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MANAGEMENT SYSTEMS MANUAL

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PRESIDENT

Design and manufacture of aluminum electrolytic, film, and specialty high voltage capacitors for power supplies, motor drives, U.P.S., audio, telecom, photoflash and military applications.

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1.0 Scope (AS 9100B) (ISO 14001:2004)

Design and manufacturer of tantalum, aluminum electrolytic, film and specialty high voltage aluminum electrolytic capacitors for power supplies, motor drives, UPS, audio, telecom, photoflash, strobe and military applications; including the monitoring and control of emissions to air, discharge to water, waste disposal, and potential for accidental release or spills.

1.1 General (AS 9100B)

It is the policy of Cornell Dubilier to assign responsibility for quality to each employee. The company maintains an organizational structure for the administration of the management system, the maintenance of our management system manual, management system policies and management system procedures in an effort to enhance customer satisfaction.

1.2 Application (AS 9100B)

All AS9100B & ISO 14001:2004 elements are addressed in the Cornell Dubilier management system.

2.0 Normative reference - (AS 9100B) (ISO 14001:2004)

ISO 9001:2000, *Quality management systems*—Fundamentals and vocabulary.

3.0 Terms and definitions (AS 9100B) (ISO 14001:2004)

The terms and definitions given in ISO-9001:2000, AS9100B & ISO 14001:2004 apply.

► The term "Quality System" will be understood to include as appropriate all consideration and inclusion of the Environmental Management System ◄

► The term "Quality System" refers to the integrated system that includes the Quality Management and Environmental Management systems into a single Management System◄

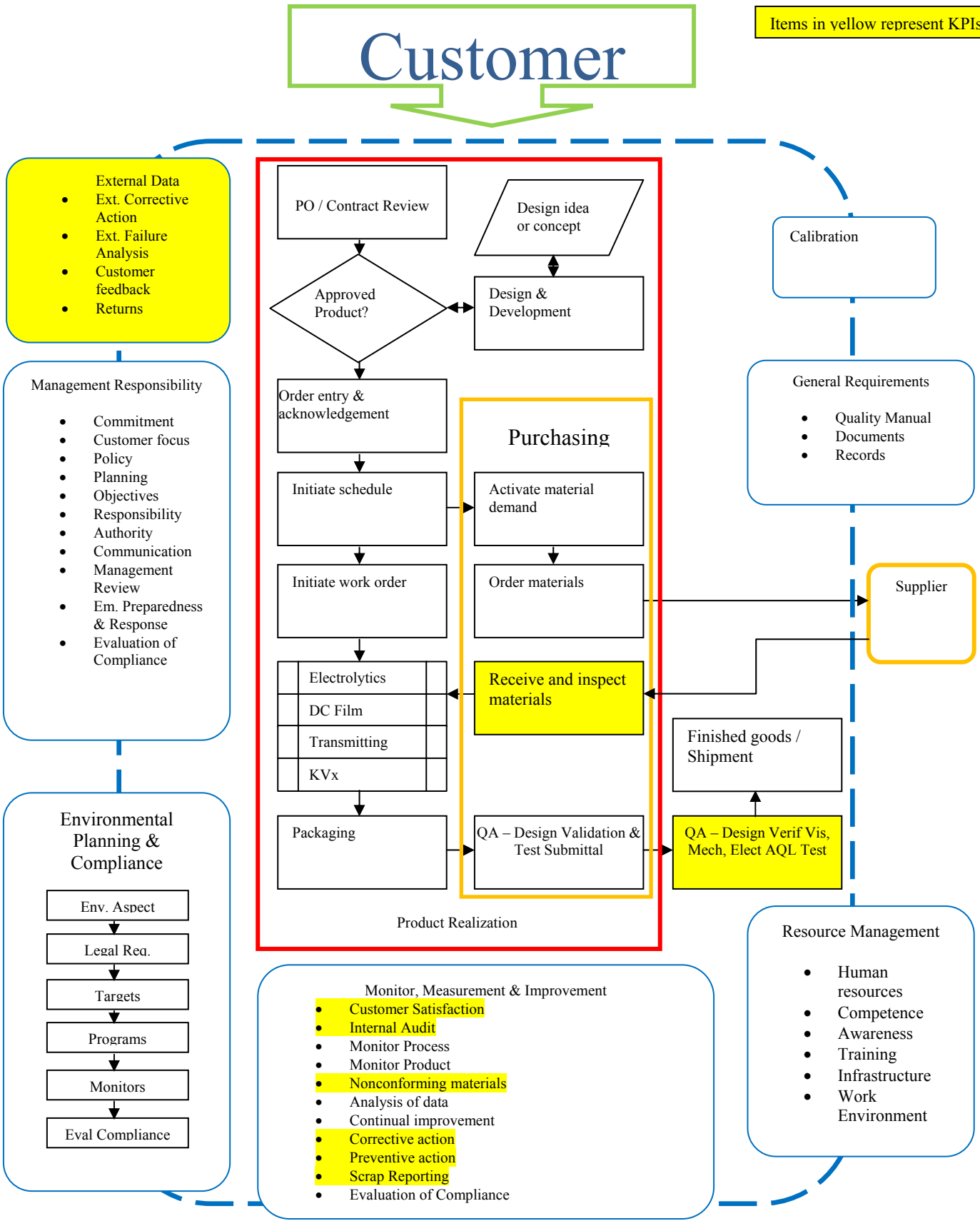
4.0 Management System (AS 9100B) (ISO 14001:2004)

Quality Management System – Home / *Environmental Management System - Home*

4.1 General Requirements (AS 9100B) (ISO 14001:2004)

Cornell Dubilier has established, documented, implemented and maintains the management system to meet the requirements of AS9100B. The system has been designed to allow Cornell Dubilier to meet the requirements of the customer and any regulatory authorities. See SYS-101 for details of the management system including: a) identify of the processes needed for the management system and their application throughout Cornell Dubilier, b) the sequences and interaction of the management system, c) the effective operation of the management system, d) the resources & information necessary to operate the management system, e) monitor and measurement of the management system, and f) the methods to continual improve the management system.

Items in yellow represent KPIs



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4.2 Documentation requirements (AS 9100B)

4.2 Environmental Policy (ISO 14001:2004)

Cornell Dubilier has established a Quality / Environmental Policy. Details of this policy are available in section 5.3.

The Quality/Environmental Policy has been established to fulfill the following requirements:

a) is appropriate to the nature, scale and environmental impacts of its activities, products and services,

b) includes a commitment to continual improvement and prevention of pollution,

c) includes a commitment to comply with applicable legal requirements and with other requirements to which the organization subscribes which relate to its environmental aspects,

d) environmental objectives and targets are established, assigned, and reviewed in the Management Review System. (see details in section 4.6)

e) is documented, implemented and maintained through the management system manual, management system procedures, and department/area procedures

f) Cornell Dubilier has a system (see SAF-027) to ensure that any person(s) performing potentially significantly impacting environmentally tasks for or on the behalf of Cornell Dubilier agree to the environmental compliance requirements of Cornell Dubilier. Records of the notification and understanding are maintained per the procedure.

g) is available to the public upon request at the Cornell Dubilier facility.

4.2.1 General (AS 9100B)

Cornell Dubilier maintains a formal documentation system in all areas of the management system. These documents are organized in a systematic, orderly and understandable manner in the form of policies and procedures. The multi-tier documentation system is organized in the following manner.

Level 1	Cornell Dubilier Management System Manual
Level 2	Management System Policies and Procedures
Level 3	Departmental Procedures (Work Instructions)
Level 4	Management System Records

a) Cornell Dubilier has a quality/environmental policy (see sect. 5.3) and has established quality & environmental objectives (see sect. 5.4.1)
b) Management System Manual (see title page)
c) Documented procedures required by AS9100B (see Management System Site)
d) A comprehensive explanation of documentation requirements is located in SYS-102.

e) A comprehensive explanation of records requirements is located in SYS-106.
f) Management System requirements imposed by applicable regulatory authorities have been implemented into the management system (see Management System Site)

- Cornell Dubilier provides personnel with access to the management system using computer terminals in the facility. Customers and/or regulatory authorities can obtain access to the management system under the direction of assigned facility personnel.

4.2.2 Management System Manual (AS 9100B)

This manual serves as an overview of the management system. It contains references to all other associated documents included in the system. The manual has been prepared in accordance with ISO-10013.

a) Scope of Registration to AS 9100B & ISO 14001:2004

Design and manufacture of aluminum electrolytic, film and specialty high voltage capacitors for power supplies, motor drives, U.P.S., audio, telecom, photoflash and military applications.

b) In addition to the management system manual, the management system contains documented procedures outlined in the following document structure illustration.

"M.E.R.I.T."
MANAGEMENT SYSTEM PHILOSOPHY

↓

MANAGEMENT SYSTEM MANUAL

↓

SYS-SERIES POLICIES & PROCEDURES
STAFF MANAGEMENT DOCUMENTATION USED TO IMPLEMENT THE MANAGEMENT SYSTEM

↓

DEPARTMENTAL PROCEDURES
DEPARTMENTAL DOCUMENTS USED TO MAINTAIN THE MANGEMENT SYSTEM

PRODUCTION PROCESSES	**SUPPORT DEPARTMENTS**
TRAINING & OPERATIONS PROCEDURES	TRAINING & OPERATIONS PROCEDURES

↓

RECORDS (4.2.4,4.5.4)
SYSTEM RESULTS

c) The management system is implemented and maintained as outlined in section 4.1.

