Connor-Winfield Corporation

Quality Management System Manual

Revision 5

Issued 6/28/2018

Conforms to ISO 9001:2015

TABLE OF CONTENTS

1.0   Welcome to the Connor-Winfield Corporation

Connor-Winfield has designed and manufactured electronic equipment and components continuously since its incorporation in May of 1963.   During our 55 year history, Connor-Winfield has developed a solid reputation of being a company of high integrity and provider of high quality products. Connor-Winfield strives to maintain a value proposition to its customers offering relevant product lines competitively developed and timely offered in an industry that never stops transforming due to rapidly changing technology.

Especially in recent years, Connor-Winfield is proud to be a significant U.S. manufacturer of quartz crystal-based timing products as well as wireless based communication modules. Connor-Winfield's frequency control products are used in a wide variety of applications, including telecommunications, data communication, wireless systems, military, medical and space.   Connor-Winfield specializes in designing custom and semi-custom sophisticated products for its customers, but also offers a broad line of standard products with off the shelf availability. Presently it occupies two facilities in Aurora, Illinois, where it employs a staff of 100 assembly operators, technicians, engineers, and support personnel.   Connor-Winfield is especially grateful to its customers that support its continued work in its areas of endeavor. For our customers, we work diligently to offer the best products, service and value with an attitude intended to cultivate long term partnership opportunities and experiences.

2.0   About The Connor-Winfield Quality Management System Manual

Connor-Winfield Corp. has developed and implemented a quality management system to demonstrate its ability to consistently provide products that meet customer and applicable regulatory requirements, and to address customer satisfaction through the effective application of the system including continual improvement and the prevention of nonconformity.

Examples of the benefits of implementing the quality management system include:

- continually improve the overall performance of our business and products;

- the ability to plan processes and their interactions by employing the Plan-Do-Check-Act cycle and risk based thinking in our daily operations;

- the facilitating of opportunities to enhance customer satisfaction;

- addressing risks and opportunities associated with its context and objectives.

This QMS manual is prepared for the purpose of defining the company's interpretations of the ISO 9001:2015 international standard, as well as to demonstrate how the company complies with that standard.

3.0   Terms and Definitions

Connor-Winfield typically adopts the definitions provided in *ISO 9000: Quality Management – Fundamentals and Vocabulary*. In some cases, specific procedures or documentation may provide a different definition to be used in the context of that document; in such cases, the definition will supersede those provided for in this Quality Manual or ISO 9000.

General Terminology

Connor-Winfield – Connor-Winfield Corporation

Document – written information used to describe how an activity is done.

Record – captured evidence of an activity having been done.

Risk-Based Thinking Terminology

Risk – Negative effect of uncertainty

Opportunity – Positive effect of uncertainty

Uncertainty - A deficiency of information related to understanding or knowledge of an event, its consequence, or likelihood. (Not to be confused with measurement uncertainty.)

4.0   The Scope and Context of CW's Quality Management System

4.1   Determining Our Strategic Direction

Connor-Winfield has reviewed and analyzed key aspects of itself and its stakeholders to determine the strategic direction of the company. This involves:

- Understanding our core products, and scope of management system (see 4.2 below).

- Identifying "interested parties" (stakeholders) who receive our Products, or who may be impacted by them, or those parties who may otherwise have a significant interest in our company. These parties are identified in the document Context of the Organization (COTO Log).

- Understanding internal and external issues that are of concern to Connor-Winfield and its interested parties; also identified in the COTO Log. Many such issues are identified through an analysis of risks facing either Connor-Winfield or the interested parties. Such issues are monitored and updated as appropriate, and discussed as part of management reviews.

- This information is then used by senior management to determine the company's strategic direction. This is defined in records of management review, and periodically updated as conditions and situations change.

4.2   Scope of the Quality Management System

4.2.1 Scope Statement

Based on an analysis of the above issues of concern, interests of stakeholders, and in consideration of the products and services it offers, Connor-Winfield has determined the scope of the quality management system as follows:

Design and Manufacture of Crystal, Thick-Film and PCB based Frequency Control Devices. Design and Testing of Toll Manufactured Semiconductor Devices. Contract Manufacturing Of Electronic Assemblies and Related Services.

