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<table>
<thead>
<tr>
<th>DEPARTMENT/LOCATION</th>
<th>(ON-LINE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOCUMENT CONTROL</td>
<td>(ON-LINE)</td>
</tr>
<tr>
<td>PRINCIPAL/GENERAL MANAGER</td>
<td>(ON-LINE)</td>
</tr>
<tr>
<td>QUALITY MANAGER</td>
<td>(ON-LINE)</td>
</tr>
<tr>
<td>CHIEF OF OPERATIONS</td>
<td>(ON-LINE)</td>
</tr>
<tr>
<td>ENGINEERING TEAM</td>
<td>(ON-LINE)</td>
</tr>
</tbody>
</table>
QUALITY POLICY

B&A Engineering Systems Inc. will consistently provide services that meet or exceed the requirements and expectations of our customers. We will actively pursue ever-improving quality through programs that enable each team member to do their job right the first time and every time.

The Principal of B&A Engineering Systems Inc. has formulated the quality policy. The policy is explained and discussed at the general orientation training given to all new team members and has been reviewed with all current team members. All team members are expected to know what the quality policy means to them as it affects their job or position within the company. The policy is posted in prominent locations throughout the facility.

Alireza Bakhshi
Principal Engineer/General Manager
Introduction

B&A Engineering Systems Inc., developed and implemented a Quality Management System in order to document the company’s best business practices, better satisfy the requirements and expectations of its customers, and to improve the overall management of the company.

The Quality Management System of B&A Engineering Systems Inc. meets the requirements of the international standard SAE AS9100C. This system addresses the design and development of the company’s services. The system is suitable for electronic design engineering as well as post-delivery support for the company’s designs and services.

The manual is divided into sections that correlate to the Quality Management System sections of the ISO 9001:2008 format and AS9100C. Each section begins with a policy statement expressing B&A Engineering System Inc.’s obligation to implement the basic requirements of the referenced Quality Management System section. Each policy statement is followed by specific information pertaining to the procedures that describe the methods used to implement the necessary requirements.

This manual describes the Quality Management System, delineates authorities, interrelationships and responsibilities of the personnel responsible for performing within the system. The manual also provides procedures or references for all activities comprising the Quality Management System to ensure compliance to the necessary requirements of the standard.

This manual is used internally to guide the company’s team members through the various requirements of the AS9100 Rev C standard that must be met and maintained in order to ensure customer satisfaction, continuous improvement and provide the necessary instructions that create an empowered team of professionals.

This manual is used externally to introduce our Quality Management System to our customers and other external organizations or individuals. The manual is used to familiarize them with the controls that have been implemented and to assure them that the integrity of the Quality Management System is maintained and focused on customer satisfaction and continuous improvement.

______________________________
Alireza Bakhshi
Principal
B&A Engineering Systems, Inc. (BAENG) is a vibrant, growing business with its primary focus, and core business, centered around developing Space Flight and Avionics Systems and Instrumentation. We have expanded our design services into various other communities/industries as well. BAENG’s highly-qualified and capable staff work directly with clients to develop systems from initial concept and specification to final testing, system verification, environmental and quality testing, and final implementation.

Over the past 25+ years BAENG has expanded its knowledge-base, skills, capabilities, and proven track record. Additionally, BAENG is AS9100C compliant. BAENG has successfully completed a myriad of electronic engineering projects. Many of the assignments we undertake involve the resolution of major challenges in Space flight and Avionics system instrument development.

BAENG has extensive, and proven successful experience designing highly-reliable electronic systems and components that meet ruggedized standards, comply with extremely limited size and weight requirements, are ultra-high speed (often setting new standards for throughput), are based on proven state-of-the-art/forward thinking technologies, and are designed to be in full compliance with various international and national standards and specifications. We are known for undertaking, and successfully completing, new electronic designs that become resolutions to what are often considered major technical challenges.

