	<b>Location: Communications Group</b>
<b>Title: Summary of Quality Plan</b>	<b>Procedure No: CQP 542</b>
<b>Prepared By: J. Boysen</b>	<b>Approved By: E. Perry</b>

## 1. PURPOSE

1.1. The purpose of CQP 542 is to describe how Superior Essex manages the quality of its products.

## 2. SCOPE

2.1. CQP 542 covers all Superior Essex manufacturing facilities, which include: Brownwood, TX; Hoisington, KS; Kennesaw, GA; and Tarboro, NC.

## 3. REFERENCE MATERIALS

3.1. None

## 4. RESPONSIBILITY

4.1. The Division Quality Manager has the overall responsibility for the implementation of this procedure.

## 5. PROCEDURE

5.1. Superior Essex Quality Systems and Procedures


5.1.1. The quality of Superior Essex's products is controlled through the following documented processes:

- 5.1.1.1. Procurement
- 5.1.1.2. Incoming material tests and inspections
- 5.1.1.3. Process Tests and Inspections
- 5.1.1.4. Quality Assurance Testing
- 5.1.1.5. Test Equipment Calibration
- 5.1.1.6. TL 9000 / ISO 9000 Quality Systems Registration

5.2. Overview

5.2.1. All manufacturing facilities produce product to industry standards and/or Division specifications. The plants report monthly test data, which is compiled and reviewed by management. Periodically, the Division Quality Organization audits the plant documents, files and procedures to verify compliance with specifications.

5.2.2. Procurement

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5.2.2.1. Vendors are supplied specifications and must certify that material shipped meets the chemical, physical or electrical requirements.

5.2.2.2. The Product Development Center (Kennesaw, GA) evaluates vendors and the plants must purchase material only from approved vendors.

5.2.3. Incoming Material Test and Inspections

5.2.3.1. Each location has a documented incoming material plan that ensures the quality of received materials through supplier certifications and sampling of critical parameters for testing.

5.2.4. Process Tests and Inspections

5.2.4.1. In copper products, where applicable, physical process tests are performed after the wire drawing processes, electrical and physical tests are performed after insulating, twinning, stranding, and cabling. Conductor continuity and dielectric strength testing are done before jacketing, and a dimensional analysis of product from every jacketing set-up is recorded.


5.2.4.2. In fiber products, individual fibers, fiber units and binders are verified to color standards and color coding schemes. Buffer tube geometry is monitored on all buffer tubes while excess tube length is monitored on a sampling basis. In addition, binder lay and tube lay for all loose tube stranded products are measured.

5.2.5. Quality Assurance Testing

5.2.5.1. All shipments are tested, inspected or certified prior to release from the production departments. Sampling plans designate frequency of testing and which characteristics are tested.

5.2.5.2. All copper products are tested for conductor and shield continuity, dielectric strength - conductor-to-conductor, dielectric strength - conductor to shield, and mutual capacitance. Total capability tests are performed at a frequency determined by statistical analysis and/or plant experience based on the quantity of tests, average value, and the standard deviation. The frequency is determined for each conductor diameter and insulation type. The capability tests employed will vary slightly by product type but generally include mutual capacitance, capacitance unbalance - pair to ground, capacitance unbalance - pair to pair, conductor resistance, far end crosstalk, near end crosstalk, conductor resistance unbalance, and insulation resistance. Physical quality assurance tests are performed at a frequency determined from historic experience and generally include insulation tests, jacket tests and product construction tests such as water penetration, shield/cable bend at cold temperature, and filling compound flow at high temperature.

5.2.5.3. All fiber products are tested for fiber attenuation, point discontinuities, reflectance and shall not contain spare fibers, factory splices nor any defective

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fibers. Fiber color is verified at final test prior to final acceptance as well as product geometry. Physical measurements are made to verify jacket wall thickness, minimum spot, outside diameter, armor continuity, eccentricity, continuity of metallic strength members and ripcords. All product identification is verified to be accurate and complete and water penetration and traverse quality is verified on all products. All products are protected with weather resistant, flexible packaging and each is properly labeled prior to shipment.

5.2.6. Test Equipment Calibration

5.2.6.1. In accordance with internal procedures, calibration is conducted on a frequency based on calibration results, for all test equipment. All calibrations are traceable to the National Institute of Standards and Technology or where no such standards exist, the basis used for calibration or verification is recorded.

5.2.7. TL 9000 / ISO 9000 Quality Systems Registration

5.2.7.1. All Superior Essex manufacturing facilities are registered to TL 9000 quality management system requirements. TL 9000 is a Telecommunications quality standard that is inclusive of all the requirements of ISO 9000.

**6. RECORDS**

Records Identified	Storage Method	Method of Protection	Retrieval Process	Retention Time	Disposition Process
NA	NA	NA	NA	NA	NA

**Revision Master**

<u>Date</u>	<u>Section</u>	<u>Description</u>
07/17/00	All	Original Issue
01/11/02	All	Rewrote to new format, and included Fiber.
11/13/06	2.1 4.1	Removed E-Town and Winnipeg Plants Changed "Corporate" to "Division"
10/05/09	1.1 2.1 4.1 5.1 5.3.7	Rewritten Removed Chester, SC Rewritten Rewritten to include headers for each section Rewritten to include reference to ISO 9000