4.2.2 Facilities Within the Scope

The quality system applies to all processes, activities, and employees of the following locations within the company:

2359 Diehl Rd Aurora, IL 60502 630-851-4722 www.conwin.com	2111 Comprehensive Dr Aurora, IL 60505 630-851-4722 www.conwin.com

4.2.3 Permissible Exclusions

Some of our models are supplied to us by non-US-based manufacturing partners. These products are covered by our normal warranty, but they are not included in the scope of our quality system which is limited to products we design and manufacture directly. Our non-US manufacturing partners operate quality systems conforming to the ISO 9001 standard and we rely on them to manufacture quality products meeting advertised product specifications. You can tell these products by the term "Low Cost" in the Keyword column on our website product finder search results and by the non-US country of origin designation on the shipping documents accompanying the products.

5.0   Quality Policy

The Quality Policy of Connor-Winfield is as follows:

QUALITY POLICY

Connor-Winfield Corp. is committed at all levels to meeting all customer requirements and increasing customer satisfaction through the continual measurement, review and improvement of our products, services, and the effectiveness of the quality management system. "Our Customers Win through Quality Products, Timely Delivery, and Superior Service."

MISSION STATEMENT

We believe that our long-term success can only be achieved by fully satisfying and striving to exceed our customers' expectations regarding the quality of our products and the timeliness and dependability of our delivery and service.

It is therefore our stated goal to provide our customers with quality products, timely delivery, and dependable service. Specifically, we aim to produce and supply to our customers the most technologically advanced products available in our industry, without defects. We aim to bring these products to market faster than our competitors, and to deliver them at competitive prices. We aim to provide our customers with timely delivery of our products, and dependable service.

In order to accomplish these goals we will maintain a quality system modeled after the ISO-9001 standard, and in addition, work to continuously improve quality in our products and service through appropriate quality-enhancing techniques until the level of customer satisfaction described is attained.

6.0   Quality Management System and its Processes

6.1   Process Identification

Connor-Winfield has adopted a process approach for its quality management system. By identifying the top-level processes within the company, and then managing each of these discretely, this reduces the potential for nonconforming products discovered during final processes or after delivery. Instead, nonconformities and risks are identified in real time, by actions taken within each of the top-level processes.

Processes needed for the quality management system are identified in this quality manual and in associated operational procedures and work instructions. The documentation defines these quality system processes and their sequence and interaction, and instructs on how to implement and apply them throughout the organization.

The following top-level processes have been identified for Connor-Winfield:

- Contract Review (Sales, Customer Care and Order Management)

- Design and Development

- Purchasing (Sourcing and Vendor Management)

- Operations (Planning, Production, Storage and Delivery)

Each key process may be supported by other activities, such as tasks or sub-processes. Monitoring and control of top level processes ensures effective implementation and control of all subordinate tasks or sub-processes. Each top-level process has a **QMS Key Process Flowchart and Relationship Matrix** which defines:

- applicable inputs and outputs

- process owner(s)

- applicable responsibilities and authorities

- critical and supporting resources

- criteria and methods employed to ensure the effectiveness of the process

The sequence of interaction of these processes is illustrated in Appendix A.

7.0   Management & Leadership

7.1   Management Leadership and Commitment

The QMS Leadership Team of Connor-Winfield is ultimately responsible for establishing, implementing, maintaining and improving the quality system and is accountable for its overall effectiveness. Management commitment is demonstrated by communicating to the organization the importance of meeting requirements, establishing and communicating the quality policy and quality objectives and ensuring that they are compatible with the context and strategic direction of the organization. Management is committed to promoting the use of the process approach and risk-based thinking and ensuring that the resources needed for the quality management system are available.

For the purpose of administrating the quality management system, QMS Leadership Team is defined to include the Vice President/General Manager, and managers responsible for operations, engineering, marketing, sales, and human resources and training.

7.2   Customer Focus

The QMS Leadership Team of Connor-Winfield adopts a customer-first approach which ensures that customer needs and expectations are determined, converted into requirements and are met with the aim of enhancing customer satisfaction.

The QMS Leadership Team of Connor-Winfield demonstrates leadership and commitment by identifying and addressing risks and opportunities that can effect conformity of product and provide opportunities that may be available to enhance customer satisfaction.

Customer requirements are determined and verified through the process of order review. This process is defined in operational procedure *03-01, Contract Review*. The whole quality system is designed and implemented to ensure that customer requirements can be consistently fulfilled. Quality system processes that most directly contribute to achieving this objective are those related to the control of product realization processes and to monitoring and measuring of product.

