	ESSEX INDUSTRIES, INC.	
	Manufacturing Division	Document Number: EMQ 7.4.2 F0001
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WELCOME TO ESSEX MANUFACTURING

We are pleased to welcome you as an existing or as a potential supplier to provide products and services for our company. Essex Industries, Manufacturing Division (aka Essex Manufacturing) is a full-service component engineering and manufacturing facility providing all stages of concept through final inspection services. With the latest computer-assisted manufacturing equipment in its 68,000 square foot complex, Essex Manufacturing machines sub-components and provides engineering support to all Essex companies. Some of the more than 10,000 components include: Specialty Valves and Quick Disconnects, Pilot Flight Control Stick Grip Assemblies, Hydraulic Surge Suppressors, and MIL-SPEC, AN, and NAS components. This division also houses a Chemical Processing department that provides Anodize Type II Class I & II, Type III Hardcoat, Alodine, Passivation Type II & VIII, Penetrant Inspection, and other special services.

QUALITY POLICY

Essex Industries is committed to meeting the requirements of our customers and to continually improving our Business and Quality Management System.

OUR COMMITMENT


Essex Manufacturing's purchasing department is responsible to negotiate contractual agreements with our suppliers that result in the lowest overall total costs. In addition to prices, this includes consideration to delivery, quality, and innovative technical support and services. Our commitment allows Essex Industries to provide continuing value to its customers through improved product quality and enhances reliability. To ensure that this commitment is met, suppliers are selected and continuously evaluated for effectiveness based on these criteria.

SUPPLIER RELATIONSHIP

Essex Manufacturing will deal with its supplier with integrity, fairness and impartiality at all times. We will extend to our suppliers the same considerations we expect to receive from our customers. Suppliers of goods and services to Essex will be selected on the basis of value, quality and service. No employee may profit personally from a relationship with a supplier.

SUPPLIER QUALIFICATION

Purchase orders are only awarded to approved suppliers evaluated to be responsible and reliable to perform the required work in full accordance with the requirements of Essex Manufacturing purchase order. New suppliers are added only if the existing supplier base does not have the competencies to meet our needs, and then only if the supplier has passed assessment criteria in business, quality, and technical areas.

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CERTIFICATION OF COMPLIANCE

By delivering material(s) to fulfill Essex Manufacturing purchase order requirements, you are certifying that the material delivered conforms to all applicable drawing, specification, and purchase order requirements. A certificate of conformance is required on all components and materials purchased for incorporation into an Essex product, and that evidence of that conformance is on file and available for review.

MINIMUM ACCEPTABLE SUPPLIER REQUIREMENTS


Essex Manufacturing constantly works to improve our product, a goal extremely important to us. Our success is based on a team effort with you to meet high quality and delivery standards, to control cost, and to reduce lead-time so that we can meet our customer's need dates and you can become our supplier of choice.

Quality and Delivery of our Suppliers are measured and monitored. Based on a computed score around quality and delivery, any Supplier with a score of 90% or less will be contacted and corrective action will be expected.

Price – Essex Manufacturing expects to pay a fair and reasonable price for material. We expect our suppliers to actively work with Essex Manufacturing on methods and processes to reduce prices.

Lead-time – Essex Manufacturing expects their suppliers to deliver product at lead times no longer than their manufacturing or distribution time.

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1.0 SUPPLIER EXPECTATION

Suppliers have the responsibility to implement and maintain controls that will assure products/material met all drawing, specification, quality, and Essex Manufacturing purchase order requirements. Order of precedence shall be: 1) Drawing; 2) Purchase Order (PO) Notes; 3) this Document.

Suppliers are responsible for developing the appropriate objective quality evidence necessary to demonstrate compliance to the requirements of the purchase order for each item being procured (including sub-components and special processes) and to support the Certificate of Compliance.

