



Purpose:

To inform our potential and selected critical suppliers of IONEX Research Corporation structure, quality systems and supplier responsibility expectations and ratings, and to reduce the learning curve between IONEX and suppliers, and to be referenced as a guide when a supplier has questions.

This handbook describes the expectations IONEX has of its suppliers and applies to IONEX procurement activities.

Scope:

This information applies to suppliers who have an interest in doing business with IONEX. Suppliers are important partners for IONEX.

INTRODUCTION TO MANUAL

At IONEX, product that is late or found to be non-conforming at Receiving or during production causes serious disruptions to production and shipping schedules, resulting in high production costs. Even the best inspection program cannot detect all defective material. IONEX requires suppliers to control the quality of material shipped to IONEX, its manufacturing partners, or its customers, so that there is less need to inspect the product when it is received. Management of multiple suppliers is also expensive, leading IONEX to reward high-performing suppliers with consolidated business to foster a partnership environment.

This manual describes the expectations IONEX has of its suppliers to ensure purchased material meets IONEX requirements. It is intended to shorten the learning curve for new suppliers and gathers the tools needed for supplier interaction in a single location for reference.

In the event of a conflict, the order of precedence shall be as follows:

1st Purchase Order or other binding contract such as Master Service Agreements and the drawings, design data and specifications referenced, as well as notes and additional instructions or attachments.

2nd IONEX drawings and specifications. IONEX drawings are the approved design data and must be met except by explicit notation in the contract agreement.

3rd IONEX Supplier Handbook (this document)

4th Additional written notifications/ emails/ agreements.

Note: An unwritten agreement will hold no value in the event of conflict.

SECTION 1 – HOW TO BECOME A SUPPLIER FOR IONEX RESEARCH CORPORATION

1. NOT A SUPPLIER YET?

IONEX is always looking for suppliers that meet our needs. At the same time, IONEX strives to minimize the cost of managing suppliers and strives to reward high-performing partners with consolidated business. If you have not done business with IONEX before and you have not been in contact with anyone within the company, please contact a Procurement representative to set up an evaluation.

The approval process may consist of three or more parts: 1) a non-disclosure agreement completed by the supplier where needed, 2) a Supplier Quality Audit Form, and 3) an on-site assessment when required. IONEX may expand this set of requirements in the future based on business and/or customer requirements.

If IONEX determines that a supplier potentially fits within IONEX supply chain needs, a member of Procurement may request that the supplier complete the Supplier Quality Survey Form (FPU-002). When the supplier returns the survey, Procurement and Quality will review the questionnaire, and determine whether to proceed with certification of the supplier. On-site audits and surveillance may also be part of the approval process as determined by IONEX Quality Assurance.

SECTION 2 – IMPORTANT ASPECTS OF BEING AN APPROVED SUPPLIER

IONEX strives to foster a partnership mentality by consolidating work to high-performing, low-risk suppliers, which gives suppliers more business and reduces the cost of managing multiple sources.

1. COMMON PROBLEMS IONEX RESEARCH CORPORATION HAS SEEN: (ELIMINATION OF THESE IS AN OPPORTUNITY TO STAND OUT AS A SUPPLIER)

1.1 Paperwork

- Missing Certificate of Conformance (C of C).
- Certificate of Conformance does not have the proper information.
 - Purchase order Number
 - IONEX Part Number
 - Drawing Revision
 - Quantity
 - Shelf Life
 - Signature
- Missing Material Test Reports

1.2 On-Time Delivery

IONEX Due Dates reflect the day the shipment should arrive at IONEX. Parts may arrive up to ten working days prior to the due date but no earlier and zero days late. If you are unable to meet these dates, communicate the problem with the appropriate Buyer to correct the dates, and so that IONEX can react if necessary. Note- IONEX is closed on Fridays.

1.3 Packaging

Packaging matters! A large portion of quality problems are caused in transport and storage. We strongly encourage all suppliers to package in appropriate containers and to eliminate use of flimsy bags and boxes or co-mingling sharp edges and threads. Coatings/Painted surfaces, sensitive electronics, and finished parts should always be appropriately protected.

2. SYSTEM REQUIREMENTS

2.1 Supplier Requirements

Approved Supplier List (ASL) Suppliers will be considered as either Active or Inactive depending on their purchasing activity with IONEX. Active suppliers are those that are currently involved in our purchasing activity, and Inactive suppliers are those suppliers that have no activity. Suppliers with no activity will be inactivated from the ASL as determined by Procurement and Quality, generally after a year or more of no activity. Suppliers moved due to inactivity may be returned to the ASL using historical use as the justification, as long as they still meet the quality requirements. Depending on the time and scope, a full assessment may be necessary.

2.2 New Supplier Requirements

New Suppliers will be required to fill out a Supplier Quality Audit Form to be considered for addition to the ASL and may require an onsite Audit.