7.3   Quality Policy

The quality policy defined in section 5.0 above is established and approved by the president, and vice president/general manager.

The main role of the quality policy is to communicate the company's commitments and aspirations with regard to quality, and to define principal objectives for the quality management system. The quality policy provides a framework for establishing specific quality objectives, and provides direction for the continual improvement effort.

The Quality policy is posted throughout the company, and is communicated and implemented throughout the organization. It is also communicated to customers, consumers and other interested parties. For this purpose, it is displayed in the reception area and posted on the company's web site.

7.4   Organizational Roles Responsibilities & Authorities

The CW QMS Leadership Team has assigned responsibilities and authorities for all relevant roles in the company. These are communicated through the combination of the *05-03-01, Organization Chart* and employee position descriptions.

The CW QMS Leadership Team accepts responsibility and authority for:

   a) ensuring that the management system conforms to applicable standards;

   b) ensuring that the processes are delivering their intended outputs;

   c) reporting on the performance of the quality management system;

   d) providing opportunities for improvement for the quality management system;

   e) ensuring the promotion of customer focus throughout the organization;

   f) ensuring that the integrity of the quality management system is maintained when changes are planned and implemented

8.0   Planning

8.1   Actions to Address Risks and Opportunities

When planning our QMS, Connor-Winfield has taken into consideration potential issues and has determined the risks and opportunities that need to be addressed to:

   - Provide assurance that the QMS can achieve its intended result

   - Enhance desirable effects

- Prevent, or reduce, undesired effects

- Achieve improvements

Connor-Winfield considers risks and opportunities when taking actions within the quality management system, as well as when implementing or improving the quality management system. Risks and opportunities are identified in the COTO Log as part of the "Context of the Organization Exercise" defined in procedure **05-06-02, Context of the Organization and Risk Management,** as well as throughout all other activities of the QMS.

Formal risk management may not be utilized in all instances; instead, the level of risk assessment, analysis, treatment and recordkeeping will be performed to the level deemed appropriate for each circumstance or application.

8.2   Process Controls & Objectives

Quality objectives are established to support and implement the quality policy and continual improvement. Each key process has at least one objective established for it; this is a statement of the intent of the process. Each objective is then supported by at least one "metric" or key performance indicator (KPI) which is then measured to determine the process' ability to meet the quality objective.

Throughout the year, metrics data is measured and gathered by process owners or other assigned managers, in order to present the data at the management review meeting. The data is then analyzed by the CW QMS Leadership Team in order that the QMS Leadership Team may set goals and make adjustments for the purpose of long-term continual improvement.

Metrics, along with current standings and goals for each objective, are recorded in records of management review and in the Metrics section in IT3.

When a process does not meet a goal, or an unexpected problem is encountered with a process, the corrective and preventive action process is implemented to research and resolve the issue. In addition, opportunities for improvement are sought and implemented for the identified processes.

8.3   Planning of Changes

When Connor-Winfield determines the need for changes to the quality management system or its processes, these changes are planned, implemented, and then verified for effectiveness; see Operational Procedure **06-03-01, Change Management**.

9.0   Support

9.1   Provision of Resources

The QMS Leadership Team is committed to provide adequate resources for the implementation and improvement of the quality management system, and for addressing customer satisfaction.

Resources required for implementation and improvement of the quality system, and for addressing customer satisfaction, may include people, suppliers, information, infrastructure, work environment, and financial resources. QMS Leadership team ensures that it provides sufficient staffing for the effective operation of the quality management system, as well its identified processes.

Resource allocation is done with consideration of the capability and constraints on existing internal resources, as well as needs related to supplier expectations.

Resources and resource allocation are assessed during management reviews.

9.2   Infrastructure

Connor-Winfield determines, provides and maintains the infrastructure, facilities and work environment needed to achieve conformity to product requirements. This includes planning, provision, and maintenance of employee facilities, workspace and associated utilities, equipment including (hardware and software), and associated services.

Planning of new, and/or modification of existing infrastructure and facilities is usually conducted in conjunction with product or process changes, capacity and/or work force expansions or retractions and other such events. Facilities may also be expanded or modified to improve productivity and/or quality, or to improve the work environment.