B&A Engineering Systems, Inc. offers a range of electronic design services to address the many and varied needs of the Space and Aerospace community. In the past few years we have expanded our design and additional services into various other communities/industries as well. Some key design and engineering services include:

- System, Hardware and Software Definition and Requirements
- Space Flight and Avionics System design
- Digital and Analog Electronic design
- FPGA design and development
- ASIC design and development
- Schematic capture
- Board layout
- NI LabVIEW development - Test Instrumentation, FPGA, Real-Time
- Rapid prototyping
- Electronic Fabrication and Assembly through third party partners
- Ground Support Equipment (GSE) development
- Embedded and GSE software development
- Integration and Test
- Worst-Case Analysis (WCA), Failure Modes and Effects Critically Analysis (FMECA)
- Technology upgrade and Integration
- Flight and Avionic instrument development
- Environmental qualification and testing support
- Test engineering
- Engineering and Technical consulting services
- National Instruments Value-Added Reseller
- Technical Writing and Documentation.
- Technical Illustration - Orthographic, Isometric, 3D, Perspective, and more.
- Process and procedural development, analysis, improvement, and refinement
- Meeting facilitation, presentations, and brainstorming sessions
Documentation Scheme

Level I
Quality Manual

Level II
Documented Procedures

Level III
Work Instructions

Level IV
Records & Forms
Quality Manual Distribution

The Quality Manual is made available on-line to all B&A Engineering Systems, Inc. team members and also available on-line through our Web site for customer reference and review.
Attachment A-550-001

ORGANIZATION CHART

Principal
General Manager

OPERATIONS
Customer Solutions
Sales/Marketing
Information Technology

Design
Engineering

Administrator
Accounting
Human Resources

QMS
Management
Representative

Appendix 1
Section 1: Scope

1.1 General

This quality manual outlines the policies, procedures and requirements of B&A Engineering Systems Inc.’s (BAENG) Quality Management System (QMS). The system is structured to comply with the conditions set forth in the International Standard SAE AS 9100 Rev C.

1.2 Application

BAENG’s Quality Management System manual is the top tier quality document for BAENG’s facility located at 3554 Business Park Drive, Suite A-1, Costa Mesa, California 92626.

BAENG has determined that the following requirements are not applicable to the operations at this site and are documented as exclusions:

- No manufacturing or production-type and related operations at B&A Engineering Systems Inc.
Section 2: Normative Reference

2.0 Quality Management System References

The following documents were used as reference during the preparation of the Quality Management System:

Section 3: Definitions

3.0 Quality Management System Definitions

- **Customer owned property** - Any type of instrumentation, accessories, manuals, or shipping containers that belong to a customer.

- **Customer supplied product** - Any type of service or material supplied to be utilized in the modification of customer-owned property.

- **Final Design** – The end result of meeting all contractual requirements, specifications, terms and conditions. (i.e., deliverable design services system integration, documentation, training, etc.)

- **Quality records** – Documentation of those activities wherein records of said activities must be maintained to demonstrate evidence of conformity to this quality system as specified in the procedure or work instruction level documents, where applicable.

3.1 Risk:

An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

3.2 Special requirements:

Those requirements identified by the customer, or determined by BAENG, which may have high risks of occurrence and thus, requiring their inclusion in the risk management/elimination process. Factors used in the determination of special requirements include design or process complexity, past experience and/or process maturity.

3.3 Critical items:

Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the design realization and use of the design; including safety, performance, form, fit, function, easy to produce, service life, etc., that require specific actions to ensure they are adequately managed.
4.1 General requirements

B&A Engineering Systems Inc. has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of AS9100C and statutory and regulatory requirements. The system is maintained and continually improved through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, and management review.