2.0 SCOPE

This document describes the minimum elements of a Quality Assurance system required for Essex Manufacturing suppliers. The system shall provide for the control of quality throughout the manufacturing process. Supporting documentation shall be maintained and made available to Essex Manufacturing and/or our customer upon Essex request.

3.0 DEFINITIONS

GOODS, ITEMS, PRODUCT, ARTICLES, PARTS, etc. may be used interchangeably in this document to refer goods being purchases from a Supplier. Any of these terms used throughout this document includes, without limitations, processes, technical information computer software, raw materials, components, intermediate assemblies, end products, and where applicable, services to be performed.

4.0 AUTHORITY AND RESPONSIBILITY OF ESSEX MANUFACTURING QUALITY ASSURANCE REPRESENTATIVES

Essex Manufacturing may, with the supplier's cooperation:

- Conduct initial and periodic surveys to assure that the supplier has a quality assurance system that meets the requirements of the document and the purchase order.
- Conduct planned reviews of all phase of the supplier's quality assurance system to assure compliance. If deficiencies are found, require the supplier to take corrective action.
- Assist the supplier in obtaining interpretation of Essex Manufacturing quality, purchase order, and/or drawing and specification requirements.

Performance of the above by the Essex Manufacturing Quality assurance Representative does not relieve the supplier of their contractual responsibilities.

5.0 NONCONFORMING MATERIAL


Suppliers are responsible for establishing controls to ensure that products not conforming to the purchase order are identified, segregated, dispositioned, and controlled to prevent inadvertent use.

In addition to its other rights and remedies, Essex Manufacturing may return items that if finds to be nonconforming for appropriate rework, repair, or replacement.

5.1 Deviation from Standard

Before Supplier can ship nonconforming (deviation from standard) product, they must receive authorization to ship, in writing, from an authorized Essex Industries representative. Shipments received without written authorization will be rejected and may be returned at Supplier's expense.

If product is shipped under deviation from standard, a copy of the Essex authorization must be included with the packing slip.

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5.2 Resubmitted Articles

Articles rejected by Essex Manufacturing and subsequently re-submitted by Supplier must be closely and properly identified as re-submittal articles. Supplier's shipping document shall contain a statement that articles are replacement or reworked articles and must also refer to the Essex rejection document.

6.0 CORRECTIVE ACTION

Suppliers are responsible for implementing quality systems capable of resolving problems adversely affecting quality and correcting those conditions. Suppliers shall determine root cause (primary reason which caused product nonconformance or quality system deficiency), institute measures to prevent recurrence, and implement corrective action. Nonconforming material or quality system deficiencies detected by Essex Manufacturing may require Supplier response to a Supplier corrective Action Request (SCAR.) When a SCAR is issued, response is due on or before the due date identified on the SCAR and is a factor in the vendor qualification process.

6.1 Corrective Action on Government Source Inspected Items

When corrective action is required for Government source inspected items, Supplier shall coordinate such action with the Government Quality Assurance Representative assigned to Supplier's plant or the nearest Defense contract Management Area Operations (DCMAO) so that appropriate planning for Government Source Inspection can be accomplished. In the event the representative or office cannot be located, the Essex buyer should be notified immediately.

7.0 SPECIFIC REQUIREMENTS

All Suppliers are required to comply with the requirements listed below:

SQR-1 SUPPLIER QUALITY PROGRAM / SYSTEM REQUIREMENTS


The supplier shall develop, document, implement and maintain a quality system. Unless compliance to a specific standard is required on the purchase order, the quality system can be patterned after or in accordance with AS, ISO, QS or another nationally recognized standard used for quality system implementation. Certification to ISO 9000 or other system by a third party is desirable. Objective evidence shall be on file verifying that such a system exists and is being maintained. Procedures and records shall be available for examination by authorized Essex Manufacturing representatives, upon request.

QUALITY DOCUMENTATION AND RECORD RETENTION

Supplier shall have a system for establishing and maintaining control of records documenting product compliance to applicable procurement documents, drawings, specifications, and standards.

