QUALITY SYSTEM MANUAL

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Basler Electric®

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1.0 GENERAL INFORMATION

- **Purpose**

  The purpose of the Basler Electric Quality System Manual (QSM) is to define the quality policies of the Basler Electric Company. As Basler Electric's upper tier quality document, this QSM is designed to and will be updated to comply with ISO 9001: 2008. Refer to AC100029 Quality System Index for appropriate standards and procedures for each facility. Each facility of the company is subject to the policies detailed in the Basler Electric QSM, except as noted above, and to the applicable supporting quality and departmental procedures.

  While the Basler Electric QSM and departmental procedures serve as the upper tiers of the quality system for all facilities in the company, each facility may develop its own documented procedures and instructions to meet their individual and specific needs. It is the responsibility of the Director of Corporate Quality to ensure that procedures and instructions throughout the company comply with the policies of the QMS.

- **Format**

  This manual has five sections that correspond directly with sections four through eight of the American National Standard ISO 9001:2008.

- **Company Overview**

  Basler Electric Company designs, manufactures and sells power conversion and control equipment for commercial, industrial, utility, and military applications. This includes but is not limited to voltage regulators and accessories, engine generator set controllers, protective relays, static excitation systems, and transformers.

- **Mission**

  Our mission is to sustain our position as a worldwide leader in providing quality products and services to our customers. Further, our mission is to operate our business at a profitable level that will sustain growth and provide security for our employees, customers, suppliers, and the communities where our facilities are located.

- **Objectives**

  Basler Electric's Quality Objectives are shown below:

  - Satisfy Customer Expectations while complying with Corporate Owner's Requirements.
  - Meet product quality goals
  - Meet product delivery goals

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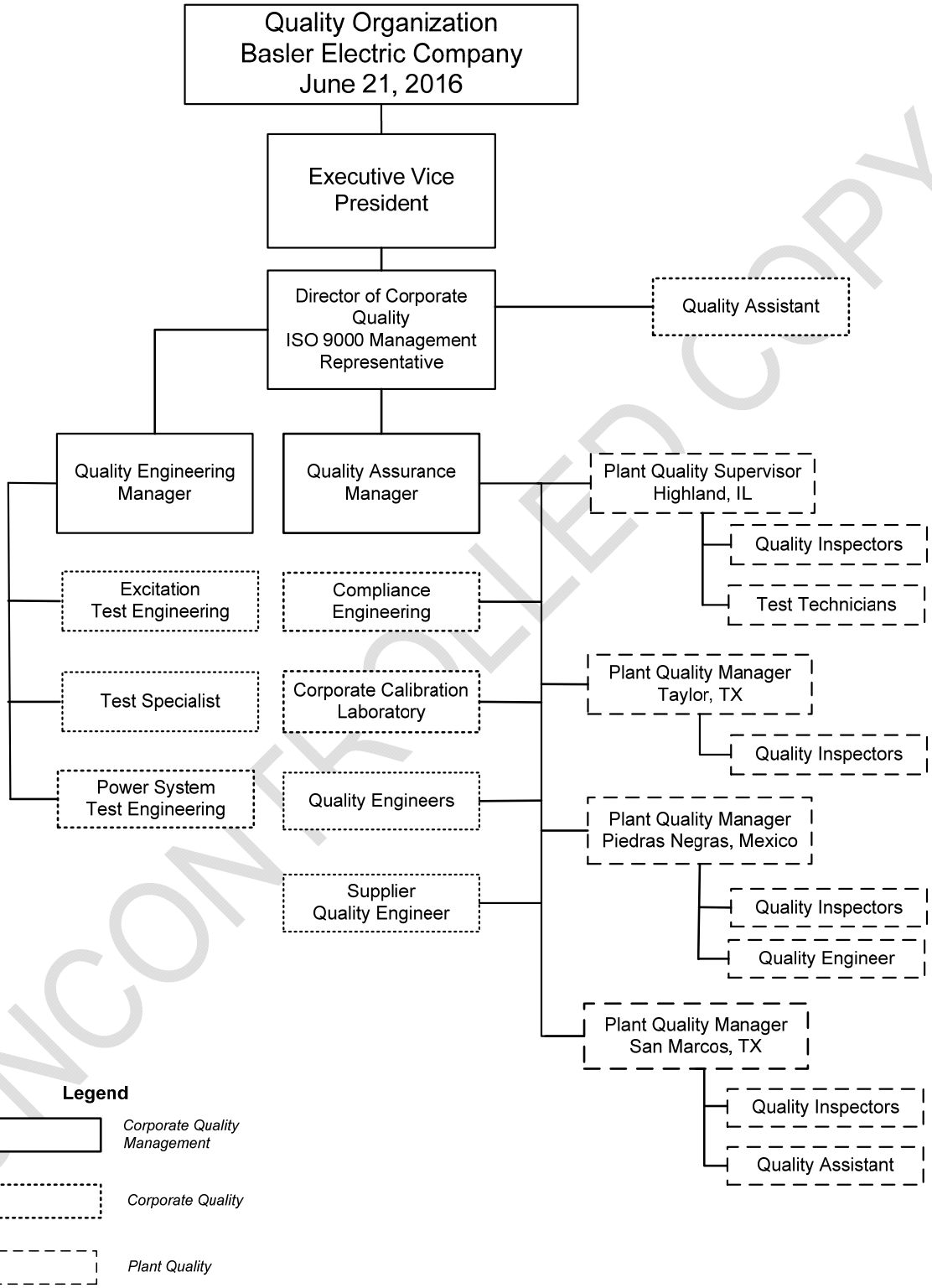
- **QUALITY ORGANIZATION**