To design and implement the Quality Management System B&A Engineering Systems Inc. has:

- Determined the processes needed for the QMS, their application and documented them on the Process Flow Diagram (see Appendix 2) at the end of this Quality Manual
- Determined the sequence and interaction of these processes, and illustrated them on the Process Flow Diagram
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective, and documented them in quality plans, work instructions and the Measuring, Monitoring and Analysis Table
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes
- Established Procedures to monitor, measure and analyze these processes
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes
- Defined the controls for outsourced processes

4.2 Documentation Requirements

4.2.1 General

The QMS documentation includes:

- A documented statement for the Quality Policy and Quality Objectives
- This Quality Manual
- Documented Procedures
- Documents identified as needed for the effective planning, operation and control of our processes
- Quality Records
- Records required by statutory and regulatory authorities
B&A Engineering Systems Inc. ensures that all team members have access to the Quality Management System documentation and are aware of relevant procedures and changes. We also provide customer or statutory and regulatory authorities’ access to applicable quality management system documentation.

4.2.2 Quality manual

This Quality Manual has been prepared to describe B&A Engineering Systems Inc.’s QMS. The scope and permissible exclusions of the QMS are described in Section 1 of this manual. Each section of the manual references documented QMS procedures relating to the requirements outlined in that section. The Process Flow Diagram in Appendix 2 provides a description of the interaction between the processes of the QMS system. The relationship between the AS9100C standard and documented procedure has been indicated by use of a numbering system that correlates to the AS9100 standard.4.2.3 Control of documents

4.2.3 Control of Documents

All QMS documents are controlled according to the Document Control Procedure (P-423). This procedure defines the process for:

- Approving documents for adequacy prior to issue
- Reviewing, updating, and re-approving as necessary
- Ensuring that changes and current revision status of documents are identified
- Ensuring that the latest versions of applicable documents are available
- Ensuring that documents remain legible and readily identifiable
- Ensuring that documents of external origin are identified and their distribution controlled
- Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose

4.2.4 Control of quality records

Quality records are maintained to provide evidence of conformity to the requirements and of the effective operation of the QMS. The records, including those created or maintained by suppliers, are maintained according to the Control of Quality Records Procedure (P-424).

This procedure requires that quality records remain legible, readily identifiable and retrievable. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of quality records.
Related Procedures

<table>
<thead>
<tr>
<th>Document Control</th>
<th>P-423</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of Quality Records</td>
<td>P-424</td>
</tr>
</tbody>
</table>
ISO QMS System Diagram

5.1 Management Responsibility
8.5.1 Continual Improvement

Receive State of Work (SOW) from customer

Review SOW

Question to customer?

Yes

Contact customer

No

Pricing

Contract

Is Contract per SOW?

Yes

Receive order From Customer

Kickoff Meeting

Design per Requirement

PDR With Customer

Any Action Item?

Yes

Generate Action Item

No

Action Item status

Complete The Design

CDR with customer

Generate action item

Implement action items

Check Results

Any Action Items?

Yes

Is Build Req?

Veriﬁy build to Req

Is Product acceptable?

Yes

Rework to Requirement

No

No

Test Product

Is Testing Req?

Inspection Results

Pack & Ship Product

Provide Service support

Appendix 2
5.1 Management commitment

Management has been actively involved in implementing the quality management system. It has provided the vision and strategic direction for the growth of the QMS, the establishment of the quality objectives and the quality policy.

Management will continue to provide the following.

- Communicate the importance of meeting customer, statutory, and regulatory requirements
- Enhance quality objectives as needed
- Emphasize the importance of the quality policy
- Conduct regular management reviews
- Ensure the availability of resources
- Ensure an environment exists within the work place that not only encourages but truly inspires continuous improvement

5.2 Customer focus

B&A Engineering Systems Inc. strives to identify current and future customer needs, to meet customer requirements and exceed customer expectations.

Management ensures that design requirement compliance and on-time delivery performance are measured, and that the appropriate action is taken if planned results are not achieved, or will not be achieved.

Management ensures that customer requirements are understood and met, by requiring compliance with customer communication procedures. Customer requirements are incorporated into project procedures and plans which are followed by all team members.

5.3 Quality policy

Management ensures that the quality policy is communicated to all employees. The quality policy and supporting information are included in new team member training and training specifically related to the QMS. The quality policy is posted in prominent places throughout the facility to maintain high standards and awareness within the organization.