2.3 IONEX Flowdown of Information

IONEX uses this handbook, contracts, audits, purchase orders and other notices to communicate requirements for the processes, products, and services to be provided, including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions) for the approval of:

- Products and services
- Methods, processes, and equipment
- Competence, including any required qualification of persons.

- Verification or validation activities that the organization, or its customer, intends to perform at the external providers' premises
- Special requirements, critical items, or key characteristics
- Test, inspection, and verification (including production process verification)
- The need to:
 - Notify the organization of nonconforming processes, products, or services and obtain approval for their disposition.
 - Prevent the use of counterfeit parts.
 - Notify the organization of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain the organization's approval.
 - Flow down to external providers applicable requirements including customer requirements.
 - Retain documented information, including retention periods and disposition requirements.
 - Obtain right of access by the organization, and their customer, to the applicable areas of facilities and to applicable documented information, at any level of the supply chain.

2.4 Control of Sub-Tier Suppliers

Suppliers are responsible for the quality of materials and components provided by their sub-tier suppliers and subcontractors. IONEX suppliers must impose controls on their sub-tier suppliers that provide quality results and documentation comparable to the controls applied to suppliers by IONEX. The extent of the controls may vary, depending on the nature and complexity of the product and processes, but should normally include:

- Evaluation and certification of sub-tier supplier facilities.
- Control to ensure that raw materials used meet IONEX requirements.
- Part qualification, including First Article Inspection and Process Capability.
- Control of the sub-tier suppliers' processes and capabilities.
- Drawing/revision/configuration control.
- Control of non-conforming material.
- Corrective action and preventive action.
- Process controls documentation and data package.

IONEX reserves the right to evaluate the quality system and records of sub-tier suppliers as necessary. However, IONEX' involvement does not absolve a supplier of the ultimate responsibility for the quality performance of its sub-tier suppliers and sub-contractors.

3. INVOICE AND PAYMENT QUESTIONS

Please work closely with your Buyer for any Invoice and Payment Questions you may have. Consolidated invoicing can significantly reduce the work involved for payment and is highly encouraged. Please send all invoices to accounting@ionex.us.

4. SUPPLIER REVIEW/ APPROVED SUPPLIERS

Suppliers are initially approved based on section 3 and added to the ASL. After initially being approved suppliers will be re-evaluated at a minimum of every three years. IONEX maintains an internal ASL.

ASL rating may consist of:

- Cost reviews
- On-time delivery
- Quality Issues
- Risk Analysis
- Supplier Questionnaires or Surveys
- Quality System audit(s) at the supplier's facility
- Additional inspection of product at the supplier's facility
- Review of supplier-furnished process data
- Other Requirements

The Supplier Performance Rating is generated from on-time delivery (OTD), Quality rejections and shipment issues. Suppliers with overall scores that are 80% and above will be noted as our preferred suppliers. This will be managed at least annually by procurement. Suppliers with consistent deliveries and ratings of 95/100 percent will be considered for consolidation of work.

Note: Date changes must be accepted and verified in writing by IONEX Procurement personnel to be considered on time. Performance ratings will be delivered periodically but not less than annually, and any supplier below 70 percent for 12 months will be contacted for mutual corrective actions and could potentially be removed from the ASL.

4.1 Supplier Audits

The supplier shall make their facility available for on-site process verification by IONEX at any time, with reasonable notice.

4.2 Quality System Audit

Periodically, IONEX may audit the supplier's Quality System. This may be a full or abbreviated on-site audit. The purpose is to evaluate any changes that may have occurred in the supplier's quality system, and to assess the supplier's continuing commitment to quality improvement.

4.3 Receiving Inspection

IONEX expects its suppliers to furnish material that conforms to all requirements when received.

5. CONTACT INFORMATION

Please contact the buyer that placed the purchase order for all inquiries except for submitting invoices which should be submitted to accounting@ionex.us. The buyer will then route to the appropriate IONEX personnel if required.

SECTION 3 – COMMON INFORMATION A SUPPLIER MAY NEED TO REFERENCE DURING THEIR RELATIONSHIP WITH IONEX

1. PURCHASE ORDER (PO) REQUIREMENTS AND NOTES

Each PO contains notes, terms and conditions which flow requirements to suppliers. Any significant contract changes must be recorded with a revised PO, including supplier- notified changes.

PURCHASE ORDER GENERAL TERMS & CONDITIONS (Subject to change, see current requirements on IONEX Website. Link is noted on every Purchase Order)

1.1 Material Certification/Test Report/Inspection Report

For material requirements, and other specified requirements for which the supplier does not have the equipment to test, the supplier obtains material certifications or test reports from their sub-supplier, or other test agency.