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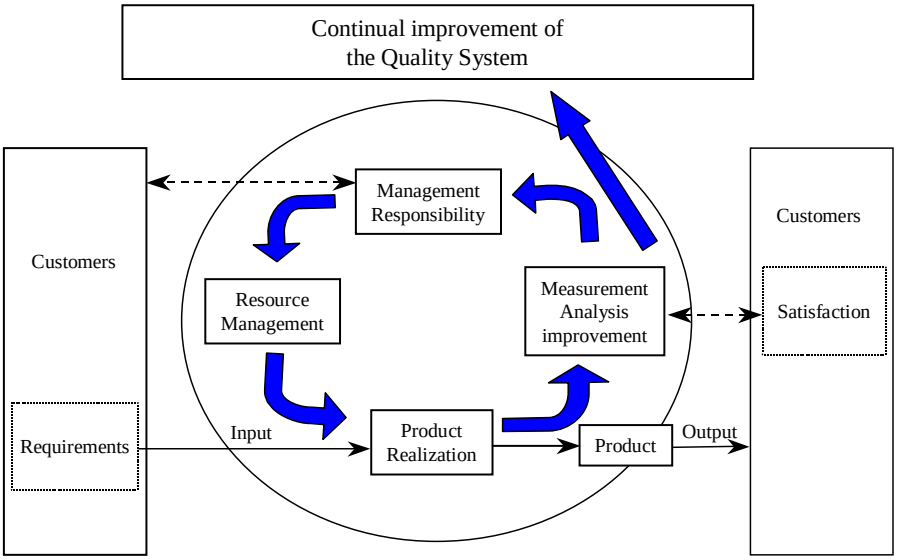
- **QUALITY MANAGEMENT SYSTEM MODEL**



- **Exclusions to ISO 9001:2008 Standard**

  No exclusions are identified for Basler Electric's corporate quality management system. Individual Basler Electric facilities may have exclusions, as appropriate, to these requirements. Exclusions and process limitations are documented in appropriate Facility Quality Plans, ACXXX010.

  Highland facility does not have any processes that are considered not applicable to the standard. Other Basler Electric Co facilities may identify process applicability in their Facility Quality Plans, ACXXX010.

- **Statutory and Regulatory requirements**

  Basler Electric Co products meet appropriate and applicable agency standards based on application, geographic location and market requirements; these may include product evaluation to domestic and international standards (i.e. Safety, EMC, Performance, etc.). Products that require evaluation to applicable standards and/or 3rd Party Agencies are documented and controlled accordingly; see AS100001.

2.0 DEFINITIONS

Definitions given in ISO 9000 shall apply to all provisions of this Quality System.

