supplier quality and other stakeholders will select a supplier based on quality, costs, timing, QMS, risk assessments, financial stability, and supplier performance rating.
8. IEM will notify the nominated supplier of the new business by issuing a letter of intent to purchase and/or a purchase order.

9. All product supplied to IEM must be accompanied by a Certificate of Conformance (CofC), a copy of the manufacturers CofC will be required to accompany each shipment of the specified material. The actual content of the CofC will include at a minimum.

    a) Product Identification – PN, Description, Batch no.
    b) Manufacturer's information – Company name, address
    c) Industry Standard/Customer Standard conforming
    d) Third party lab details (Accreditations)– if component/material is tested in third party lab
    e) Safety Regulation information if applicable
    f) Expiry date if applicable
    g) Purchase Order/Sales Order/Invoice details

    If the product contains hazardous chemicals, an SDS must be supplied.

Changes in process for an approved supplier

10. Unapproved changes are considered by IEM to be extremely serious and raise very significant risks to the Supplier, IEM, and our customers.
11. Changes to a previously approved manufacturing process, including changes of sub-Suppliers, require the Supplier to contact the appropriate Buyer and/or supplier quality and/or IEM quality engineer. Additional testing and its associated costs may be required. Failure to comply with these requirements shall make the Supplier fully responsible for the absorption of all costs relating to customer acceptance of the changed component and any failures (including field failures) attributed to the change.
12. IEM expects its Suppliers to identify, document and communicate any issues or concerns with design, materials, performance, appearance, and durability based on their expertise, knowledge and lessons learned from similar products.
13. The Supplier must ensure confidentiality of any IEM designs and specifications for products and processes in development. IEM will ensure confidentiality of supplier's proprietary designs and processes under development. Under certain specific circumstances, a documented confidentiality or no compete agreement may be required between IEM and supplier.

14. The Supplier must notify IEM purchasing and Supplier Quality if there is a change in delivery times and a risk of meeting agreed upon completion of first article.

Packaging, Product identification and traceability

1. Packaging must be developed and defined to eliminate damage during transportation and storage. Ergonomic handling and environmental criteria must be considered along with inventory restrictions, ideal size, and cost.
2. Material shall be packaged in such a manner that ensures integrity of each piece during all aspects of normal transit. Unless otherwise agreed to in writing, material shall also be protected from corrosion for a minimum of 90 days after delivery. Each container, box, package etc. must be identified with, at the minimum, the supplier's name, part name, part number, revision level, quantity, and date of shipment. Specific requirements for packaging and identification will be clearly identified as a condition in the Purchase Order.
3. If no specific requirements for packaging are defined by IEM, the Supplier must define the packaging agreement with IEM Purchasing prior to production and or delivery. Transportation and/or packaging trials may be required prior to confirming robustness of dunnage to protect product. This also applies to low volume shipments of material including production and test pieces.
4. The Supplier must ensure identification and traceability of products supplied. This identification includes labeling of packaged products, manufacturing location, mfg. date, part identification, and sub-contractor traceability, is required.
5. The Supplier's traceability strategy must enable the Supplier to work back through their process to the incoming material used in the manufacture of defective or suspect product. Certain components, assemblies, services must be individually identified. IEM's engineering department will identify and specify any additional requirements regarding traceability. There shall be a process in place to ensure that lot and/or serial traceability is managed according to customer, industry, government, and/or international standards.

6. There shall be a process that ensures traceability and reporting requirements are met. Records are retained according to customer, industry, government, and/or international requirements. Records shall remain legible, readily identifiable, and retrievable.
7. The Supplier shall ensure that there is a controlled storage environment that all parts are protected against damage and deterioration. The Supplier shall have a process in place that ensures all defective or obsolete material is contained, segregated, reworked, and/or disposed of properly.

Supply Chain management

Supplier commitment

IEM has high expectations of all Suppliers and will seek to work with suppliers that demonstrate a strong commitment to quality improvement, continuous improvement, and cost savings.