4.2.3 Control of documents (AS 9100B)

Documents and data encompassed in the management system are controlled through established methods of document and data control. Management system documentation such as policies and procedures are controlled through the use of electronic distribution and/or red "controlled copy" and "uncontrolled copy" markings. Documentation creation and controlled distribution methods are documented and vary slightly from department to department.

a), **b)**, **c)**, **d)**, **e)**, & **g)** Each department / area of the management system has an individualized documentation control procedure. Although individualized for each department, these document control procedures meet the overall requirements listed in SYS-102.

All documentation and data control procedures encompass an approval requirement. Documented approval methods require a signature from the approval authority. Data and software are controlled through the MIS department (access codes) and the Electronics repair department. The electronics department controls the software used by the processing equipment by restricting user access. Modification tools and menu options are maintained by the electronics department and are separate from the equipment itself (portable PLC programmer, PC, etc.).

A comprehensive explanation of the document control system can be found in SYS-102.

f) All documentation of external origin are identified and any needed distribution is controlled (see QG-X151 & QG-X152)

The organization shall coordinate document changes with customers and/or regulatory authorities in accordance with contract or regulatory requirements.

4.2.4 Control of records (AS 9100B)

A records system encompassing appropriate testing and inspection data is used to improve quality and enhance traceability. These records are stored in appropriate places to ensure their protection. Management system records are kept on file for specified periods and are used to support the conformance of the product to specified requirements. These records also include records / data from our suppliers. Records are available for review by customers and regulatory authorities per the customer contract or regulatory requirements at Cornell Dubilier facility.

A comprehensive explanation of the management system records function can be found in SYS-106.

4.3 Configuration Management (AS 9100B)

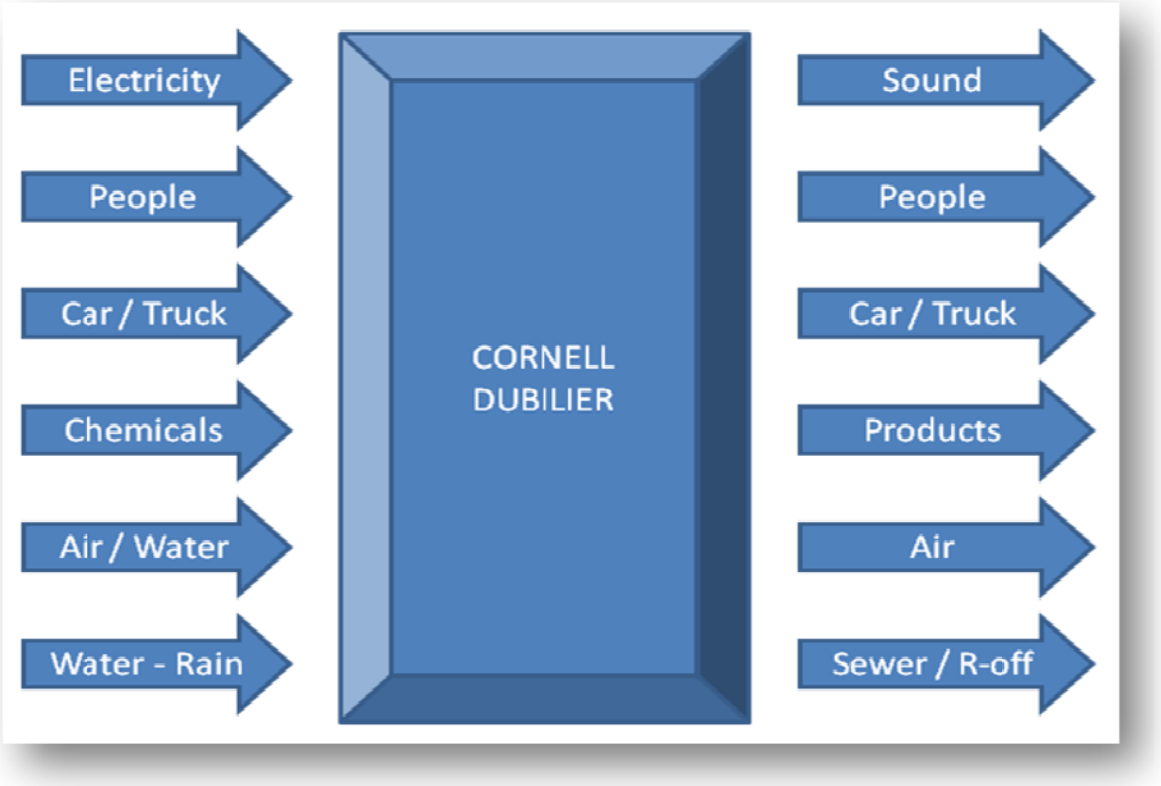
Configuration management for Cornell Dubilier is detailed in the design planning and development process (see SYS-107). The design and development process is detailed in section 7.3 of this manual.

4.3 Planning (ISO 14001:2004)

Title Only

4.3.1 Environmental aspects (ISO 14001:2004)

a) Cornell Dubilier identifies environmental aspects that can be controlled and influenced as an ongoing process of the management system. The identification of the aspects and impacts is conducted by identifying all inputs and outputs of the facility and grounds. An example is shown below. (see ENV-138 – Environmental Aspects & Impacts) The aspects are identified in the aspects intranet site.



b) Cornell Dubilier has determined environmental aspects are significant as a result of their actual potential to impact public health. The significant environmental aspects are identified in the (significant) aspects site.

- Cornell Dubilier has a documented procedure for environmental aspect and impact updating and maintenance. The environmental aspects are used for the continuing maintenance of the management system. (see ENV-138)

4.3.2 Legal and other requirements (ISO 14001:2004)

a) Cornell Dubilier has identified the legal requirements that are applicable to the identified evnvironmental aspects including, but not limited to:

- National and international legal requirements,
- State legal requirements,
- Local government legal requirements

- Other requirements that Cornell may subscribe to, if and when applicable, can include:
  - Agreements with customers,
  - Non-regulatory guidelines,
  - Voluntary principles or codes of practice,
  - Voluntary environmental labeling or product stewardship commitments, requiremens of trade associations
  - Agreements with community groups or non-governmental organizations, public commitments of Cornell Dubilier, or corporate/company requirements.

The legal requirements identified and used to monitor and report on the environmental aspects of the production processes are referenced in SYS-140.

b) Cornell Dubilier determines how legal and other requirements apply to the environmental aspects during the process of identifying the legal and other requirements applicable to the identified environemental aspects.

4.3.3 Objectives, targets and program(s) (ISO 14001:2004)

Environmental objectives and targets will be established and implemented through the use of the management review system (see sect. 5.6). Environmental objectives will be measurable, where practicable, consistent with the environmental policy and applicable legal requirements. **a)** The responsibility for achieving environmental objectives will be assigned by management (see 5.5.1 – Director of Quality) **b)** The means and time-frame for achieving environmental objectives will be established using the management review process (see SYS-115)

See section 5.4.1 for annual objectives.

4.4 Implementation and operation (ISO 14001:2004)

Title only

4.4.1 Resources, roles, responsibility and authority (ISO 14001:2004)

a) & **b)** Management has appointed a management representative (see 5.5.1 – Director of Quality) with the responsibilities for: establishment, implementation and maintainance of the management system; reporting to management on the performance of the management system

See Section 5.5.1.

4.4.2 Competence, training and awareness (ISO 14001:2004)

See Section 6.2.2

Environmental awareness training sessions are held for all employess on an annual basis. This training serves to provide employees with training needed to meet regulatory requirements. The annual training also provides the opportunity to inform personnel of

the environmental management system. Records of this training are kept on file by the human resources department. Environmental awareness training is designed to make Cornell Dubilier employees aware of:

a) the importance of conformity with the environmental policy and procedures and management system requirements
b) the significant environmental aspects (see section 4.3.1)and how personnel performance affect environmental impact
c) their roles and responsibilities in achieving conformity with the requirements of the environmental management system
d) the regulatory and/or legal potential consequences possible if the management system requirements are not met

See Environmental Awareness Training Site

Cornell Dubilier has a system to ensure that any contractor performing on-site tasks that have the potential to cause significant environmental impacts (air, water, hazmat – see section 4.3.1 b) will be provided with adequate information to comply with management system requirements. (see SAF-027 section 12.5)

4.4.3 Communication (ISO 14001:2004)

With regard to environmental aspects and environmental management, Cornell Dubilier has established, implemented and maintained the following;

a) internal communication among the various levels and functions of the organization is established (see section 5.5.3)

b) Cornell Dubilier does not communicate externally about its environmental aspects other than those required by regulatory agencies[1]. Should there be inquiries for environmental aspect communications from external parties, the requests shall be forwarded to the Environmental Manager (See Section 5.5.3 for responsibility assignments) who will receive, document and (if relevant) respond to the request(s). (see SYS-101)

- [1]Regulatory reporting requirements are defined in the corresponding procedures (see SYS-116 & ENV-series)

4.4.4 Documentation (ISO 14001:2004)

Management system documentation shall include:

a) environmental policy (see section 5.3)
b) environmental management system scope (see section 1)

c) main elements of the management (environmental) system (see ENV-series, Management System Manual)
d) documents required by ISO 14001:2004
e) documents required for an effective management system (SYS-series, ENV-series, departmental procedures)

4.4.5 Control of Documents (ISO 14001:2004)

a), **b)**, **c)**, **d)**, & **e)** See section 4.2.3.