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3.0 RELATED DOCUMENTS

• ISO 9001	Quality management systems-Requirements
• ISO 9000	Quality Management Systems – Fundamentals and Vocabulary
• AB100009	EX Quality Manual
• AC100001	Corrective and Preventive Action
• AC100003	Internal Auditing
• AC100006	Nonconforming Material
• AC100012	Document Control - Quality Documentation and Records
• AC100015	Control of Quality System Manuals
• AC100017	Procedures, Forms and Work Instructions
• AC100020	Continuous Improvement
• AC100024	Control of Records
• AC100028	Management Review
• AC100029	Quality System Index
• FB100006	Quality Policy – English
• FB100007	Quality Policy – Spanish
•	Corporate and Facility Specific Procedures & Work Instructions

3.1 TRANSLATIONS AVAILABLE

Also change the following documents: AB100001S

4.0 QUALITY MANAGEMENT SYSTEM

4.1 GENERAL REQUIREMENTS

Basler Electric has developed a Corporate Quality Management System that stresses problem prevention and continuous process improvement involving employees, suppliers and associates. The management of Basler Electric established and maintains this documented Quality Management System (QMS) as a means of ensuring that products conform to specified requirements and in accordance with ISO 9001:2008. The following processes and their sequence of interaction have been identified for this QMS: Sales & Marketing, Design Development – Power Systems & Magnetics, Supply Chain Management, Manufacturing, Manufacturing Support and Administrative. The management of Basler Electric is committed to provide the resources necessary to maintain this QMS at all levels and to determine criteria and methods needed to ensure that both the operation and control of these processes are effective while striving for continuous improvement. The outsourcing of any process that affects product conformity with specified requirements is controlled by the Purchasing Manager in accordance with the purchasing process as defined in section 7.4 of this manual.

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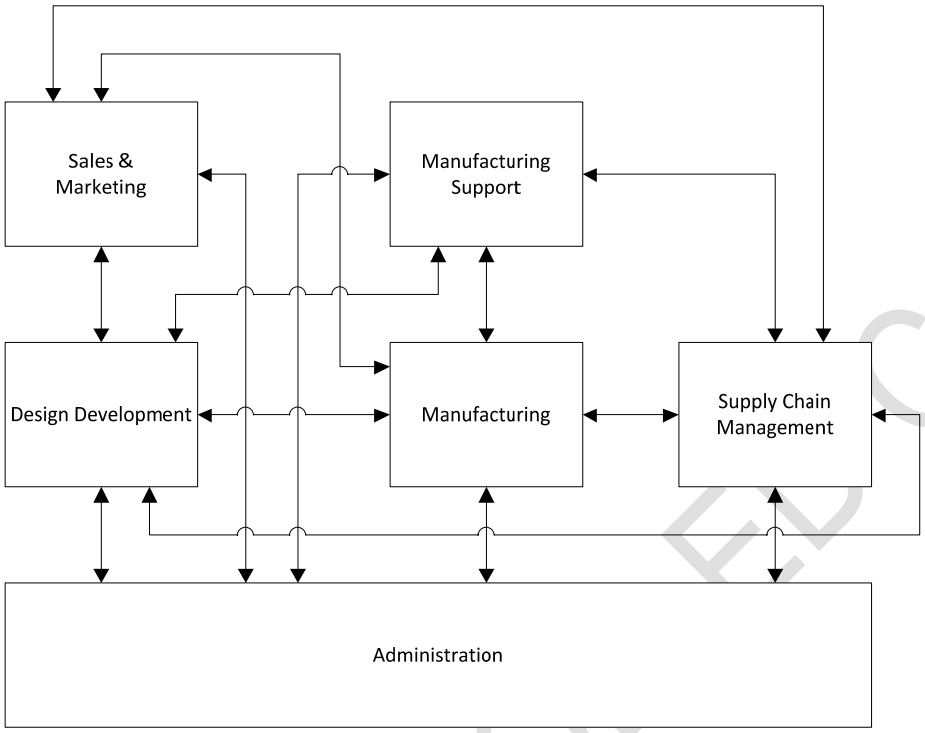
4.1.1 Sequence of Interaction



4.2 DOCUMENTATION REQUIREMENTS

4.2.1 General

This manual exists as a general outline of the formal QMS. The detailed procedures referenced herein are available through the quality department and as identified in procedure AC100017. This QSM, associated procedures and work instructions are controlled as documented in appropriate procedures. The policies that define Basler Electric's quality system are contained in this QSM. These QMS apply to all North American operations of the Basler Electric Company.