Supplier development

IEM will contact suppliers for QMS development based on supplier performance, potential risks, and importance of component to product quality and customer satisfaction.

1. The supplier development plan identifying the path to low risk shall be initiated based on quality and delivery performance.
2. The plans may include support of quality management systems, lean manufacturing, six sigma and team-oriented problem solving.

Audits

1. The suppliers must allow IEM to establish through audits for quality assurance procedures and policies to fulfill the requirements in this manual. The audit can be a potential supplier assessment, process audit, product audit, or tooling audit. The supplier will be notified in advance of the audit date.

2. The supplier shall allow IEM personnel and its customer representatives reasonable access within their premises to verify manufacturing, and that product or service conforms to specified requirements.
3. The supplier will allow IEM personnel to evaluate the supplier's ability to sustain contracted production capacity.
4. The Supplier quality team shall specify these arrangements and method of performing these verification activities.
5. The Supplier will grant IEM reasonable access to all operating sites, checkpoints, stores, adjoining areas, and related quality documents required to complete the audit.
6. IEM may require the supplier to implement corrective actions and/or action plans to improve product or processes based on the audit results. The plan must include responsibilities and due dates for completion.
7. The supplier shall report the status of the plan as per the agreement with Supplier Quality.

Supplier rating/Evaluation

Evaluation of approved suppliers

1. Ongoing performance of key parameters is monitored and reported utilizing the IEM Supplier Scorecard System. This system is used to determine the Supplier's performance to requirements, efforts on improvement and is a key tool in determining new business awards. It is reported to IEM management regularly. When Supplier contact information changes (example; new contact for Quality at the Supplier's location) the Supplier should report the changes to IEM, this will enable IEM to update databases to ensure continued uninterrupted performance feedback to Suppliers.
2. Supplier audits may be used for: Supplier risk assessment, supplier monitoring, supplier QMS development, product audits, and process audits. The scope for these audits will be

defined when scheduling the audit based on the available data. The frequency of these audits will be determined based on the effectiveness of actions.

3. IEM's expectation is 100% on time delivery. The supplier shall notify IEM quality engineer and/or others at IEM within 24hrs of any production interruption.

The Supplier Vendor Performance Report calculates and reports on the performance of vendors in two key areas: product quality and on time delivery.

Quality points are based on the quantity dispositioned and the points for the associated disposition code. Performance points for item quality are based on the quantity and the points from the disposition code. A few examples of quality scoring are below.

Example: 75 points may be assigned for: Status = ACCEPTED, Ref Type = P, Disposition = MTS (for Move to Stock).

50 points may be assigned for: Status = REJECTED, Ref Type = P, Disposition = SORT (for Sort).

Example: 75 points may be assigned for: Status = ACCEPTED, Ref Type = P, Disposition = DIT (Destroyed in Testing but the parts passed the test).

75 points may be assigned for: Status = ACCEPTED, Ref Type = P, Disposition = DAM (Parts damaged during shipping, not the Vendors fault).

They indicate the relative importance of a product characteristic to meeting product requirements.

Below are a few examples, common entries.

Status	Ref Type	Disposition	Action	Description
ACCEPTED	P	MTS	Move	Move to Stock
ACCEPTED	P	DIT	Issue	Destroyed in Test
REJECTED	P	REWORK		Rework
REJECTED	P	UAI	Move	Use As-Is
ACCEPTED	J	MTO		Move to Next Operation
REJECTED	J	REWORK		Rework

Delivery points are based on purchase order due date vs QC date received.

Points for On Time Delivery: Specify the highest number of points to be awarded to a vendor based on delivery.

Days Early (-) / Late (+): Specify the number of days early as a negative. Enter on time as 0. Specify the number of days late as positive. This information must be entered in order from maximum days early, to on-time, to maximum days late.

Points Deducted: Specify the number of points to be deducted from the Points for On Time Delivery.