9.3   Work Environment

Connor-Winfield provides a clean, safe and well-lit working environment. The QMS Leadership Team of Connor-Winfield manages the work environment needed to achieve conformity to product requirements. Specific environmental requirements for products are determined during quality planning and are documented in subordinate procedures, work instructions, or job documentation. Where special work environments have been implemented, environmental guidelines have been established and are available in work instruction *09-01-03, Production Environmental Requirements,* these shall also be maintained per 9.2 above.

Human factors are considered to the extent that they directly impact on the quality of Products.

9.4   Monitoring and Measurement Resources

Connor-Winfield has determined the necessary monitoring, measurement and resources to be initiated across our QMS. The structure of internal resources includes but is not limited to:

- Monitoring and measuring equipment

- Documented procedures and forms

- Competent and qualified personnel

9.5   Measurement Traceability

Appropriate measuring and monitoring instruments are maintained and selected to ensure that measurement capability is consistent with the measurement requirements. Equipment used for assuring product conformity is calibrated using calibration standards traceable to the national standard. Calibration status of measuring equipment is identified with calibration stickers. Measuring equipment is properly maintained and its placement and use are controlled.

Where equipment is used for critical measurement activities, such as inspection and testing, these shall be subject to control and either calibration or verification; see the procedure *11-01-02, Calibration.*

9.6   Organizational Knowledge

Connor-Winfield determines the knowledge base necessary for the operation of its processes and to achieve conformity of Products. This typically includes knowledge and information obtained from a variety of sources both internal and external. A great amount of knowledge is based on its 55 + years of industry involvement. However, with the rapid pace of technological advancement, external sources are continually required to provide support for developing new knowledge. This includes external sources such as standards, academia, conferences, and/or information gathered from customers or suppliers. External standards are identified on the *Master list of Quality Standards*.

9.7   Competence, Awareness, Training

Connor-Winfield identifies personnel training needs, provides required training and evaluates the effectiveness of the training provided. Personnel assigned to perform specific tasks, operations and processes are qualified on the basis of appropriate education, experience or training.

Human resources and training are responsible for identifying training needs and awareness programs for company-wide participation.   Departmental managers are responsible for identifying competency requirements and training needs in their departments and for establishing departmental training programs.

Connor-Winfield provides or supports the following categories of company-wide and departmental training and awareness programs:

- **General orientation and quality system awareness training** – Explains how the product is used and how the quality system works to ensure product quality.
- **Safety training** – Instructs in safe working practices, use of personal protective equipment, first aid, etc.
- **Use of companywide systems** – Explains interdepartmental systems, such as product coding/numbering system, bar-code system, use of computers, etc.
- **External training** – External seminars, conferences, and courses.
- **Self Study** – Reading magazines, books, and reports. While all employees are encouraged to broaden their knowledge through reading, in some cases self-studying may be required as formal training.
- **Skill training in engineering, production, and quality control** – departmental training in specific skills. (Often provided as on-the-job training.)

Staff members performing work affecting product quality are competent on the basis of appropriate education, training, skills and experience. The documented procedure *18-01, Training* defines these activities in detail.

Training and subsequent communication ensures that staff is aware of:

a) the quality policy;

b) relevant quality objectives;

c) their contribution to the effectiveness of the management system, including the benefits of improved performance;

d) the implications of not conforming with the management system requirements.

9.8   Communication

Processes for internal and external communication are established within the QMS. The QMS Leadership Team of Connor-Winfield ensures communication takes place relevant to the quality management system.

Internal communication methods include:

    a) corrective and preventive action processes to report nonconformities or suggestions for improvement;

    b) the results of analysis of data;

    c) meetings (periodic, scheduled and/or unscheduled) to discuss aspects of the QMS;

    d) the results of the internal audit process;

    e) regular company meetings with all employees;

    f) internal emails;

    g) memos to employees.

    h) Connor-Winfield's "open door" policy which allows any employee access to The CW QMS Leadership Team for discussions on improving the quality system.

External communication methods include:

    i) The Sales group, under the auspices of the Sales Manager, manages the communication with customers, with associated contacts for specific departments to support customer needs, e.g. account manager, accounts receivable, QA contact.

    j) The Purchasing manager is responsible for managing vendor relationships including all aspects of purchase orders, quality issues, and vendor feedback. Purchasing is supported by the accounting department for A/P and the Quality department for related issues.

    k) QMS Leadership Team, and/or their specific delegate, is responsible for all other external communication relative to the interested parties identified in the COTO log.