4.2.2 Quality Manual

The quality system documentation has the following levels

- Quality System Manual
- Procedures (Corporate and Facility Specific)
- Work Instructions, Forms and Tags (Corporate and Facility Specific)
- Records

The QMS including this QSM will be reviewed at least annually. This review is the responsibility of the Director of Corporate Quality. The results of this review will be presented during the Management Review process.

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4.2.3 Control of Documents

This QMS documents the control of this QSM, documented procedures, work instructions, forms and data related to the requirements of ISO 9001:2008. Detailed procedures and processes are considered proprietary and may not be available for copying, if not pre-arranged contractually. Responsible managers are authorized to determine what documents and data may be viewed and/or copied. See related procedures, AC100012: Document Control – Quality Documentation and Records; AC100015: Control of Quality System Manuals; AC100017: Procedures, Forms and Work Instructions.

4.2.4 Control of Records

Control of records consistent with the requirements of ISO 9001:2008 are implemented and documented in accordance with Basler's QMS. Appropriate records are identified and controlled in procedure AC100024: Control of Records.

5.0 MANAGEMENT RESPONSIBILITY

5.1 MANAGEMENT COMMITMENT

Top Management's commitment to development, implementation and continual improvement of Basler Electric's QMS is demonstrated by the activities documented in this manual.

5.2 CUSTOMER FOCUS

Management has established and maintains procedures contained in this QMS for determining and meeting customer requirements in a manner that is consistent with enhancing customer satisfaction.

5.3 QUALITY POLICY

It is the responsibility of Management to ensure that this policy is understood, implemented and maintained at all levels of the organization. The Strategic/business plan will be reviewed and revised annually, as necessary, to support quality policy objectives. Refer to Forms FB100006 & FB100007. Basler Quality Policy was established in January 1996.

QUALITY POLICY

We satisfy our customers by delivering defect-free, competitive products on time.

We accomplish this by knowing the requirements of our jobs and performing to the best of our abilities while striving for continuous improvement.

5.4 PLANNING

5.4.1 Quality Management System Planning

Planning is described in the facility control plan, manufacturing control plan and other procedures addressing departments and processes to ensure compliance with objectives and that the integrity of Basler Electric's QMS is maintained during process and product changes. Requirements for new product release are also addressed in these procedures.

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5.5 RESPONSIBILITY, AUTHORITY AND COMMUNICATION

5.5.1 Responsibility and Authority

AC100017 documents and communicates responsibility and authority appropriate for the QMS.

AC100029 Quality System Index defines responsibility and authority for the ISO sections.

5.5.2 Management Responsibility

The Director of Corporate Quality is a member of the senior management staff, reports directly to the Executive Vice President, and is the appointed ISO Management Representative. The Director of Corporate Quality is responsible for ensuring the quality system processes are established, implemented, maintained and ensures continuing suitability.

5.5.3 Internal communications

The Director of Corporate Quality reports on the performance and effectiveness of the QMS to top management, normally during the documented Management Review meeting. Continuous Improvement and Quality System Management Review meeting minutes are located on the Basler Network and communicated within the organization as appropriate. Cost of quality, scrap, and quality analysis reports are distributed to managers.

5.6 MANAGEMENT REVIEW

5.6.1 Review Input

Reviews are conducted by Corporate Quality in accordance with the requirements of AC100028.

5.6.2 Review Output

Minutes of the review meeting are recorded and distributed to management in accordance with the requirements of AC100028.

6.0 RESOURCE MANAGEMENT

6.1 PROVISION OF RESOURCES

Each year manpower and resource requirements needed to implement and maintain the quality management system, continually improve its effectiveness and meet customer's requirements are reported by Department Managers in the financial budget for approval by the President.

6.2 HUMAN RESOURCES

6.2.1 General

The Human Resource Department is responsible for evaluating new job applicants to ensure compliance with documented job descriptions, generated and maintained by Department Managers, and that they possess the minimum skills and education required to be eligible for employment. Personnel competency is determined by Department Managers.