See ENV-101 for environmental policy and procedure documentation.

4.4.6 Operational Control (ISO 14001:2004)

The management system has identified the operations associated with the significant environmental aspects. To ensure these operations are carried out under required conditions, by:

a) Documented procedures are in place to eliminate deviation from environmental policy, such as
- Handling of waste materials not identified by a waste stream. (see ENV-140)
- Procedures: Handling of non-specified waste (see ENV-142), Air Permit & Water Permit (see ENV-135)

b) Operating criteria – Handling of non-specified waste (see ENV-142), Air Permit & Water Permit (see ENV-135)
c) Significant environmental aspects identified and procedures established, documentend and maintained. Cornell Dubilier will not communicate externally about its significant environmental aspects other than those required by regulatory agencies (documented in related procedures ENV-series).

4.4.7 Emergency preparedness and response (ISO 14001:2004)

Policies and procedures have been established, implemented and are maintained to identify and react to emergency situations that may have an impact on the environment. The documentation includes emergency response plans. Cornell Dubilier periodically reviews and when necessary makes revisions to the emergency procedures (see SAF-004)

See Safety Site for details and links to safety and emergency response procedure details.

4.5 Checking (ISO 14001:2004)

Title only

4.5.1 Monitoring and measurement (ISO 14001:2004)

Monitoring and measurement of the reportable characteristics of the significant environmental aspects are documented (see section 4.3.1 b for details and links). When applicable, only calibrated equipment is used for monitoring and measurement requirements (see section 7.6).

4.5.2 Evaluation of compliance (ISO 14001:2004)

Title only

4.5.2.1 (ISO 14001:2004)& **4.5.2.2** (ISO 14001:2004)

Cornell Dubilier uses the internal audit system (see SYS-103) for periodically evaluating compliance with applicable legal requirements and when applicable, other subscribed requirements. Regulatory/legal compliance audit is included in SYS-103.14. Records of the internal audits are maintained per the requirements of section 4.5.4.

Records of compliance evaluation are retained per retention requirements (see section 4.2.4)

4.5.3 Nonconformity, corrective action and preventive action (ISO 14001:2004)

a), **b)**, **c)**, **d)** & **e)** Cornell Dubilier has established, implemented and maintains procedures for dealing with actual and/or potential nonconformance issues. Management system nonconformance issues are handled using the corrective action system (see section 8.5.2). Identified management system issues that may have the potential to cause management system noncompliance issues are handled through the preventive action system (see section 8.5.3).

4.5.4 Control of records (ISO 14001:2004)

See section 4.2.4

4.5.5 Internal audit (ISO 14001:2004)

The management system internal audit sytem is designed to:

a) Determine whether the management system conforms to Cornell Dubilier reguirements and the requirements of ISO 14001:2004, AS9100B and is being maintained
b) The results of the audit system are provided to management

See section 8.2.2 and SYS-103 for further details of the management system compliance audits

4.6 Management review (ISO 14001:2004)

The management review system is explained beginning at section 5.6 of this manual. In addition, the management review system shall include reviews of:

a) Internal audit results and compliance with legal requirements
b) Communications from external parties (customer, regulatory, etc.)
c) Management system performance
d) Review of environmental objectives from previous review sessions
e) Corrective and preventive action status, internal and external requests
f) Follow-up from previous management reviews

g) Addition of or revisions to legal and/or regulatory requirements
h) Recommendations for improvement of the management system

Management reviews are conducted in order to ensure the continuing suitability, adequacy and effectiveness of the environmental system. The management review system allows management to ensure the established system is appropriately documented, implemented throughout the organization, maintained and continuously improved.

Management Review site

5.0 Management responsibility (AS 9100B)

The executive management of Cornell Dubilier has adopted a quality/environmental policy to define the company's commitment to and responsibility for quality/environmental management. Management responsibilities are defined in section 5.5.1.

5.1 Management commitment (AS 9100B)

a) Cornell Dubilier executive management recognizes the importance of meeting customer, regulatory and statutory requirements and communicates these considerations throughout the management system.

See SYS-122 for an explanation of how Cornell Dubilier meets the customer requirements

b) Cornell is committed to a quality driven system and these expectations are communicated through the management policy (see section 5.2)

See SYS-101 for further explanation of the Cornell Dubilier Quality & Environmental Policy

c) Along with the objectives of customer satisfactions through the implementation and maintenance of an effective management system, Cornell also maintains broader annual objectives (see section 5.4.1).

d) The effectiveness and review of the management system is evaluated through management reviews.

See SYS-115 for the explanation of the Cornell Dubilier management review policy

e) Executive management understands that resources are a key element in completing respective tasks in an efficient, timely, and quality fashion. Therefore, the General Manager constantly meets with each staff manager to discuss among other things, resource needs. If such needs arise, each manager has the freedom to request any need resource.

5.2 Customer focus (AS 9100B)

Cornell Dubilier's sales / customer service function provides documented methods of contract review and sales order processing. All customer orders are reviewed for accuracy and acceptability of conditions prior to confirmation. These functions include, but are not limited to:

- Quality Requirements
- Price
- Delivery
- Terms and Conditions

A comprehensive explanation of the sales / customer service operations can be found in the CSS series procedures. SYS-122 contains an overview of the Customer Service Department functions.

See 7.2.1 & 8.2.1

5.3 Quality & Environmental Policy (AS 9100B) (ISO 14001:2004 section 4.2)

a) The executive management of Cornell Dubilier has adopted a quality and environmental policy.

MERIT

MEET EVERY REQUIREMENT IN TIME

b) **R**equirement refers to commitment to, but is not limited to:

Maintain compliance with legal and contractual requirements

Environmental stewardship

Represent products that exceed market expectations

Instill continuous improvement

Total customer satisfaction

c) The system framework stimulates the establishment and review of quality and environmental objectives. (see SYS-115)

d) The quality & environmental policy in communicated throughout the organization to ensure awareness. (see SYS-118)

e) As part of the management review system, the quality and environmental policy is reviewed for continuing suitability.

5.4 Planning (AS 9100B)

Title only

5.4.1 Quality objectives (AS 9100B)

- Company Growth

- 100% Customer Satisfaction
- Product Leadership
- Receive Defect Free Raw Materials
- Prevent Waste
- Produce Zero Defect Products
- Receive Zero Corrective Action Requests
- Receive Zero Customer Returns Requests
- Create Zero Scrap

ANNUAL OBJECTIVE(S)

These objectives are encompassed in several aspects of the system. Some objectives are short term and repeated many times within everyday tasks and other are more generalized, annualized or department specific target objectives. These include but are not limited to:

- Annual Objectives
- Processing Objectives
- Design Objectives
- Maintenance Objectives
- Economic Objectives
- Product Objectives

The 2011 fiscal year (Sept. - Aug) quality objectives include, but are not limited to the following.

1	Implement 5S in all areas of line 86
2	Automate final test & sleeving on line 86
3	Create work cells for welding/impregnate/spin on line 86 with all cells sharing the same equipment (eliminate equipment variation
4	Reduce lead time (winding to packing) to less than a 5-day average by July 1, 2011.
5	By year end (calendar 2011) have a final 3-month scrap average below 3%. (including winding, slitting & process scrap)
6	Eliminate 50% of our metal suppliers and 50% of our chemical suppliers
7	By year end (calendar 2011) have an on-time delivery average better than 95%.
8	Layout film line to handle 4000 units per week and improve flow
9	Recycle scrap EG capacitors

See SYS-105, SYS-107, SYS-111 & SYS-115.

See Section 7.1

5.4.2 Management system planning (AS 9100B)

a) Management system planning ensures the conformance of products and processes to expectations for the present and future. The management system planning functions of Cornell Dubilier includes the annual company / quality objectives, new product and process planning and development, and the review / improvement of management system requirements and documentation. (see section 4.1)

b) A comprehensive explanation of the management system planning function can be found in SYS-105, SYS-107, SYS-111 & SYS-115.

5.5 Responsibility, authority and communication (AS 9100B)

Title only

5.5.1 Responsibility, and authority (AS 9100B)

The General Manager assigns the respective duties and responsibilities for each of the staff managers. These duties and responsibilities are listed in the appropriate systems procedures (SYS- series) in addition to the following.

General Manager

The General Manager is responsible for:

- all of the staff manager's actions
- ensuring all respective responsibilities and duties assigned to the staff managers are carried out to their fullest
- striving to lower costs, ensure quality, and provide an outstanding level of service, second to none, to Cornell Dubilier's customers
- ensuring the entire management group is working well as a team and communicates well with each other.
- providing adequate resources to each department.
- understanding each department's problems, concerns, deficiencies, and needs while providing the resources and support to eliminate them
- understanding the individual manager's shortcomings and provide support to improve them
- periodically reviewing the quality system and its elements and ensuring consistency with continuous improvement

- plant services (the maintenance department supervisor reports directly to the General Manager)
- the maintenance department is responsible for maintaining a preventive maintenance plan and all related duties
- appointing a member of management who shall have responsibility and authority of the quality management system.
- ensure communication within the management system regarding the system effectiveness (see section 5.5.3)

Materials Manager

The Materials Manager is responsible for:

- purchasing, shipping and receiving functions.
  - Purchasing functions include not only buying material but also scheduling materials to the manufacturing lines on time, maintaining the MRP program to meet the changing demands and negotiating all material pricing.
  - Shipping responsibilities include maintaining timely shipping methods and records
  - All personnel within these areas / departments will report directly to the Materials Manager
  - The Materials Manager is responsible for the actions of all employees working within these departments.
- incorporating the receipt of material, stockroom maintenance, maintaining proper stock levels (safety stock, etc.)
- maintaining accurate computer inventory records.
- correcting all non-conforming material and consequently providing high quality vendors and material.
- the formulation and implementation of corrective measures (to be completed by the material manager with the assistance of the quality department).
- training requirements and other applicable information related to training to be provided by the human resources department.