Records shall provide traceability to specific products (i.e., purchase order, date of inspection, drawing and revision level, etc.) and use actual data when required by applicable specifications to indicate acceptability of the product. Inspection records are to indicate the nature (characteristic) and number of observations made (including sample plans), type of deficiencies found, quantities approved and rejected, and the disposition of the deficiencies.

Records shall be maintained for a minimum of ten (10) years after final shipment. Essex Manufacturing reserves the right to request any supporting documentation on product purchased.

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SQR-2 CHEMICAL AND PHYSICAL (MECHANICAL) ANALYSIS AND REPORTS

Suppliers must also maintain a complete file of results of all Chemical and Physical (Mechanical) Test Reports to substantiate conformance to material requirements of the drawing or specifications.

If required on purchase order, Supplier must submit a report as indicated below (actual or typical) with each lot of material shipped to Essex Manufacturing. A copy of the mill certification and test report is required with each shipment.

A. Actuals

Report shall list actual physical and chemical test results obtained from an analysis of samples, which are representative of each lot of material supplied under the purchase order.

B. Typical

Reports shall list the range of values for the properties of each material supplied under the purchase order.

C. GE requirements—Analytical testing:

If required on purchase order or product specification, actual physical and chemical analytical testing shall be performed by a test lab which sustains a S400 approval by General Electric Company as listed in the GE "Yellow Pages" or their current Approved Supplier document. A report shall accompany each shipment made to Essex under the purchase order.

D. GE requirements—Castings and Forgings:

If required on purchase order or product specification, castings and forgings (all methods and types) shall be procured from a supplier which sustains approval by General Electric Company as listed in the GE "Yellow Pages" or their current Approved Supplier document. A report shall accompany each shipment made to Essex under the purchase order.

E. GE requirements—Machined and/or Fabricated Articles:


If required on purchase order or product specification, machined and/or fabricated parts or components shall be manufactured from new materials. A statement of verification must be on the certificate of conformance. In addition, materials must also include Analytical testing as outlined in Section C above.

TEST PANELS OR SPECIMENS

If test panels or specimens are used in lieu of actual parts, they must be made of the same material, alloy, and hardness and be representative of the manufacturing process.

SQR-3 CERTIFICATE OF COMPLIANCE

All product shipped to Essex Manufacturing requires a Certificate of Compliance and a copy sent for each shipment. Supplier shall certify that the materials and processes used in performance of the purchase order meet all applicable specification requirements and that inspection/process control/test data necessary to substantiate the Certificate of Compliance are on file and available for Essex Manufacturing review. The Certificate of Compliance, signed by an authorized individual certifies that a product or service has met all requirements of the purchase order including drawings and specifications at the prescribed revision level.

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SQR-4 FIRST ARTICLE

First Article Inspection (FAI) is an inspection performed on the first part, or first lot of parts, produced to verify conformance to top level drawing dimensional requirements. Previous FAI reports may be utilized to satisfy the FAI requirement provided that:

1. There has been continuous production with no breaks greater than 12 months.
2. The manufacturing process has not changed (i.e. moved the product line, introduced new manufacturing techniques, etc.), AND
3. The manufacturing facilities are the same.

If Supplier makes changes to the manufacturing process (as noted above), a new FAI is required with the first shipment after the change was made.

Where characteristics have changed, new characteristics added, or characteristics on previous reports have been impacted, only those characteristics require re-inspection (Delta FAI.)

When specified on the purchase order or product specification, documentation showing actual results (where appropriate) from measuring equipment shall be submitted along with the first article sample. Essex Industries prefers the documentation be on AS9102 or similar type inspection forms. The Supplier shall identify this sample (using tags, labels, etc.) and ensure traceability to all associated documentation.

While FAI may not be specifically called out within the purchase order or within the specification, it is Supplier's responsibility to demonstrate compliance to all drawing requirements. When FAI is required, Suppliers are not authorized to produce product for Essex Manufacturing prior to acceptance and approval of the FAI.