6.2.2 Competence, Awareness and Training

Basler Electric has established and maintains procedure AJ100001 for identifying training needs and provides for the training of personnel performing activities affecting quality. Personnel performing specific assigned tasks shall be qualified on the basis of appropriate education, training, and/or experience, as required. Appropriate records of training are maintained. Department Managers and Supervisors

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determine the necessary competence for personnel reporting to them. A minimum competency level is required of employees, whose work affects quality, for them to remain in their assigned job function. Competency is verified by one of the following methods:

- Test results, when appropriate
- Acceptable completion of duties identified in job descriptions.
- Demonstrated ability to apply knowledge and skill.

6.3 INFRASTRUCTURE

The appropriate Facility Manager determines requirements for buildings, workspace and associated utilities. When a facility manager determines that there is a need for additional buildings, workspace or utilities they make their request for funding during the yearly budgeting process to acquire appropriate resources. This includes IT hardware, software and process needs for all locations. IT infrastructure requirements are identified by the Information Systems and Operations Manager and fall underneath the responsibility of the Vice President Finance. Maintenance of buildings and associated utilities are determined by the appropriate Facility Manager and is performed by personnel assigned. Procedures ACXXX010 address the responsibility for acquiring equipment and supporting services.

6.4 WORK ENVIRONMENT

Basler Electric maintains an appropriate work environment needed to achieve conformity to product and regulatory requirements as documented in AJ100002.

7.0 PRODUCT REALIZATION

7.1 PLANNING OF PRODUCT REALIZATION

The processes, planning, objectives, requirements for the product, verification, validation, monitoring and records needed for product realization is addressed in ACXXX010, AGXXX001 and other procedures and work instructions documented in the QMS.

7.2 CUSTOMER-RELATED PROCESSES

The company has established and maintains procedures to determine product requirements, review of requirements and customer communications as described in AL100001.

7.2.1 Determination of Requirements Related to the Product

Contract review for acceptance and capability is performed by Customer Service, Marketing, Proposal Engineer, Project Coordinator and the appropriate Design Engineering Department.

7.2.2 Review of Requirements Related to the Product

Proposal Engineer, Sales and the Marketing Department or Customer Service initiate a product quotation after determining that requirements are adequately defined. Exceptions to the Customer's Specifications and requirements are documented in the quotation. Records of such contract reviews are maintained in accordance with section 4.2.4 of this manual.

7.2.3 Customer Communication

Customer Service, Project Coordinator and Marketing representatives are the primary customer contact personnel. Communications regarding product information, correspondence, inquires, contracts, order handling, amendments to contracts and customer feedback such as complaints are routed through Customer Service, Project Coordinator, Marketing and the appropriate Design Engineering Department. Customer complaints are recorded in a database and are addressed in accordance with section 8.5.2 of this manual.

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7.3 DESIGN AND DEVELOPMENT

Each Design Engineering Department has established and maintains procedures for the product design and development process. See AC100029 for listing of procedures for Design and Development

7.3.1 Design and Development Planning

Design and Development Planning activities are documented in AE100002, AE100003 & AE203001. These activities include the planning of development stages, interfaces between different groups, responsibilities and authorities along with appropriate reviews, verification and validation. Planning is updated appropriately as the design and development progresses.

7.3.2 Design and Development Inputs

Design and Development Inputs are documented in AE100002, AE100003 & AE203001. Inputs will include functional and performance requirements, statutory and regulatory requirements; where applicable, information derived from previous similar designs and other requirements essential for design and development. Reviews are conducted to ensure the design input is adequate prior to beginning a project and to ensure incomplete, ambiguous and conflicting requirements are resolved.

7.3.3 Design and Development Outputs

Design and Development Outputs are documented in AE100002, AE100003 & AE203001. Engineers and other designated personnel create design output. It consists of drawings of component parts and assemblies, wiring diagrams, bills of material required to manufacture and raw test data. Design output includes acceptance criteria, such as tolerances. Design output documents enable manufacturing to construct equipment that meets the design input requirements and specifies the characteristics of the product that are essential for its safe and proper use. The design team reviews all design output drawings prior to releasing for manufacture.