Management reviews the quality policy at management review meetings to determine the policy’s continuing suitability. The Quality Policy is documented on A-500-001, Quality Policy.
5.4 Planning

5.4.1 Quality objectives

Quality objectives are established to measure the effectiveness of the organization’s efforts in achieving the stated goals of the quality policy and the Quality Management System. They are reviewed annually for suitability and effectiveness. The primary quality objective is to meet or exceed customer requirements and thus create customer satisfaction. Quality objectives are measurable, and reviewed against performance goals at management review meetings.

5.4.2 Quality management system planning

The quality system has been planned and implemented to meet our quality objectives and the requirements of 4.1 of the AS 9100 standard.

5.4.2.1 When a new design process, or contract requirement is evaluated for adoption into the quality system, the appropriate team members meet to define and document how the requirements for quality will be met.

5.4.2.2 BAENG designs are based on a thorough understanding, and proven experience, with electronic design engineering common practices and approaches, documented SOPs, required/applicable specifications, engineering data, and carefully reviewed and selected parts and components used to develop each Bill of Material (BOM). The applicable documentation is kept in the Product Master Records and updated in accordance with SOP.

5.5 Responsibility, authority, and communication

5.5.1 Responsibility and authority

An organizational chart has been established to show the interrelation of personnel in the organization. Job descriptions define the responsibilities and authorities of each of the positions on the organizational chart. Job descriptions and the organizational chart are reviewed and approved by top management. These documents are available on-line to help team members understand responsibilities and authorities. Appendix 1 shows B&A Engineering Systems Inc.’s Organizational Structure (A-550-001).
5.5.2 Management representative

BAENG’s Principal is the top manager responsible for the effective implementation of the QMS. The Quality Assurance Manager (QAM) has been appointed as a management representative. As a management representative, QAM has the following responsibility and authority:

- Ensure that processes needed for the quality management system are established and implemented
- Report to Principal on the performance of the quality management system, and note needed improvements
- Promote awareness of customer requirements throughout the organization
- Act as a liaison with external parties such as customers or auditors on matters relating to the QMS
- Resolve matters pertaining to quality issues
- Organizational freedom and unrestricted access to Principal to resolve matters pertaining to quality

5.5.3 Internal communication

Processes are established for communication regarding the QMS system within the organization. Methods of communicating the effectiveness of the QMS include department and management meetings, management review, circulation of minutes of management review meetings, Internal Audit Closing meetings, and other routine business communication.

5.6 Management review

5.6.1 General

Management reviews the QMS regularly at management review meetings. This review assesses the continuing QMS suitability, adequacy and effectiveness, identifying opportunities for improvement. If potential changes to the QMS are discussed, records to capture the discussed and agreed upon changes are generated.
5.6.2 Review input

Assessment of the QMS is based on a review of various information provided for management review. This information includes the following:

- Results of internal audits
- Customer feedback, compliments, and complaints
- Process performance and design conformity
- Company level quality data
- Service issues
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Planned changes that could affect the quality management system
- Recommendations for improvement

5.6.3 Review output

During these review meetings, management will identify appropriate actions to be taken regarding the following issues:

- Improvement of the effectiveness of the quality management system
- Improvement of design processes based on customer requirements, satisfaction, and service
- Resource needs

Responsibility for required actions is assigned to members of the management review team. Any decisions made during the meeting, assigned actions, and their due dates are recorded in the minutes of management review.

Related Procedures:

Management Responsibility P-500
6.1 Provision of resources

B&A Engineering Systems Inc. has implemented a Quality Management System that complies with the AS9100C standard. This implementation was achieved with management commitment and with sufficient resources for the implementation. To enhance customer satisfaction and effectively maintain and continually improve the system, management determines and provides necessary resources.