These reports must include the specification number, specified material/dimensional/physical requirements, and the inspection/test results. A simple statement that the material meets the requirements is not acceptable. The reports must be traceable to the raw materials, through lot/heat/coil/batch numbers or equivalent and must be signed by the organization that performed the testing. All documentation supplied to IONEX must be clear and legible in order for the purchased items(s) to be accepted.

1.2 Material Safety Data Sheets

The supplier must furnish Material Safety Data Sheets (MSDS) for all materials shipped to IONEX facilities, or the sub-tier provider for hazardous material.

1.3 First Article Inspection Report (FAIR)

Part Qualification

Suppliers select production process representative parts for First Article Inspection / Part Qualification Process activities. The Buyer/Quality Representative notifies the supplier of the quantity to be inspected if different from one (1) each.

Suppliers inspect or tests each sample for all dimensions, drawing notes, material cleanliness requirements, packaging requirements, specification requirements listed on the current revision of IONEX' drawing, and any other data as supplied by IONEX.

2. MANUFACTURING CONTROL

When specified by QA or Procurement, process capabilities may be required.

2.1 Capability

Currently all ASL suppliers are rated for capabilities on the ASL, as demonstrated through receipt of conforming product or other demonstration of capability.

2.2 Safety / Environmental

At no time should any customer or person at an IONEX facility be exposed to hazardous material or situations that are not inherent to a component's structure.

Residues, films, out-gassing products and packaging materials should comply with OSHA standards.

For items with inherent hazards, safety notices must be clearly observable. As applicable, Material Safety Data Sheets (MSDS) must be provided during the part qualification process.

All suppliers will ensure that (1) all parts, components, materials, and products supplied to IONEX and (2) supplier's and supplier's subcontractors' operations fully conform to all applicable laws and regulations governing protection of the environment, employee health and safety, and labor and employment practices of all the countries in which supplier and, to supplier's knowledge, information and belief, supplier's subcontractors do business.

2.3 Methods To Protect Products During Transit

The supplier will bag, box or tie parts to prevent intermixing of materials.

The supplier is responsible for adequately protecting and documenting temperature-specific materials during transit in accordance with applicable specifications.

Delicate parts that are susceptible to vibration and/or shock damage will be packaged in foam, pads, or special packaging as necessary to properly protect the product.

Parts and materials will be protected from adverse weather conditions that would affect the product.

The supplier is responsible for complying with all specific product-packaging requirements stated in applicable specifications and drawings.

Each supplier must adequately plan for packaging. IONEX encourages supplier-initiated packaging improvements. Packaging, labeling, and shipping materials must comply with the requirements of common carriers, in a manner to secure the lowest transportation costs.

3. DRAWINGS/CHANGES

3.1 Drawing and Change Control

IONEX will provide a drawing for all custom items. In the occasion of a change mid-contract, the purchase order will be updated with the new revision and the new current drawing(s) provided.

The supplier must have a documented system for assuring the latest IONEX drawings are in effect at their facility. The supplier's quality system must contain a procedure that describes the method used for implementation of all changes to drawings and specifications. In addition, there must be a procedure for addressing and eliminating obsolete drawings and specifications.

3.2 Contract Review

The supplier is responsible to review the contract for requirements and to notify IONEX of any discrepancies or needed changes prior to delivery.

4. CORRECTIVE ACTION SYSTEM

IONEX requires suppliers to utilize a closed-loop corrective action system for internal issues as well as for issues raised by IONEX.

4.1 Internal Corrective Action Process

IONEX expects its suppliers to use an internal corrective/ preventive process for continual improvement.

4.2 External Corrective Action Process

Corrective action is taken to correct the non-conformity and its root causes. Preventive action is to identify potential problems, and to solve the root cause to ensure the event cannot occur. Both of these actions are used as a means to drive Continuous Improvement.

The IONEX Quality or Procurement Representative will issue a corrective action form when determined as an action of nonconforming material. The supplier is required to respond with all elements completed.

IONEX requires that the supplier take immediate containment action upon notification of the non-conformance. The supplier must submit a written response to IONEX reporting the supplier's initial observation and defining the containment plan within 48 hours of notification. The supplier's initial observation is an acknowledgement that the supplier has been informed of the problem, has contained the problem, and is defining root cause.

The containment plan must clearly define the actions taken at the supplier's facility, to assure that no non-conforming product is shipped to IONEX. The supplier must address all suspect stock in transit, and any stock at IONEX' facilities. The supplier must specify what actions are to be taken. The supplier must bound the problem by identifying all suspect lot numbers and associated quantities involved.

IONEX will work with the supplier for acceptable closure dates to the Action Form. The supplier is required to keep IONEX informed of progress towards implementing the corrective action. When the corrective action implementation is complete, the supplier and IONEX QA verify that the corrective action is effective in correcting the problem.

Thank You for being a valued supply chain partner!