10.0 Documentation & Records

10.1   General

The management system documentation includes both documents and records.

The extent of the management system documentation has been developed based on the following:

    a) the size of Connor-Winfield;

    b) complexity and interaction of the processes;

    c) risks and opportunities;

    d) competence of personnel.

10.2   Control of Documents

The scope of quality system documentation is defined. Establishment and revision of documents and their distribution are controlled. New documents and revisions are reviewed and approved prior to issue and are identified with respect to their revision level. Appropriate documents are available at locations where they are used. Obsolete documents are removed from points of use. Documents of external origin are identified and their distribution is controlled.

Documents required for the management system are controlled in accordance with procedure *05-01, Document Control.* The purpose of document control is to ensure that staff has access to the latest approved information and to restrict the use of obsolete information.

All documented procedures are established, documented, implemented and maintained**.**

10.3   Control of Records

The documented procedure *16-01, Quality Records* has been established to define the controls needed for the identification, storage, retrieval, protection, retention time, and disposition of quality records. Quality records are retained for a period of time at least equivalent to the lifetime of the product, or as identified in the *Quality Record Master List*.

These controls are applicable to those records which provide evidence of conformance to requirements; this may be evidence of product requirements, contractual requirements, procedural requirements or statutory/regulatory compliance. In addition, quality records include any records which provide evidence of the effective operation of the quality management system.

11.0 Operation

11.1   Operational Planning and Control

Connor-Winfield plans and develops the processes needed for product realization. Planning of product realization processes includes determination of quality objectives for products, development of required processes and process documentation and establishment of product verification and validation programs. The plan also defines requirements for records necessary to demonstrate process and product conformity. Planning of Product realization is consistent with the requirements of the other processes of the management system. Such planning considers the information related to the context of the organization (see section 4.0 above), current resources and capabilities, as well as product requirements.

11.2   Customer-Related Activities

During the intake of new business Connor-Winfield captures:

a) requirements specified by the customer, including the requirements for delivery and post-delivery activities;

b) requirements not stated by the customer but necessary for specified or intended use, where known;

c) statutory and regulatory requirements related to the products;

d) any additional requirements determined by Connor-Winfield.

Once requirements are captured, Connor-Winfield reviews the requirements prior to its commitment to supply the product. This review ensures that:

a) product requirements are defined;

b) contract or order requirements differing from those previously expressed are resolved;

c) the organization has the ability to meet the defined requirements, and/or the claims for the Products it offers and;

d) risks have been identified and considered.

These activities are defined in greater detail in the procedure *03-01, Contract Review* and work instruction *03-01-02, Preparing and Using PMAF (Pricing and Model Approval Form).*

11.3   Customer Communication

Connor-Winfield has implemented effective communication with customers in relation to:

a) providing information relating to products;

b) handling enquiries, contracts or orders, including changes;

c) obtaining customer feedback relating to products, including customer complaints;

d) handling or controlling customer property;

e) establishing specific requirements for contingency actions, when relevant.

Customer communication activities are defined in detail in the work instruction, *03-01-05 Sales Order Review Process.* Changes to orders are carried out per work instruction *03-01-10, Change Orders.*

11.4   Design and Development

For new designs and for significant design changes, Connor-Winfield ensures the translation of customer needs and requirements into detailed design outputs. These address performance, reliability, maintainability, testability, and safety issues, as well as regulatory and statutory requirements.

This process ensures:

a) design planning is conducted;

b) design inputs (requirements) are captured;

c) design outputs are created under controlled conditions;

d) design reviews, verification and validation are conducted;

e) design changes are made in a controlled manner.

These activities are further defined in the document procedure *04-01, Design Control.*

11.5   Purchasing

Connor-Winfield ensures that purchased products or services conform to specified purchase requirements. The type and extent of control applied to the supplier and the purchased products or services is dependent on the effect on subsequent product or the final product.

Connor-Winfield evaluates and selects suppliers based on their ability to supply product and service in accordance with the organization's requirements. Criteria for selection, evaluation and re-evaluation are established.

Purchases are made via the release of formal purchase orders and/or contracts which clearly describe what is being purchased. Received products or services are then verified against requirements to ensure satisfaction of requirements. Suppliers who do not provide conforming products or services may be requested to conduct a formal corrective action.