Human Resources Manager

The Human Resources Manager is responsible for:

- all personnel issues including hiring, terminating, training, and maintaining personnel policies and procedures.
- communicating well with all managers / supervisors so to provide adequately trained employees.
- all safety issues, especially preventative injury programs.

- the maintenance and records associated with personnel records, salaries and training records.

Director of Quality

The Director of Quality is responsible for:

- the overall quality of the product throughout its life span (design stage through application)
- the following areas / departments: Regulatory Affairs, Chemical Laboratory, Environmental Laboratory, Incoming Inspection, Quality Assurance, and the Calibration Laboratory
- for providing quality related requirements to the appropriate managers in all areas of the quality system (training, production, quality system elements, purchasing, sales / marketing, engineering, etc.)
- maintaining and improving quality in all areas of the quality system
- understanding all steps of the product life span and supplement the corrective action implementation process
- receipt and response for all environmentally related issues
- water treatment and waste water
- ensuring the processes needed for the management system are established, implemented and maintained (see ISO 9001:2000 sect. 5.5.2 a, AS 9100B sect. 5.5.2 a & ISO 14001:2004 sect. 4.4.1)
- reporting to the top management (General Manager) on the performance of the management system and any recommendations for improvement (see AS 9100 B section 5.5.2 b) (see ISO 14001:2004 section 4.4.1 b)
- ensuring the promotion of awareness of customer requirements throughout Cornell Dubilier (see AS 9100 B section 5.5.2 c)
- being a liaison with external parties on matters relating to the management system (see AS 9100 B section 5.5.2 d)
- notify customers, in a timely manner, of any delivered nonconforming product that may affect the reliability or the safe use of the product. (AS 9100B section 8.3)
- ensuring the management system is established, implemented and maintained (ISO 14001:2004 section 4.4.1 a)
- communicate with external interested parties about environmental aspects as appropriate

Marketing Manager

The Marketing Manager is responsible for:

- managing and overseeing the training functions of the inside sales / customer service personnel

- managing the day to day quotation activity and should be aware of all major quotations and accounts (> $25,000 annual usage)
- knowing all the key accounts (> $50,000 annual sales)
- knowing all rep. firms and the personnel at these firms
- governing the overall marketing strategy and planning
- the formulation and implementation of corrective measures (with assistance from the quality department)

See SYS-122 for further explanation

General Accounting Manager

The General Accounting Manager is responsible for:

- all aspects of financial and cost accounting
- budget planning and implementation
- preparation and analysis of
  - income, expense, and inventory statements
  - bookings and backlog reports
  - inventory reconciliation
  - various other internal reporting tools
- physical inventory coordination
- supervision of
  - Accounts Payable
  - Payroll Department

Product Manager

The Product Manager is responsible for:

- all new product development and marketing.
- Finding new opportunities for products Cornell Dubilier currently does not make but would like to develop
- Working with potential customers to initiate interest in new product proposals
  - When a new opportunity presents itself, the DOT will work with engineering to develop the product, aid in manufacturing samples, and provide the customer with the samples of the new product design.
  - developing the overall marketing strategy for the new designs and selling the new product
  - Once the product is no longer considered “new” (established usage and application), it is released to the general marketing area.

Engineering Manager

The Engineering Manager is responsible for:

- all engineering functions including: process, application, industrial, and design engineering
- specifications, bill of material, bill of operation and other related specs or files and the changes made to them
- supervising the functions of improving the process and product designs to improve the final product
- the formulation and implementation of corrective measures (with assistance from the Quality department)
- providing guidelines and acceptance criteria for new equipment and processes

Manufacturing Manager

The Manufacturing Manager is responsible for:

- management of mica and electrolytic manufacturing
  - process control
  - production control
- determining line capacities
- scheduling work to the production lines
- the general production of parts prior to QA
- ensuring the product is delivered on time with the highest quality of workmanship
- constant striving to produce the product quicker and cheaper while improving quality
- planning all growth and ensuring that proper equipment is in place for production increases and new product releases
- the formulation and implementation of corrective measures (with assistance from the Quality department)
- ensuring the machine shop and electronics shop maintain appropriate service to the production department and other applicable departments

5.5.2 Management representative (AS 9100B)

The prime responsibility for product quality and the company's management system rests with the General Manager (GM). The GM has defined the management system, quality/environmental policy, quality/environmental objectives and presides over the management system.

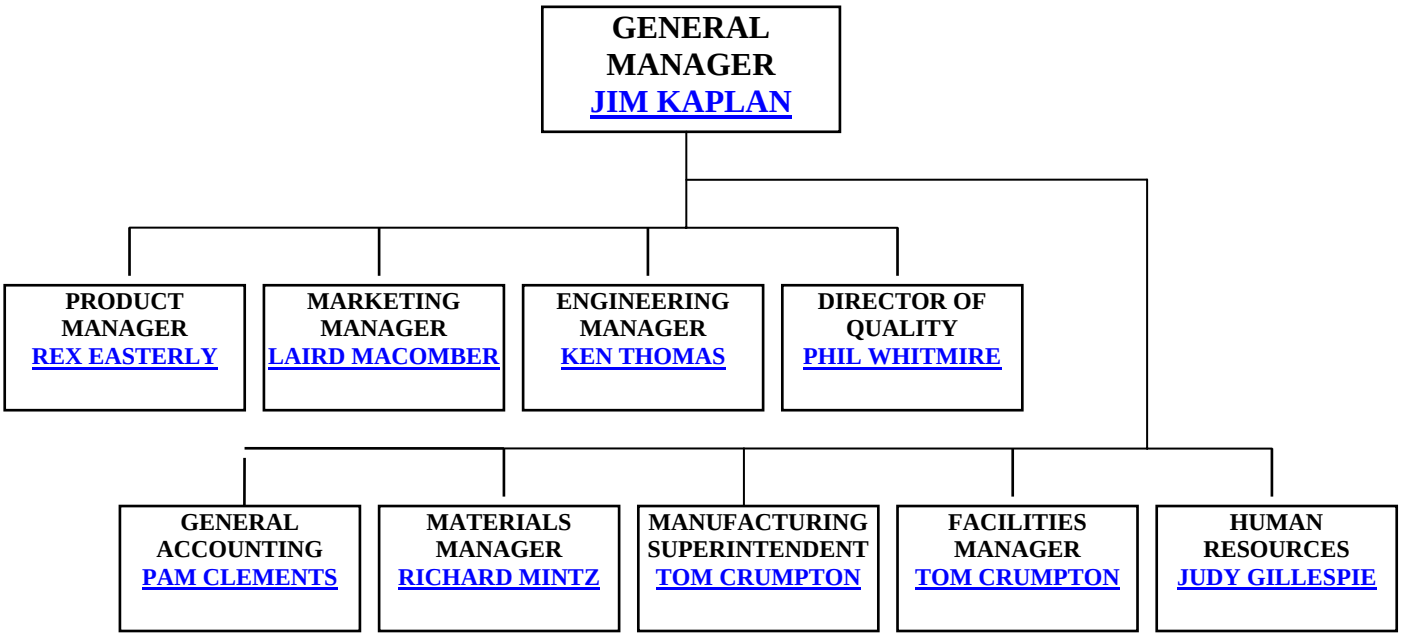
- a) The responsibility for establishing, implementing and maintaining the processes needed for the management system is assigned to the Director of Quality (DOQ). The

DOQ will ensure that the management system policies and procedures are fully implemented and consistent with the quality/environmental policy of Cornell Dubilier.

- b) The DOQ will advise the President and CEO on all matters pertaining to quality and the management system and will report periodically on all requirements for attaining and continuing certification under American Society of Quality Control's American National Standard.
- c) The DOQ will also ensure that the importance of meeting customer requirements and customer satisfaction are communicated throughout Cornell Dubilier.
- d) The DOQ has the organizational freedom, including unrestricted access to the President and CEO, to resolve matters pertaining to quality.
- NOTE: The DOQ has the responsibility and authority to act as a liaison with outside parties on matters relating the the management system
- Report to the top management (General Manager) on the performance of the management system and any recommendations for improvement (see AS 9100 B section 5.5.2 b) (see ISO 14001:2004 section 4.4.1 b)
- Ensure the management system is established, implemented and maintained (ISO 14001:2004 section 4.4.1 a)
- Communicate with external interested parties about environmental aspects as appropriate

5.5.2.1 Organizational Chart (AS 9100B – n/a)

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5.5.3 Internal communication (AS 9100B)

Communication tools and freedoms to communicate throughout the various areas of the system are required by executive management. Executive management will provide the necessary resources to ensure that an open line of communication is maintained internally and externally. (see section 5.5.1 – General Manager) (see SYS-101)

5.6 Management Review (AS 9100B)

Title only

5.6.1 General (AS 9100B)

A periodic review of the management system is encompassed by the General Manager, Director of Quality, and other personnel as necessary to ensure the system's stability and effectiveness.

A comprehensive explanation of the records information is located in SYS-115.