7.3.4 Design and Development Review

Design and Development Review is documented in AE100002, AE100003 & AE203001. Reviews are conducted to evaluate the ability of the results of design and development to meet requirements and to identify any problems and propose necessary actions. Records of the results of reviews and any necessary actions are maintained.

7.3.5 Design and Development Verification

Design and Development Verification is documented in AE100002, AE100003 & AE203001. Design Verification is performed to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions are maintained.

7.3.6 Design and Development Validation

Design and Development Validation is documented in AE100002, AE100003 & AE203001. Design and development validation is performed to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known. Validation is completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions are maintained.

7.3.7 Control of Design and Development Changes

Control of Design and Development Changes is documented in AE100018. Changes are reviewed, verified and validated, as appropriate and approved before implementation. The review of design and development changes includes evaluation of the effect of changes on constituent parts and product already delivered. Records are maintained of design and development changes.

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7.4 PURCHASING

Suppliers are selected and maintained to support the organization's needs for material and service requirements.

7.4.1 Purchasing Process

Suppliers are approved in accordance to the Supplier Approval and Verification procedure, AH100004, which establishes criteria for selection, evaluation and re-evaluation. Records of results of evaluation and any necessary actions arising from evaluations are maintained. Refer to the Quality System Index, AC100029, for a complete list of procedures addressing Basler's purchasing process.

7.4.2 Purchasing Information

Purchasing information shall describe the product to be purchased, including, where appropriate:

- Requirements for approval of product, procedures, processes and equipment.
- Requirements for qualification of personnel.
- Quality management system requirements

7.4.3 Verification of Purchased Product

Inspection and other activities necessary for ensuring that purchased product meets specified purchase requirements are established and implemented. Materials are inspected when received in accordance with Receiving Inspection procedure, AC100009, and work instructions to ensure that purchased product conforms to specified purchase requirements. Where Basler or our customer intends to perform verification at the supplier's premises the intended verification arrangements and method of product release is included in the purchasing information provided to the supplier.

7.5 PRODUCTION AND SERVICE PROVISION

Production and service provisions are planned and carried out under controlled conditions. Refer to Quality System Index AC100029 for a list of procedures addressing the control of production and service provision.

7.5.1 Control of Production and Service Provision

Where applicable the following controlled information is available:

- Characteristics of the product
- Work instructions
- Availability of measuring devices
- Implementation of monitoring and measuring equipment
- Implementation of release, delivery and post delivery activities

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7.5.2 Validation of Processes for Production and Service Provision

Special processes which include but not limited to welding and soldering is validated and/or controlled via the following:

- Monitoring by Line Supervisors and Quality to defined criteria.
- Approval of equipment and qualification of personnel.
- Use of specific methods and procedures
- Records of qualification are maintained.
- Appropriate re-validation as required.

7.5.3 Identification and Traceability

Identification and Traceability is addressed in AC100007. All parts and materials used in the manufacture of products shall be assigned part numbers to allow for identification. All items will be clearly identified throughout the manufacturing process, as to part number, current stage of manufacture and acceptability of quality. This may be by labels, tags, routing tickets, location or other suitable means. This marking may be either individually or by lot. All products will be traceable after shipment by the use of applicable serial numbers, revision levels, date codes, lot numbers, etc.

Where items sold by Basler Electric are required to have traceability documents evidencing the chain of title through Certificates of Conformance (C of Cs – see AC100019) or Certificates of Traceability (C of Ts), items sold or used in the production of the product that is sold, must identify the C of C and C of T requirements to our suppliers. This certification requirement must be identified on the individual purchase orders issued to suppliers for those materials. The appropriate traceability documentation is kept as part of receipt records in each facility's receiving area.

7.5.4 Customer Property

Customer-supplied product used in the manufacture of products by Basler Electric shall receive the same verification and control as purchased items. Customer-supplied items such as tooling used during the manufacture of products, or test equipment used during verification testing, will be clearly identified and shall be treated the same as equipment owned by Basler Electric. Special customer requirements will be documented with appropriate procedures and work instructions.

7.5.5 Preservation of Product

The conformity of product is preserved during internal processing and delivery to the intended destination. Necessary protection of all products is provided to prevent damage, loss, deterioration or substitution. Appropriate procedures, work instructions and/or bills of material shall specify packaging materials and methods for all finished products. Internal storage and handling procedures shall emphasize prevention of damage, electrostatic discharge (ESD) protection (where appropriate), first-in first-out storage, and attention to shelf-life sensitive materials. All materials and products shall be appropriately identified throughout the manufacturing process. The constituent parts of the product are included in this preservation process.