These activities are further defined in the procedures *06-01, Supplier Assessment and Purchasing, 10-01, Receiving Inspection, and 06-01-01 Ongoing Supplier Assessment.*

11.6   Outsourced Processes

Any process performed by a third party is considered an "outsourced process" and must be controlled as well. The company's outsourced processes and the control methods implemented for each are defined in procedure *06-01, Supplier Assessment and Purchasing.*

The type and extent of control to be applied to the outsourced process take into consideration:

a) the potential impact of the outsourced process on the company's capability to provide product that conforms to requirements;

b) the degree to which the control for the process is shared;

c) the capability of achieving the necessary control through the purchasing contract requirements.

11.7   Production and Service Provision

11.7.1   Control of Production and Service Provision

To control its provision of Products, Connor-Winfield considers, as applicable, the following:

a) the availability of documents or records that define the characteristics of the products as well as the results to be achieved;

b) the availability and use of suitable monitoring and measuring resources;

c) the implementation of monitoring and measurement activities;

d) the use of suitable infrastructure and environment;

e) the appointment of competent persons, including any required qualifications;

f) the implementation of actions to prevent human error;

g) the implementation of release and delivery activities.

Product and process information and appropriate work instructions are established and are communicated to relevant personnel. Operations and production processes are monitored and controlled, and are validated where appropriate. Operational Procedure *09-01, Process Control* has more information about process and production control.

At this time Connor-Winfield does not utilize any in-house "special processes" where the result of the process cannot be verified by subsequent monitoring or measurement. If any such special processes are required, engineering is responsible for prescribing methods and procedures for performing, controlling, and recording such processes.

11.7.2 Identification and Traceability

Connor-Winfield identifies its product or other critical process outputs by suitable means. Such identification includes the status of the product with respect to monitoring and measurement requirements. Unless otherwise indicated as nonconforming, pending inspection or disposition, or some other similar identifier, all products shall be considered conforming and suitable for use**.**

If unique traceability is required by contract, regulatory, or other established requirement, Connor-Winfield controls and records the unique identification of the product.

The documented procedure *08-01, Product ID and Traceability* defines these methods in detail.

11.7.3 Property Belonging to Third Parties

Connor-Winfield exercises care with customer or supplier property while it is under the organization's control or being used by the organization. Upon receipt, such property is identified, verified, protected and safeguarded. If any such property is lost, damaged or otherwise found to be unsuitable for use, this is reported to the customer or supplier and records maintained.

For customer intellectual property, including customer furnished data used for design, production and / or inspection, this is identified by customer and maintained and preserved to prevent accidental loss, damage or inappropriate use.

This activity is defined in greater detail in the procedure *07-01, Control of Customer Supplied Product.*

11.7.4 Preservation

Connor-Winfield preserves conformity of product or other process outputs during internal processing and delivery. This preservation includes identification, handling, packaging, storage, and protection. Preservation also applies to the constituent parts of a product.

The documented procedures *15-01, Product Handling and 15-02, Storage and Preservation* define the methods for preservation of product.

11.7.5   Post-Delivery Activities

Connor-Winfield maintains various levels of documented information on products delivered to our customers. The extent of post-delivery activities includes warranty considerations as well as support for our customers' specific requirements.

11.7.6   Control of Changes

Connor-Winfield reviews and controls both planned and unplanned changes to products and/or processes to the extent necessary to ensure continuing conformity with all requirements.

Product and/or process change management is defined in the work instruction *04-01-12, Engineering Change Order (ECO).*

11.7.7 Measurement and Release of Products

Acceptance criteria for Products are defined in appropriate subordinate documentation. Reviews, inspections and tests are conducted at appropriate stages to verify that the product or requirements have been met. Procedures, *10-01, Receiving Inspection, 10-04, Set-up Inspections and 10-02, In-Process Inspections* describe these inspection processes in more detail.

Products are released to finished goods only after all specified activities have been satisfactorily completed and conformity of the product has been verified. These verifications are documented in *09-02-41A, Required Manufacturing Traveler Signoffs* and *09-02-201, OCXO Traveler Verification before Transferring to Finished Goods.*

Operational Procedure *10-03, Shipping Inspection* defines the system for final product verification and release for delivery.

11.7.8 Control of Nonconforming Outputs

Connor-Winfield ensures that Products or other process outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.