Delivery points for On Time Delivery = 25

Days Early/Late	Points
-10	25
-03	20
-01	15
-00	0
+01	10
+03	15
+07	20
+10	25

A PO receipt 5 days early receives a score of 25 - 20 = 5

A PO receipt 5 days late receives a score of 25 - 15 = 10

Supplier charge back

1. In the event that non-conforming material is received by IEM, The Supplier is required to take immediate containment action in 24hrs to isolate the instance and ensure further delivery of defective material to IEM is prevented. The Supplier is required to provide detailed 8D report within 15days. If additional time is required, then Supplier must contact IEM quality engineer to explain the reason. All corrective actions report (CAR) from supplier shall be documented in IEM's 8D CAR format or supplier format so long as IEM CAR number and all sections are reflected.

2. Costs incurred by IEM due to poor product quality, nonconforming product, and delivery based on contractual requirements may be charged back to the Supplier, using IEMs MRR (non-conforming material report) and matching Supplier RMA.
3. Suppliers are expected to sort defective material delivered to IEM facilities. If necessary to maintain production, IEM may sort defective material at the Supplier's expense.
4. IEM expects that all Supplier deliver materials ready for use without need for incoming inspection.
5. Special circumstances will be handled on a case-by-case basis through IEM purchasing and supplier quality.
6. If non-conforming supplier material impacts IEM's ability to meet their customer's requirements, the Supplier will be expected to replace that quantity with conforming parts in order to meet their contract.

Product/supplier resourcing

1. If a Supplier continues to have quality or delivery issues with IEM, resourcing of that product to a different supplier may be considered.
2. Supplier is required to provide product until the contract expires and additional amounts as needed to protect product availability and quality to customer.

Non-conforming materials

Non-conforming material immediate action

Suppliers are required to inform IEM as soon as non-conforming material is discovered. Upon discovery of a Supplier non-conformance all suspect material, at all points of manufacture, will be placed in quarantine until one of the following conditions are met;

1. Product is confirmed to be conforming.
2. An engineering deviation is approved by the IEM Design and Engineering team.
3. Product is reworked and verified for conformance via an approved rework procedure.
4. Product is scrapped.

The Supplier is required to account for and document the disposition of all non-conforming material. IEM at its sole discretion, may request formal confirmation of the disposal and/or scrapping of non-conforming or obsolete material.

Non-conforming material corrective action

1. A Corrective Action Report (CAR) will be issued when IEM receives material or service that fails to conform to specification. The CAR shall detail the root cause of the non-conformance in IEM's CAR format, and the corrective actions implemented to prevent future recurrence as a result of the identified root cause. The response must include Control plans and verification of effectiveness. Informal CAR's do not impact performance status and can be used to record non-conformance elimination efforts.
2. A formal notification of non-conformance will be issued when there is evidence of systemic failure of Supplier QMS (e.g. repeat occurrences of non-conformances, failure to inform IEM of a known quality issue, failure to implement corrective actions or lack of responsiveness, delivery) whenever they are found.

Deviation for Non-conforming material

IEM does not accept products that do not meet the required specifications. However, in the rare case of exceptional circumstances, Suppliers may approach IEM for relief of specific requirements. IEM may choose to request a concession on non-conforming material. Requests should be submitted to the IEM Supplier Quality and/or Quality Engineer. Any such request must be accompanied with a completed CAR and any data necessary to support the request. Any and all costs relating to a deviation are the responsibility of the Supplier. Supplier must not ship without a formal deviation authorization.

Risk management

IEM will conduct a risk assessment to mitigate risk to all parties as part of IEM supplier qualification questionnaire and the risk assessment will also be used as required during the launch process.

Reference Documents

ISO 9001 Quality Management System – Requirements.

Supplier Qualification Questionnaire

Revision history

Rev level/ Date	**Description of change**	**Revised by**	**Approved By**
V1/2024-04-29	Initial Version	Varun Sarma	Rebecca Rutherford, Austin Walker