7.6 CONTROL OF MONITORING AND MEASURING DEVICES

Control of measurement and monitoring of product is documented in the facility quality plan and the manufacturing control plan. See AC100002. Control of monitoring and measuring devices are documented in the control of measuring, inspection & test equipment.

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All inspection, measuring and test equipment used for the verification of process and product shall be controlled by documented calibration and maintenance procedures. These procedures shall provide direction for accuracies, instrument traceability, identification, records, environment, handling and overall control. It is the responsibility of each facility manager to assure that manufacturing personnel are aware of these control requirements. However, it is the responsibility of the individual employee to know that the equipment being used has been calibrated for use.

8.0 MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 GENERAL

Products are inspected according to documented procedures. These procedures are identified in AC100029.

8.2 MONITORING AND MEASUREMENT

Procedures have been established and implemented to evaluate and continually improve upon product, processes and customer satisfaction. Monitoring and measurement are documented in appropriate procedures.

8.2.1 Customer Satisfaction

Customer perception as to whether Basler Electric has met requirements is monitored as documented in procedure WT100033.

8.2.2 Internal Audit

Internal quality audits, as documented in AC100003, are performed by trained and qualified auditors to verify that quality system policies and procedures are being followed and that the system is effective in correcting practices that cause nonconformity's. All procedures, processes and products are subject to audit. Responsibility for scheduling of audits of the quality system will reside with the designated lead auditor, who shall be designated by the Director of Corporate Quality. Nonconformance's resulting from internal audits must be formally responded to with appropriate corrective action and closed out within 2 months of initial issuance; this closure can be postponed for a suitable time as determined by management based on severity. Results of quality audits will be reviewed by the executive staff during the management review process.

8.2.3 Monitoring and Measurement of Processes

Quality system metrics being monitored are identified in the Quality System Continuous Improvement procedure AC100020. When planned results are not achieved, corrections and corrective actions are taken, as appropriate, to ensure conformity of product. The Quality System Index includes additional procedures addressing monitoring and measurement of processes. Work Instructions may also address monitoring and measurement.

8.2.4 Monitoring and Measurement of Product

Monitoring and measurement of product along with the product acceptance process for shipment is documented in the facility quality plan, ACXXX010, and the manufacturing control plan, AGXXX001.

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8.3 CONTROL OF NONCONFORMING PRODUCT

Procedures shall be developed to assure that nonconforming product cannot be forwarded to the next production process. These procedures shall provide for the appropriate identification, segregation, and disposition of nonconforming product. Nonconforming product may be identified at point of the manufacturing process, as well as customer returns. See “Non-Conforming Material Procedure” AC100006.

8.4 ANALYSIS OF DATA

The metrics collected and analyzed as part of the continuous improvement process as documented in AC100020 are used to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of quality management system can be made.

8.5 IMPROVEMENT

8.5.1 Continual Improvement

Continuous improvement of the Quality Management System is achieved through the use of the processes described within this document. The effectiveness of this Quality Management System is continually improved through the use of the quality policy, quality objectives and preventive actions and management review. See AC100020 Continuous Improvement.

8.5.2 Corrective Action

Documented procedures for addressing and implementing corrective actions are established. Emphasis is placed on the determination of corrective action needed to eliminate the cause of nonconformities. Effective handling of customer complaints, reports of product nonconformities and internally detected nonconformities are address as described in AC100001, Corrective and Preventive Action Procedure. Investigation into the cause of nonconformities relating to product, process and quality system, and recording the results of the investigation is addressed in the above procedure.

8.5.3 Preventive Action

Documented procedures for addressing and implementing preventive actions are established. Emphasis is placed on preventive action to foster a proactive approach using appropriate sources of information as identified in procedure AC100020, Continuous Improvement to detect, analysis and eliminate potential causes of nonconformities; also reference procedure AC100001, Corrective and Preventive Actions. Relevant preventive action information on actions is submitted to management review in accordance with procedure AC100028, Management Review.

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