5.6.2 Review Input (AS 9100B)

The management review encompasses system elements that include, but are not limited to:

a) Internal Audits results

b) Customer feedback – customer returns, nonconforming materials data, customer ratings

c) process performance and product conformity – customer returns, nonconforming materials data (vendor corrective actions), quality cost considerations, customer ratings

d) preventive and corrective actions status

e) follow-up actions from previous reviews

f) changes that may affect the management system

g) recommendations for improvement

Further details (review schedule and procedures) can be found in the quality system policies and procedures documentation SYS-115.

5.6.3 Review output (AS 9100B)

A comprehensive explanation of management review input can be found in SYS-115

a) The conclusions of each management review are documented and maintained. This record includes the raw data, review participants, action items and action item follow-ups.

b) Product improvements based on the management review input information, including customer requirements, shall be implemented.

c) The resources needed to implement management review output actions are the responsibility of the General Manager.

6.0 Resource management (AS 9100B)

Title only

6.1 Provision of resources (AS 9100B)

12.□.□ & **b)** Cornell Dubilier is committed to providing the resources (time, personnel, materials, and resources) needed to implement and maintain the management system, continually improve its effectiveness, and enhance customer satisfaction by meeting customer requirements. Cornell Dubilier management is committed to providing the resources needed to carry out all assigned objectives and responsibilities. These resources will be governed by the General Manager, who will ensure the availability to all departments.

These resources include, but are not limited to the following:

- Company policies (quality system manual)
- Adequate annual department budgets
- Manufacturing and testing equipment and maintenance
- Specialized personnel
- Company / Quality / Environmental objectives
- Design and development equipment
- Computer and MIS support

The General Manager spends a large portion of his time speaking with managers, one on one. This allows him to keep up to date on their projects, what their needs are and the general state of their department. He is also actively involved with inside sales people, our regional sales people, our representatives, and our customers. This provides an indication of how we are performing. He then considers all these things to determine the adequate resources, whether it is people, capital, or systems.

6.2 Human resources (AS 9100B)

Title only

6.2.1 General (AS 9100B)

Personnel for each respective position are selected based on the appropriate education, training, skills and experience. These attributes determine personnel competence.

See SYS-118

6.2.2 Competence, awareness and training (AS 9100B)

a), **b)**, **c)**, **d)** & **e) –** Documented methods and records for employee training are used in applicable areas of the company. The training needs and activities associated with this training are defined, reviewed and implemented when changes affect these positions.

A comprehensive explanation of the training function can be found in SYS-118.

For records information see SYS-118 & HR-104.

6.3 Infrastructure (AS 9100B)

Cornell Dubilier management has the responsibility for the infrastructure necessary to maintain the management system and to provide the means of product requirements. Infrastructure includes the following:

a) Buildings, workspace & associated utilities

b) Process equipment

c) Support services

A comprehensive explanation of the infrastructure and process control functions can be found in SYS-110.

Production process planning and scheduling functions answer adequate process timing and control. Documented process control procedures ensure product conformity and quality.

Controlled conditions include, but are not limited to the following:

- Documented manufacturing procedures
- Use of suitable (approved) production equipment
- Compliance to reference standards, plans, or quality requirements
- Monitoring and control of suitable process parameters and product characteristics
- Approval of new processes and equipment
- Criteria for workmanship, stipulated clearly and practically
- Suitable maintenance of production equipment

All processes can be verified by testing and / or inspection, therefore special processes and processing personnel are not applicable to our manufacturing system.

6.4 Work environment (AS 9100B)

A comprehensive explanation of the work environment can be found in SYS-110.

NOTE: If conditions (work environment) are not stated, the conditions are considered as being standard climate for the facility. (This includes temperature, humidity, lighting, cleanliness, electrostatic discharge protection, etc.)

7.0 Product realization (AS 9100B)

Title only

7.1 Planning of product realization (AS 9100B)

a), **b)**, **c)** & **d)** Planning and product realization includes the conformance of products and processes to expectations for the present and future. The planning and product realization functions of Cornell Dubilier include the annual company / quality / environmental objectives, new product and process planning and realization, and the review / improvement of management system requirements and documentation.

- An explanation of the management system (economic) planning functions and records information can be found in SYS-105.
- An explanation of new product design functions and records information can be found in SYS-107.
- An explanation of the process change, material change, new process or equipment, and new materials functions and records can be found in SYS-111. Records information can be found in TPE, MFX and ESP series procedures.
- An explanation of the Management Review process and records information can be found in SYS-115.
- An explanation of the Process Control can be found in SYS-110. Records information can be found in the MFE & TPE series procedures, and ESP-114.
- An explanation of the Inspection and Test Requirements can be found in SYS-112. Records information can be found in the MFE, TPE, QI, & QA series procedures.

12.□.□ the identification of resources including APPS engineering program (see SYS-107) , Customer Service functions (CSS-series) & website, to support operation and maintenance of the product

7.2 Customer-related processes (AS 9100B)

Title only

7.2.1 Determination of requirements related to the product (AS 9100B)

a) requirements specified by the customer, including the requirements for delivery and post-delivery activities, are addressed in the contract review process (see SYS-122). Post delivery activities include RMAs, failure analysis, and if requested, disposal support.
b) Any requirements not specified by the customer but deemed necessary for the intended use of the product are handled during the contract review process (see SYS-122)
c) Any regulatory or legal requirements pertaining to the product will be resolved before the contract is accepted per the contract review process (see SYS-122)
d) All requirements relating to the product such as customer requirements, etc., are determined and addressed during the contract review process (see SYS-122 – contract review) (see SYS-107 – design and development)

- The quality, engineering, and manufacturing departments are encompassed in the review procedure when necessary (when nonstandard requirements are requested). Each respective

department shall sign and date the document as proof of review (customer prints are handled through ESP-108).

7.2.2 Review of requirements related to the product (AS 9100B)

Each customer order is reviewed for product type, price, and delivery requirements initially. After these items are deemed acceptable, the order is reviewed for quality requirements and other terms and conditions. Design input requirements related to the proposed product, begins with the customer. The design input requirements are documented then reviewed for accuracy. Incomplete, ambiguous or conflicting requirements are resolved prior to design release.

a) If the order contains requirements that are not considered standard, then the requirements are forwarded to the appropriate areas. Nonstandard quality requirements as specifically stated are approved by the Director of Quality. Product enhancement or other special requirements for product operation are forwarded to the Engineering department for approval. Any differences between the contract and Cornell Dubilier's ability to meet the requirement are resolved prior to order confirmation.

b) If the order contains requirements that are not considered standard, then the requirements are forwarded to the appropriate areas. Nonstandard quality requirements as specifically stated are approved by the Director of Quality. Product enhancement or other special requirements for product operation are forwarded to the Engineering department for approval. Any differences between the contract and Cornell Dubilier's ability to meet the requirement are resolved prior to order confirmation.

c) Contractual changes are documented and approved by the customer and appropriate Cornell Dubilier personnel. These changes remain on record with the original contract.

d) Design input requirements will be evaluated with considerations of any risks of the design

All contracts, amendment documents, and confirmation documentation are retained on file as Quality Records. These documents remain on file for a specified period of time.

A comprehensive explanation for reviewing the requirements related to the product realization functions can be found in SYS-122.

See the CSS-series procedures for a comprehensive explanation of the Contract Review policies.

7.2.3 Customer communication (AS 9100B)

a) Product information is available via the company website (www.cde.com) including an online catalog, applications guides, engineering technical papers and life/temperature calculators.

b) If the order contains requirements that are not considered standard, then the requirements are forwarded to the appropriate areas. Nonstandard quality requirements as specifically stated are approved by the Director of Quality. Product enhancement or other special requirements for product operation are forwarded to the Engineering department for approval. Any differences between the contract and Cornell Dubilier's ability to meet the requirement(s) are resolved prior to order confirmation.

c) A customer feedback intranet site allows entry of feedback information from customers and comments from interested parties such as website visitors. The site is designed as a gathering point for customer feedback data and another tool for management to evaluate the management system. (see customer feedback site & CSS-107)

A comprehensive explanation for reviewing the requirements related to product realization functions can be found in SYS-122.

7.3 Design and development (AS 9100B)

Title only

7.3.1 Design and development planning (AS 9100B)

Design planning and assessment activities are completed on a periodic basis. The assessment activities are primary functions of the Marketing department. These assessments are then proposed to the design control team for further assessment. The design and development activities are then assigned and documented by management. Progress and design planning activities are updated as the design evolves.

Activities and interface between the different groups working on the product design are documented throughout the design evolution.

A comprehensive explanation of the design and development function can be found in SYS-107.

7.3.2 Design and development inputs (AS 9100B)

Design and development inputs include but are not limited to:

a) functional and performance requirements

b) statutory and regulatory requirements

c) information derived from previous similar designs (where applicable)

d) any requirements essential for design and development

Design and development input requirements related to the proposed product, begins with the customer. The design input requirements are documented then reviewed for accuracy. Incomplete, ambiguous or conflicting requirements are resolved prior to design release.

A comprehensive explanation of the design and development function can be found in SYS-107.

7.3.3 Design and development outputs (AS 9100B)

Design outputs or product performance data is documented and verified against the design input requirements.