SQR-5 FUNCTIONAL TEST REPORTS


If functional testing is required per the purchase order or product specification, each shipment must include two (2) legible and reproducible copies of actual test results, which include all test parameters. This should include, but is not limited to: operations data, mechanical functions, dimensional, electrical performance, hydraulic operation, and inspections. Seller's report must contain the signature of an authorized representative who is responsible for performing the tests and assuring conformance to the buyer's specification requirements.

SQR-6 MATERIAL REVIEW AND ACCESS

All goods shall be subject to inspection and test at all times and places, including the period of manufacture, by Essex, Essex prime contractors, the Government, and/or Regulatory Authorities, as applicable. Inspectors shall have access to all areas on the premises of the Supplier or Supplier's subcontractors in which work on this contract is being performed. If this contract calls for the delivery of goods for installation on aircraft, the right of inspection and test shall extend to representatives of the Federal Aviation Administration, and if non-domestic, equivalent foreign government agencies.

GOVERNMENT SOURCE INSPECTION

If article being purchased is for a Government or military contract, Government Source Inspection may be required prior to shipment from Supplier facility. If required on purchase order or product specification, the Supplier must immediately notify the Government Quality Assurance Representative assigned to Supplier's plant or the nearest Defense Contract Management Area Operations (DCMAO) office so that appropriate planning for Government Source Inspection can be accomplished. In the event a representative or office cannot be located, the Essex buyer should be notified immediately.

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The Supplier must furnish, at no cost, the necessary facilities, equipment, and personnel required to perform the source inspection.

SQR-7 ESSEX INDUSTRIES SOURCE INSPECTION

if required on purchase order or product specification, Essex Manufacturing may require articles be Source Inspected by an Essex Industries representative. The Supplier must furnish, at no cost, the necessary facilities, equipment, and personnel required to perform the source inspection.

SQR-8 ESSEX or GOVERNMENT FURNISHED INSPECTION OR PRODUCTION TOOLING

Suppliers are responsible for the calibration and safe care, other than normal wear, for any Essex Industries, our customer, or Government supplied inspection or production tooling used in the execution of a purchase order.

SQR-9 HAZARDOUS MATERIALS

A copy of the Material Safety Data Sheet (MSDS) meeting OSHA standards shall accompany each shipment for all items. (Form #OSHA-20, or similar.)

SQR-10 UNAUTHORIZED REPAIRS, CHANGES IN PROCESSES, MATERIAL, OR PROCEDURES

Supplier cannot relocate any production, manufacturing and/or processing facilities during the performance of the purchase order without notifying Essex within 10 days to give an opportunity to examine such facility for compliance to Essex quality requirements as they may apply to the purchase order and/or to obtain necessary end-customer or Government approvals.

Supplier may not, without written approval by Essex, repair by welding, brazing, soldering, or adhesive, any parts damaged or found to be faulty during fabrication. Defects in castings or forgings shall not be repaired by any method unless authorized in writing by Essex.

If processes, material, or procedures were originally subject to approval by Essex Manufacturing, no changes can be made to said items without written approval. For any product which has been subjected Essex's Customer or Government specified qualification procedures to qualify the product, or to permit the seller to become a qualified source for the products, the Supplier cannot change processes, material, or procedures from that used to qualify, without prior notification to Essex and approval by the Essex Customer or the Government, as appropriate.

SQR-11 SOLDERABILITY REQUIREMENTS


If required on purchase order or product specification, Supplier shall certify that all articles supplied are capable of passing the solderability requirements of MIL-STD-202 Method 208. The compliance certification shall accompany each shipment made to Essex under the purchase order.

SQR-12 PRODUCT LIFE AND PRESERVATION

If article has a limited life, notice of shelf life expiration must be attached to the packing list and accompany each shipment.

SQR-13 TEMPERATURE CONTROLLED STORAGE

If required for article, special temperature storage condition requirements must be attached to the packing list and accompany each shipment.