Connor-Winfield identifies and documents all product nonconformities regardless of how insignificant they seem to be or how easily they can be repaired or reworked. Product nonconformity records are invaluable for tracking performance and trends, and for identifying areas where corrective or preventive actions should be implemented.

Detailed rules for nonconformity review for making the disposition decision and for recording these activities are provided in Operational Procedure *13-01, Control of Nonconforming Product.*

If the product nonconformity is detected by the customer after delivery or use has started the customer is instructed to return the product or part and a return authorization number is issued by customer service. The controls for such nonconformance are defined in *14-01-01,* **Corrective Action/ Return Authorization.**

When product nonconformity is detected internally after delivery or use has started, customers are informed and instructed what to do with the product. Procedure *04-01, Design Control* provides guidelines for using the Product/Process Change Notice that is used to notify the customer.

12.0 Performance Evaluation

12.1   Monitoring, Measurement, Analysis and Evaluation

Connor-Winfield monitors the quality system processes to ensure that they achieve planned results. Relevant product characteristics are measured through inspections, tests and other product verification activities as specified in controlled documentation. Evidence of product conformity is recorded.

Data and information recorded in quality records are compiled and analyzed periodically to determine trends in the performance and effectiveness of the quality system and to identify opportunities for improvement.

The results of analysis shall be used to evaluate: conformity of products:

a) the degree of customer satisfaction;

b) the performance and effectiveness of the management system;

c) the effectiveness of planning;

d) the effectiveness of actions taken to address risks and opportunities;

e) the performance of external providers;

f) other improvements to the quality management system.

12.2   Customer Satisfaction

As one of the measurements of the performance of the management system, Connor-Winfield monitors information relating to customer perception as to whether the organization has met customer requirements. The methods for obtaining and using this information include:

- recording customer feedback and complaints;

- product rejections or returns and warranty claims;

- trends in on-time delivery;

- repeat customer rates;

- awards and recognitions;

- submittal of customer satisfaction surveys;

- market share.

Information about customer needs and expectations is extracted from customer feedback and complaints, and customer satisfaction data. Operational Procedures *07-02-03, Customer Feedback and Complaints*, and *08-02-03, Customer Satisfaction* defines the system for collection and analyzing the pertinent information and data.

Conclusions are presented and discussed at management review meetings. Managers participating in the meeting discuss the reasons for successes or failures in reaching customer satisfaction objectives, and provide input for setting new objectives for the coming year.

12.3   Internal Audit

Connor-Winfield conducts internal audits at planned intervals to determine whether the quality management system conforms to contractual and regulatory requirements, requirements of ISO 9001, and to the quality management system requirements. Audits also seek to ensure that the quality management system has been effectively implemented and is maintained. Results of these activities are reported to top management and are used to identify opportunities for improvement. These activities are defined in the document *08-02-01, Internal Quality Audits.*

12.4   Management Review

The QMS Leadership Team of Connor-Winfield reviews the quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. The review includes assessing opportunities for improvement, and the need for changes to the quality management system, including the Quality Policy and quality objectives. Management review frequency, agenda (inputs), outputs, required members, actions taken and other review requirements are defined in the documented procedure *05-06-01, Management Review*.

Records from management reviews are maintained.

13 Improvement

13.1 General

The principal objective of the quality management system is to focus on the customer and in particular, on customer satisfaction. The key to achieving high customer satisfaction is a good understanding of customer requirements and a capability to consistently improve products and services to fulfill these requirements as well as to address future needs and expectations.

### 13.2   Nonconformity, and Corrective Action

Causes of identified nonconformities are investigated and, where appropriate, corrective actions are implemented to ensure that nonconformities do not recur. Corrective and preventive actions taken are recorded and are followed up to ensure that they have been properly implemented and that they are effective.

These activities are done through the use of the formal Corrective Action system, and are defined in the procedures *14-01, Corrective Action, and 14-01-03, Corrective Action Request System*.

13.3   Continual Improvement

Connor-Winfield deploys a continual improvement philosophy throughout the entire organization. The improvement effort is driven by goals defined in the quality policy and quality objectives. Improvement opportunities are identified by analyzing quality performance data and information. Improvement projects are defined and implemented through the system of corrective and preventive actions and management review actions. Where appropriate, improvement projects may be also initiated by management directives, such as policy statements, announcements, memoranda, and so forth. Operational Procedures *08-05-03, Continual Improvement and 14-02, Preventive Action* provide a system and instructions for facilitating continual improvement.