This function includes, but is not limited to the following aspects:The design meets specified electrical and mechanical requirements

a), **b)**, **c)**, **d)** The design meets documented quality acceptance requirements. Specify the characteristics of the product that are essential for its safe and proper use.

e) identify key characteristics, when applicable, in accordance with design or contract requirements. All pertinent data required to allow the product to be identified, manufactured, inspected, used and maintained shall be defined by the organization; for example: - drawings, part lists, specifications; - a listing of those drawings, part lists, and spectifications necessary to define the configuration and the design features of the product; - information on material, processes, type of manufacturing and assembly of the product necessary to ensure the conformity of the product.

A comprehensive explanation of the design and development function can be found in SYS-107.

7.3.4 Design and development review (AS 9100B)

a), b) Documented, formal reviews of current design data are encompassed at the appropriate stages of design and development processes to evaluate the ability of the design to meet requirements, identify any problems with the design, and propose any necessary corrective action(s). This data is reviewed by all personnel associated with the respective design function. When applicable, specialists or other personnel are involved in the design review process.

c) The design and development process includes provisions that authorize the progression of the development stages.

A comprehensive explanation of the design and development function can be found in SYS-107.

7.3.5 Design and development verification (AS 9100B)

At the appropriate stage of the design, development process the design progress will be reviewed and compared with the design expectations. Management over the design control function shall make the appropriate alterations to the design plan and determine the design validation requirements. All above functions are documented and retained as part to the design record.

A comprehensive explanation of the design and development function can be found in SYS-107.

7.3.6 Design and development validation (AS 9100B)

Final design and development validation testing and examination are conducted to ensure the product is capable of meeting the requirements for the specified or intended use (where known). Results are documented and carried out after the production of the new design. Where practicable, validation shall be completed prior to the deliver or implementation of the product.

a) Design validation methods may include; life testing (application under normal defined conditions), application testing under worst-case conditions, and application testing for various intended uses. The design validation conditions and data is documented and reviewed by the design control team.

After the design development activities produce an approved product, the new product is released for sale and production.

A comprehensive explanation of the design and development function and records can be found in SYS-107.

7.3.6.1 Documentation of Design and/or Development Verification and Validation (AS9100B)

If the samples are going to be sent outside the facility (to a customer, representative or anyone), the samples along with the final electrical and mechanical parameters must be forwarded to QA for verification. A samples declaration letter will be included by QA.

The samples may be shipped or used by engineering as they see fit. However, if at a later date, the need arises to send some of these samples out of the facility, they must be verified as per the above described QA verification. The cpno file must remain flagged to prevent sales from entering orders for the product.

A comprehensive explanation of the design overview can be found in ESP-125.

7.3.6.2 Design and/or Development Verification and Validation Testing (AS9100B)

Product design and development verification regardless of any other factor(s), is encompassed on all products shipped. The routing and approval for various possibilities including records for the progress and outcomes are detailed in ESP-125.

Depending on the design project (new product or new configuration), design validation is encompassed by the use of existing data or function product testing. Justification that the product will meet the expected and documented requirements is determined by the presence or lack of applicable data and nothing else. The design validation data must be present as objective evidence the design will work for the intended end user. The validation process and records system is further defined in ESP-125.

a) test plans
b) test procedures
c) configuration std
d) test plan
e) acceptance

7.3.7 Control of design and development changes (AS 9100B)

A documented method of design and development change is used by the Engineering department at Cornell Dubilier.

The design and development change function includes, but are not limited to the following items:

- design change revision history
- design change approval
- review of requirements

A comprehensive explanation of the design and development function and records can be found in SYS-107.

7.4 Purchasing (AS 9100B)

Title only

7.4.1 Purchasing process (AS 9100B)

Purchasing department methods are governed by documented procedures to ensure quality, accuracy, and approval. Purchase orders and handling methods ensure that the purchased product conforms to the specified requirements.

Suppliers are evaluated and chosen in accordance with written requirements. Each supplier is evaluated periodically to ensure their ability to meet contract requirements and specific quality assurance requirements. Vendors who are able to provide sufficient services to Cornell Dubilier are added to the approved vendor listing.

A comprehensive explanation of the purchasing control system can be found in SYS-108.

a) Maintain a register of approved suppliers that includes the scope of the approval;

b) Periodically review supplier performance; records of these reviews shall be used as a basis for establishing the level of controls to be implemented;

c) Define the necessary actions to take when dealing with suppliers that do not meet requirements;

d) Ensure where required that both the organization and all suppliers use customer-approved special process sources;

e) Ensure that the function having responsibility for approving supplier management systems has the authority to disapprove the use of sources.

7.4.2 Purchasing information (AS 9100B)

Documented purchasing procedures require all purchase orders to contain specific information prior to their release.

The information required includes, but is not limited to the following:

a) Requirements for approval of purchased product

b) Requirements for qualification of personnel

c) Requirements of established purchase order (product type, class, etc.)

d) The title or other positive identification, and applicable issues of specifications, drawings, PO requirements, inspection instructions, and other relevant technical data.

e) The incoming inspection (quality department) verifies all materials / products that are incorporated into the product or directly affect the quality of the product (see SYS-108)

f) Requirements for product samples

g) Supplier notification in the event of nonconformance

h) Requirements of the supplier for notification of changes in purchased product

i) Requirements for right to audit supplier facility

j) Flow down requirements to any sub-tier supplier when/if applicable

- A comprehensive explanation of the purchasing control system can be found in SYS-108.

7.4.3 Verification of purchased product (AS 9100B)

c), **d)** & **e)** All purchased product is verified, including a review of any required documentation, by the incoming inspection department at Cornell Dubilier and not delegated to the supplier. **B)** Where specified in the contract, Cornell Dubilier representatives shall be afforded the right to perform inspections and audits at the subcontractor's premises and the supplier's premises that subcontracted product conform to specified requirements. **A)** Supplier data and or C of C or C of A are required of most suppliers to support the methods at incoming inspection.

- Documented procedures, record keeping and storage methods are employed for the receipt of all materials used in the final product and directly affecting the quality of the product.
- When specified in the contract, the customer shall have the right to verify, at Cornell Dubilier or a Cornell Dubilier's supplier, the conformance of supplied products. Any request for such verification must be prearranged through Cornell Dubilier and will be subject to scheduling availability.
- Cornell Dubilier verifies all product on-site and does not use customer verification practices as any measure of quality. Details of Inspection & Test Requirements are outlined in SYS-112.
- Cornell Dubilier maintains a three tier system to manage age controlled materials. Incoming inspection personnel are responsible for identifying age controlled materials and conducting a monthly audit of age controlled materials (see QI-X217). Receiving personnel are responsible for verifying materials are not beyond the expiration date when issuing materials. Receiving personnel are also responsible for checking date control materials during cycle counts as an additional check for age controlled materials (see REC-107)

7.5 Production and service provision (AS 9100B)

Title only

7.5.1 Control of production and service provision (AS 9100B)

Documented production control and service provision procedures ensure product conformity and quality.

Control of production and service provisions include, but are not limited to the following:

a) product characteristic information (if applicable)

b) documented manufacturing procedures (TP*- series procedures)

c) use and maintenance of suitable (approved) production equipment

d) availability of monitoring and measuring devices where applicable (SYS-121)

e) monitoring and control of suitable process parameters and product characteristics (monitoring & measurement) (SYS-106)

f) handling, storage, packaging, delivery and after sale service and application support (SYS-117)

g) accountability for all product during manufacturing (SYS-106)

h) records of manufacturing and inspection operations have been completed per requirements. (SYS-106)

i) prevention, detection and removal of foreign objects

j) monitoring and control of utilities that affect the product quality (SYS-110)

k) criteria for workmanship, stipulated clearly and practically (TP*- series procedures)

Product is packaged prior to its release from the manufacturing department to ensure its safe transport to the stock / shipping area. Products are shipped by the selected method of the customer. Only approved delivery vendors are used unless the customer specifies otherwise. These vendors are included in the vendor rating process and asked to improve their methods when appropriate.

Cornell Dubilier provides application engineering assistance by telephone as well as field sales representatives. Application Engineering personnel and the Product Manager are designated individuals assigned the responsibility of handling application questions from customers. Field sales representatives usually work with the customers on a nontechnical level and relay information back to appropriate personnel.

A comprehensive explanation of the production control and service provision functions can be found in SYS-110.

A comprehensive explanation of requirements for process changes, material changes, new processes, new equipment and new materials can be found in SYS-111.

Special processes, defined as any process where the resulting output cannot be verified by subsequent monitoring or measurement, do not apply at Cornell Dubilier since all process aoutputs can be verified by subsequent monitoring or measurement (testing and/or inspection processes). (see SYS-110)

7.5.1.1 Production Documentation (AS9100B)

A comprehensive explanation of production process verification can be found in SYS-110

a) drawings, flow charts (including inspection operations), production procedures (work instructions & traveler) & inspection documents (spc charts, traveler)

b) list of specific or non-specific tools and machine programs required, including any specific instructions for use.