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SQR-14 RUBBER GOODS CURE DATE

Information pertaining to cure dates (i.e. rubber goods) for items must accompany each package.

SQR-15 APPROVED SUPPLIER / PROCESSOR

Suppliers are responsible for conformance of all items procured from every tier of their suppliers and shall assure that the requirements of this document and applicable drawings and specifications are incumbent upon procurements sources. Suppliers are responsible for the selection and control of lower tier supplier of all products, processes, or services used in the execution of all purchase orders. Documented evidence as to control of sub-tier suppliers shall be maintained.

SQR-16 STATISTICAL PROCESS CONTROL (SPC)

Essex Manufacturing encourages utilization of statistical methods and SPC. Statistical data must be comprehensive enough to adequately document quality conformance.

If SPC is required on the purchase order or product specification, Suppliers are required to provide evidence of statistical controls and must file a current Control Plan with Essex Manufacturing. SPC is required if any

characteristics are noted on the product specification. If Supplier does not use SPC, 100% inspection of Key Characteristic(s) must be implemented and the results sent with the product.

SQR-17 GENERAL ELECTRIC SPECIFICATIONS

If required on purchase order or product specification, Supplier must process the order in accordance with the latest revision of each General Electric specification and/or Quality System denoted.

SQR-18 DOMESTIC MATERIAL REQUIREMENT

If required on purchase order or product specification, material used in manufacture of article must be produced from a domestic mill as defined by the end-customer requirements noted.

- For Boeing/Douglas-Long Beach it must meet DMS 2201 requirements.
- For Boeing MESA, Lockheed Martin, or the US Government, it must meet DFARS 252.225-7014 requirements, "Preference for domestic specialty metals, including Alt I."

SQR-19 END-CUSTOMER AND REGULATORY SPECIFICATIONS:


If specific customer and/or regulatory requirements are stated on purchase order or product specification, Supplier shall certify that these requirements have been met. If specific revision levels of the requirement are not stated on the PO, articles should be in compliance with the latest revision of the requirements at time of PO receipt.

CUSTOMER APPROVED VENDOR LIST

If required to purchase a component or service from a specific (approved) vendor source, a copy of the certificate of conformance from that vendor is required in addition to the Supplier certificate of conformance.

SQR-20 MEASURING AND TEST EQUIPMENT AND/OR PRODUCTION TOOLING

Supplier shall establish and maintain a documented calibration system for all measuring and test equipment (M&TE) such as gages, tools, jigs, fixtures, and dies used to verify conformity to re-

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quirements. The program shall be in accordance with a recognized standard such as ISO10012-1 or ANSI/NCSL Z540-1 and shall address the criteria described in the selected standard.

If material specifications (e.g. heat treatment-AMS2750) impose specific calibration requirements in addition to those identified in the preceding paragraph, the supplier must include the requirements in the calibration system.

SQR-21 PRODUCT MARKING

Unless otherwise specified by the purchase order or drawing/product specification, marking of each individual part is not required. The drawing requirements must always be observed for specific marking requirements.

Unless precluded by size or shape, individual packages shall be positively identified with the name of the Supplier, the part number, and quantity. This can be accomplished with the use of tags, or bulk marking methods, etc.

SQR-22 PRESERVATION, PACKAGING, PACKING, AND CLEANLINESS

Unless otherwise specified, all uncoated or unprotected ferrous and nonferrous metal surfaces (internal and/or external) shall be protected against rust and corrosion for a minimum of sixty (60) days from the date of shipment. They shall be suitably packed to prevent shipping and handling damage. All openings, (i.e. fuel, hydraulic, electrical connections, etc.) shall be adequately protected by closures to prevent contamination or damage. All components shall be free of unreasonable dirt and debris.

SQR-23 TOOL CONDITION

If parts are being produced using a tool that is supplied by Essex Manufacturing (owned by Essex or our Customer), a Tool Condition Report is required. This report should be completed upon the receipt of each PO.