Appendix A: Overall Process Sequence & Interaction
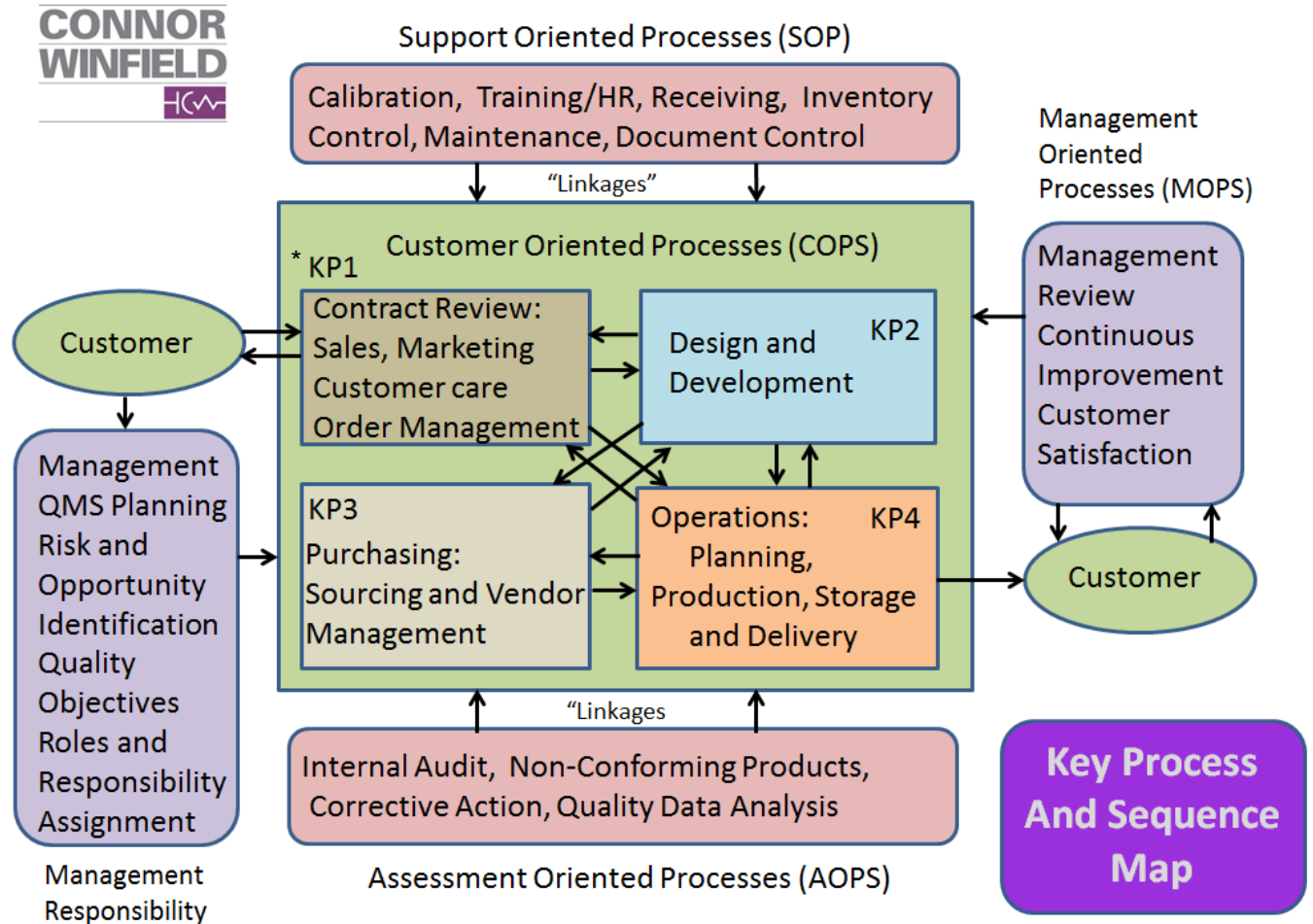
* Key Process 1, Contract Review is located at 2111 Comprehensive Dr. Aurora Il. 60505, all other Key Processes are located at 2359 Diehl Rd. Aurora Il. 60502.