7.5.1.2 Control of Production Process Changes (AS9100B)

Production process changes, including new processing equipment, must have approval criteria established by the Engineering, Quality and Manufacturing departments. The Engineering, Manufacturing and Quality departments evaluate the process performance, environmental conditions (if other than standard plant conditions), compliance to standards / codes, conformance to quality plans, need to monitor suitable process parameters, accept / reject criteria, and evaluate the need for preventive maintenance of the new processing equipment. These characteristics are evaluated as sample units are manufactured in the new process or on the new processing equipment as described in ESP-114. (see SYS-111)

Cornell Dubilier shall identify and obtain acceptance of changes that require customer authority approval in accordance with the original contract. (see CSS – series for contract details)

7.5.1.3 Control of Production Equipment, Tools, and Numerical Control (NC) Machine Programs (AS9100B)

New processes and new processing equipment approval criteria is established by the Engineering, Quality and Manufacturing departments. The Engineering, Manufacturing and Quality departments evaluate the process performance, environmental conditions (if other than standard plant conditions), compliance to standards / codes, conformance to quality plans, need to monitor suitable process parameters, accept / reject criteria, and evaluate the need for preventive maintenance of the new processing equipment. These characteristics are evaluated as sample units are manufactured in the new process or on the new processing equipment as described in SYS-111.

7.5.1.4 Control of Work Transferred, on a Temporary Basis Outside of Cornell Dubilier's Facility (AS9100B)

Cornell Dubilier does not transfer work outside of the Cornell Dubilier Facility. Should Cornell Dubilier use this practice in the future the management system will be updated to define the processes to control and validate the quality of the work sent outside the facility.

7.5.1.5 Control of Service Operations (AS9100B)

Cornell Dubilier service provisions –

a) Cornell Dubilier is capable of collecting and analyzing in-service data as part of the return-materials-authorization (RMA) program and customer related analysis requests. These methods are defined in documented procedures (QG-series)

b) Cornell Dubilier has an documented system for failure analysis and corrective action requests of supplied product (see QG-series)

c) Cornell Dubilier publishes product catalogs and maintains a public website. All product sales contracts approved through the contract review process (see CSS-series)

d) Cornell Dubilier has an documented system for failure analysis and corrective action requests of supplied product (see QG-series)

e) Currently Cornell Dubilier does not perform off-site work. Should this become part of future contracts, methods will be documented and maintained

Cornell Dubilier does not accept contracts requiring service operations. Should this become an issue in the future, the required procedures will be created.

7.5.2 Validation of Processes for Production and Service Provision (AS 9100B)

Applicable to some Cornell Dubilier processes.

a) review and approval of processes with outputs that cannot be verified by subsequent testing and/or inspection will be approved as defined in SYS-111 prior to production use.

b) approval of equipment is defined in SYS-111 and qualification of personnel is defined in SYS-118

c) performance guides (training and operating procedures) are in place for each operation (see TP*-series) (see SYS-118)

d) records (see 4.2.4) will be maintained (per SYS-106 & SYS-110) (see SYS-111)

e) any production process that requires revalidation, will be handled in the same manner as a new production process, with the same requirements used (see SYS-111)

7.5.3 Identification and Traceability (AS 9100B)

Product identification and traceability are documented throughout all stages of the manufacturing process, storage, delivery, and installation. All product manufactured by Cornell Dubilier is traceable by lot / batch.

Acceptance media such as acceptance stamps are controlled using documented procedures (see QG-X123 & QI-X211)

a), **b)**, **c)** & **d)** A comprehensive explanation of the identification and traceability function can be found in SYS-109.

7.5.4 Customer Property (AS 9100B)

No customer property is currently being used by Cornell Dubilier. When and if this becomes an issue, a procedure will be written and distributed accordingly.

7.5.5 Preservation of product (AS 9100B)

a), b), c), d), e), & **f)** A comprehensive explanation of the handling, storage, packaging, and delivery requirements are listed in SYS-117.

Documented methods describe the handling, storage, packaging, and delivery requirements associated with each step of the process.

- Handling

General handling procedures providing methods to prevent damage or deterioration are incorporated in employee training, while specific handling requirements are listed in the manufacturing procedures (workmanship standards). External handling methods are obtainable through catalog product specification literature.

- Storage

Designated storage areas and appropriate storage devices are used to protect product from damage or deterioration pending deliver. Product storage procedures ensure accurate inventory accounting and inventory control.

- Packaging

All products are packaged in accordance to documented procedures and requirements. Packaging procedures used at Cornell Dubilier ensure conformance to specified customer requirements when required.

- Preservation

Product preservation and segregation are controlled through the use of written standards that detail the storage conditions and shelf life applicable for each product style.

7.6 Control of monitoring and measuring devices (AS 9100B)

Cornell Dubilier maintains a standards laboratory with documented procedures and written requirements for measurements for measurement and inspection equipment. Inspection measuring and test equipment is used in a manner that ensures the measurement uncertainty is known and consistent with the required measurement capability.

A complete inspection, measuring, and test equipment (im&t) list is maintained by the Standards Laboratory. This list consists of the following equipment information:

- Equipment
- Serial Number
- Accuracy
- Manufacturer
- Description and Use
- Frequency of Calibration
- Type or Model
- Equipment Limits

A comprehensive explanation of the requirements and procedures of the standards laboratory can be found in SYS-121.

8 Measurement, Analysis and Improvement (AS 9100B)

Title only

8.1 General (AS 9100B)

a) Inspection and test stations are strategically placed in the production flow. Documented procedures and acceptance and rejection criteria are used to disposition all products. A comprehensive explanation of the inspection and test requirements can be found in SYS-110 (process control). A comprehensive explanation of the inspection and test requirements can be found in SYS-112. Statistical techniques used at Cornell Dubilier include CPK calculations and in-process SPC. A comprehensive explanation of Cornell Dubilier's statistical requirements can be found in SYS-120.

b) & **c)** Conformity and continual improvement of the management system is measured through the use of the management review system (see SYS-115) and the use of the internal audit system (see SYS-103)

8.2 Monitoring and Measurement (AS 9100B)

Title only

8.2.1 Customer Satisfaction (AS 9100B)

Customer satisfaction is monitored / measured on a periodic basis.

A comprehensive explanation of the measuring customer satisfaction can be found in SYS-122 & CSS-117.

8.2.2 Internal Audit (AS 9100B)

To maintain, improve and evaluate the effectiveness of Cornell Dubilier's management system, planned internal audits are performed on a periodic basis.

a) Audit schedules are based on the historical performance in past audits and changes that involve the system element.

b) Quality audits are performed in accordance with written procedures and appropriate corrective action identifiers for nonconformity or deficiencies found. Audits are performed by individuals who are independent of the activity to be audited and who have been trained as internal auditors. Audit reports are routed to the appropriate manager responsible for the system element. All audit reports and associated corrective measures are maintained for record keeping purposes. Internal audits are also a primary part of the continuous improvement and preventive program.

A comprehensive explanation of the internal audit practices and records can be found in SYS-103.

8.2.3 Monitoring and Measurement of Processes (AS 9100B)

To maintain, improve and evaluate the effectiveness of Cornell Dubilier's management system, planned internal audits are performed on a periodic basis. Audit schedules are based on the historical performance in past audits and changes that involve the system element.

A comprehensive explanation of the internal audit practices can be found in SYS-103.

Cornell Dubilier has applied statistical techniques to monitor and measure the in-process quality. Statistical techniques used include CPK calculations and in-process SPC.

A comprehensive explanation of Cornell Dubilier's statistical requirements can be found in SYS-120.

a), b) & **c)** A comprehensive explanation of the Process Monitoring and Measurement practices can be found in SYS-113.

8.2.4 Monitoring and Measurement of Product (AS 9100B)

All materials received for use in the production process are verified as conforming to documented requirements using written incoming inspection procedures. Specific requirements for the incoming inspection of material can be found in the QI series procedures.

All materials that directly affect the quality of the product are inspected against written inspection procedures. These materials are inspected for conformity to controlled specifications or prints. Materials are clearly labeled with the inspection status and disposition accordingly. Any questionable material is dispositioned by a material is dispositioned by a material review board accordingly. Specific procedures and requirements can be found in the QI series documents.

All materials that directly affect the quality of the product are inspected against written inspection procedures. These materials are inspected for conformity to controlled specifications or prints. Materials are clearly labeled with the inspection status and disposition accordingly. Any questionable material is dispositioned by a material review board accordingly. Specific procedures and requirements can be found in the QI series documents.

Inspection sampling and inspection methods are documented in individualized inspection sequences. Inspections are performed on sample quantities of incoming product to ensure the accuracy to specified requirements. Inspection methods are derived to the extent of Cornell Dubilier's ability to analyze the characteristic in question. Special sampling criteria are available for materials that present the need for special consideration. These special sampling considerations are derived and implemented by the Quality department. Specific requirements for incoming inspection sampling and inspection methods can be found in the QI series documents.

All materials released to stock prior to inspection are appropriately labeled and tracked. Materials that have to be stored in climate-controlled conditions are released to stock to be sorted. These materials are labeled accordingly and held from production until further inspection has been completed. Specific procedures and requirements for such materials are listed in QI-X200.

In-process inspection stations are implemented and maintained by manufacturing when deemed necessary by management. Although all operators are responsible for inspecting their work, specific stations have been implemented to focus attention on critical parameters. Various types of inspection stations are included, such as set-up inspections, fixed inspection stations, and automatic inspection and test. These inspection stations include, but are not limited to the following:

Foil Checking (Dept. 81 & 82)	Lead Welding (Dept. 83 & 85)	100% Final Test (All Depts)
Spinning (Dept. 81, 82 & 83)	Can Venting (All Dept.)	Packaging

All products are 100% tested for electrical performance to specified requirements. This test is completed in the manufacturing portion of the process. Some products are delivered to other areas for further processing and a second 100% test. All products are then delivered to Quality Assurance for sample inspection. The quality Assurance department inspects a sample from every lot for electrical and mechanical characteristics. Specific requirements and procedures can be found in the MFE series and QA series documents.

Processing records (operator, date, quantity, disposition of product, etc.) are recorded for traceability. Work order traceability, computer tracking (WIP), incoming inspection records, in-process inspection data, and material traceability records are maintained as quality records. The records indicate the product identification and status of the product throughout the process. A comprehensive explanation of the inspection and test record system can be found in SYS-113.

8.2.4.1 Inspection Documentation (AS9100B)

a) All products are 100% tested for electrical performance to specified requirements. This test is completed in the manufacturing portion of the process. Some products are delivered to other areas for further processing and a second 100% test. All products are then delivered to Quality Assurance for sample inspection. The quality Assurance department inspects a sample from every lot for electrical and mechanical characteristics. Specific requirements and procedures can be found in the MFE series and QA series documents.

b) In-process inspection stations are implemented and maintained by manufacturing when deemed necessary by management. Although all operators are responsible for inspecting their work, specific stations have been implemented to focus attention on critical parameters. Various types of inspection stations are included, such as set-up inspections, fixed inspection stations, and automatic inspection and test.

c) Processing records (operator, date, quantity, disposition of product, etc.) are recorded for traceability. Work order traceability, computer tracking (WIP), incoming inspection records, in-process inspection data, and material traceability records are maintained as quality records. The records indicate the product identification and status of the product throughout the process. A comprehensive explanation of the inspection and test record system can be found in SYS-113.

d) These inspection stations, along with the needed measurement instruments, include but are not limited to the following: Foil checking (dept. 81, 82, 86), lead weld (dept. 83 & 85), spinning (dept. 81, 82 & 83), can venting (all lectr.), 100 % final test (all lectr.), packaging (all lectr.)

Tests records shall be retained that show test results data. (see SYS-106)

Records are retained to ensure that the product meets the requirements of the product. (see SYS-106)

8.2.4.2 First Article Inspection (AS9100B)

Cornell Dubilier has documented procedures in place first article inspection. First article inspections are conducted as part of the process for the inspection, verification and documentation of a first article of a new or revised product. (see QA-series)

8.3 Control of nonconforming product (AS 9100B)

Nonconforming product and materials are controlled throughout the process by documented procedures.

a) Product that is found to be nonconforming within the process is reworked as it is detected. Product found to be nonconforming at other portions of the process flow are routed to rework stations or discarded. Accept, reject, and disposition procedures govern the handling of these nonconformities. (see SYS-114)

b) Cornell Dubilier does not authorize the release of nonconforming product as part of contracts. (see SYS-114)

c) Nonconforming product is reworked into a conforming condition or discarded. Conformance is verified through the inspection process to prove conformance. (see SYS-114)

A comprehensive explanation of the nonconforming material handling procedures can be found in SYS-114. Records information can be found in the MFE, TPE, QI, & QA series procedures.

Product that is nonconforming and designated as scrap shall be positively controlled by placement into containers clearly designated as nonconforming product.

Records are maintained per SYS-106

See Director of Quality responsibilities for reporting of delivered nonconforming product to customer.

8.4 Analysis of data (AS 9100B)

Data analysis is performed in several areas of the quality system. Data is collected as suitable to the needs and based on process needs, reliability and design.

a) An explanation of customer satisfaction analysis can be found in CSS-117.

b) An explanation of the product conformity analysis can be found in the ENG, QA, MFE and TP series documents.

c) An explanation of statistical process techniques can be found in SYS-120.

d) Supplier performance analysis techniques can be found in PUR-104.

8.5 Improvement (AS 9100B)

Title only

8.5.1 Continual improvement (AS 9100B)

See section 5.6 for an explanation of the Management review system.

Management review is used to evaluate and initiate continuous improvement in the quality management system. Individual elements driving continuous improvement include but are not limited to:

- Quality/Environmental Policy (SYS-101)
- Internal audits (SYS-103)
- Data analysis (SYS-120 & SYS-107)
- Economic objectives (SYS-105)
- Preventive Actions (SYS-116)
- Annual objectives (5.4)

- Corrective actions (SYS-116)
- Production planning (SYS-107)

8.5.2 Corrective action (AS 9100B)

A comprehensive explanation of the corrective action function can be found in SYS-116. Records information can be found in the QGX-108.

a) Customer complaints / corrective action requests are reviewed and addressed accordingly.

- All corrective action requests are forwarded to the Quality department upon receipt. The Quality department records the appropriate information and assigns the corrective action to qualified personnel (QG-X108).

b) When corrective measures are required, the causes of the nonconformity are determined.

- Quality department personnel and the appropriate department / area personnel investigate the cause of the nonconformity.

c) When evidence of nonconformity is reported, the need for action to prevent recurrence is evaluated.

- A corrective action plan is then formulated and agreed upon by the appropriate departments / areas.

d) Corrective measures implemented to correct the nonconformity are appropriate for the magnitude of the associated problems and commensurate with the risks encountered.

- Dependent on the type and extent of the nonconformity and to the extent of the implementation necessary, corrective measures are implemented and documented in the appropriate procedure and or record.

e) Corrective action records are maintained in accordance with section 4.2.4 of the quality manual.

- The corrective action is then documented (letter to the customer or internal write-up (QG-X116) and documented in the appropriate departmental procedure (process change SYS-111) or product specification (ESP-103). All corrective action files are retained for historical use in a Quality department office or the quality records room.

f) Corrective action reviews are completed following corrective action implementation.

- Corrective action follow-up is then conducted to ensure the corrective measure is still in place and that all necessary personnel are aware. (QG-X116)

g) Flow down of the corrective action requirement to a supplier, when it is determined that the supplier is responsible for the root cause.

- Will be handled through the use of the Non Conforming Materials Report (NMR) procedure (see QI-X225). Details in SYS-116.

h) Specific actions required where timely and/or effective corrective actions cannot be achieved

- Specific actions needed to achieve conformance when timely or effective actions cannot be put in place shall be assigned. Details in SYS-116.

8.5.3 Preventive action (AS 9100B)

A comprehensive explanation of the preventive action functions can be found in SYS-116.

a) Potential nonconformities and their causes are determined at various levels of the product life span. (see SYS-116)

b) When evidence of a potential nonconformity is present, the need for preventive action is evaluated. (see SYS-116)

c) As necessary, the appropriate preventive action is determined and implemented accordingly. (see SYS-116)

d) Records of the implemented preventive action results are maintained. (see SYS-116)

e) Periodically and / or episodically preventive actions are reviewed. (see SYS-116)

HISTORY OF REVISION

REV#	CHANGES MADE	DATE IMPLEMENTED
0	Original – P Whitmire – note – previous manuals were not organized by revision, only dated	07-24-96
1	Changed quality statement to MERIT, added specialized personnel clause, added company / quality objectives, removed design review from management review, changed quality appraisal to QA rejects, added mod of proven designs statement, changed CA & PA to reflect definition of preventive action, eliminated final test yields from 20.1, added new goals for year – P Whitmire	11-12-96
2	Added table of contents & software and data control information in section 5.3 – P Whitmire	12-13-96
3	Removed ref. to reviewing CPK & SPC results during management review in sec. 20.1, added right to verify at subcontractor to page 15 – P Whitmire	12-17-96
4	Updated 98 goals – P Whitmire	02-24-98
5	Updated 99 goals – P Whitmire	09-25-98
6	Revised scope (+ aluminum lectrolytic) and added detail to management resources sect. 1.5 – P Whitmire	03-30-99
7	Revised goals and objectives for 2000 – P Whitmire	10-28-99
8	Revised goals and objectives for 2002, updated ORG chart – P Whitmire	10-18-01
9	Revised to meet requirements of ISO 9001:2000 – P Whitmire	9-18-02
10	Updated Objectives, put Org Chart back in. – PW	08-22-03

11	Updated Objectives, - pw	08-13-04
12	Added "control copy…" for elect dist, corrected flow diagram p 6 – pw	05-20-05
13	Added 7.5.2 to application/scope	08-16-05
14	Updated Goals for 2007 – PW	12-07-06
15	Updated Goals for 2008 –PW	12-06-07
16	Updated Goals for 2009, added dc film to scope – RY	11-14-08
17	Revised to meet requirements of AS9100B & ISO 14001:2004 – PW & RY	09-14-09
18	Revised section 4.3.1 for identification of "significant environmental aspects", revised section 7.5.1 to include 'special processes', corrected hyperlinks, changed approval authority – RY	09-25-09
19	Revised section 4.5.2.1 with reference to internal audit system, removed requirements list and combined sections 4.5.2.1 & 4.5.2.2; added export requirements & satellite sewer program in section 4.3.2; changed all references from 'quality management system' to 'management system'; expanded M.E.R.I.T.; revised section 4.2.2; revised section 4.3.2; revised section 7.5.1 'special processes'; add link to section 5.5.3; revised section 7.2.1; revised section 7.2.3; revised section 4.4.3; revised section 7.5.1.3 (link); revised section 7.5.2; revised section 1.2 (added ISO 14001:2004); added 'quality system' to section 3.0; revised section 7.2.3 c) – customer feedback site; revised section 4.3.1 – environmental aspects; revised section 5.6.2 b); - RY	11-20-09
20	Revised Goals (2010) & revised header (removed 'Quality'); revised section 7.5.2 & 7.4.3 – RY	12-14-09
21	Revised annual objectives sections - RY	12-10-10
22	Revised organizational chart – R. Mintz changed to Materials Manager & Tom Crumpton added as facilities manager	01-28-11