6.2 Human resources

6.2.1 General

To ensure competence of our team members, job descriptions have been prepared identifying the qualifications required for each position within the organization. Qualifications include requirements for education, skills, and experience. Appropriate qualifications, along with required training, provide the competence required for each position.

6.2.2 Competence, awareness and training

Qualifications are reviewed before and after hiring, also when team members change positions, or when the requirements for a position changes. Human resources maintains records of team member qualifications. If any differences between the team member's qualifications and the requirements for the job are found, training or other action is taken to provide the team member with the necessary competencies for the job. The results are then evaluated to ensure that the required competences have been achieved. Training and evaluation are conducted according to the Training procedure. (P-622)

All team members are trained on the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

6.3 Infrastructure

To meet quality objectives and requirements B&A Engineering Systems Inc. has determined the infrastructure required and put it in place (P-630). The provided infrastructure includes buildings, workspace, utilities, process equipment (both hardware and software), and supporting services. As new infrastructure requirements arise, they are documented in the quality plans. Existing infrastructure is well-maintained to ensure a quality environment exists.
6.4 Work Environment

A work environment suitable for achieving superior design results is continually maintained. Requirements for this environment are determined during quality planning, and documented in the quality plans. Data gathered from the quality system is evaluated to determine if the work environment is sufficient, or if preventive or corrective action related to the work environment is required.

Related Documents

<table>
<thead>
<tr>
<th>Competence, Awareness and Training</th>
<th>P-622</th>
</tr>
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<tbody>
<tr>
<td>Infrastructure</td>
<td>P-630</td>
</tr>
</tbody>
</table>
7.1 Planning of design realization

Quality planning takes place before new designs or processes are started. The quality planning may take place in an process similar to a preliminary design review, or through a series of engineering and/or customer meetings. During this planning, team members identify the following:

- The quality objectives and requirements
- Processes, documentation, and resources required
- Verification, validation, monitoring, measuring, inspection and test requirements
- Configuration management
- Criteria for design acceptance
- Resources necessary to support use and maintenance of the final design

7.1.1 Project Management

Management assigns technical and logistical responsibility for project management and ensuring that design realization is planned and managed in a controlled manner, meeting requirements at an acceptable risk, within resource and schedule constraints.

7.1.2 Risk Management

Risks are managed according to the Risk Management procedure (P-712). The process of risk management includes:

- Assigning personnel responsible for risk management
- Defining risk criteria
- Identification, assessment, and communication of risks
- Identification, implementation and management of actions to mitigate risks
- Acceptance of risks remaining after implementation of mitigating actions

7.1.3 Configuration Management

Configuration management is defined in P-713, Configuration Management. The procedure defines the process for:

- Configuration planning
- Configuration identification
- Change control
- Configuration status accounting
- Configuration audit
7.1.4 Control of Work Transfers

Temporary or permanent transfers of work are planned to control and verify the conformity of the work to customer and/or design requirements. Planning of work transfers, for example, from the company to a supplier, from one supplier to another, takes place according to the Planning of Realization Processes procedure (P-710) and coordination with the purchasing department in compliance with the purchasing procedure (P-740).

7.2 Customer-related processes

7.2.1 Determination of requirements related to the design

B&A Engineering Systems Inc. determines customer requirements before acceptance of an order. Customer requirements generally include:

▪ Customer specifications
▪ Statements Of Work (SOW)
▪ Requests For Information
▪ Regulatory and special requirements related to the design

7.2.2 Review of requirements related to the design

B&A Engineering Systems Inc. has a process in place for the review of requirements related to the design. Normally the review is conducted as part of the bid and/or proposal process and before the contract is awarded and accepted. The process ensures that:

▪ All requirements are defined and carefully detailed
▪ Contract or additional requirements differing from those previously expressed are resolved
▪ B&A Engineering Systems Inc. has the ability to meet the defined requirements
▪ Where a customer does not provide a documented statement of work requirements, the customer requirements are obtained directly from the customers during meetings, documented, and are confirmed before acceptance
▪ Contractual requirements are reviewed and special design requirements are determined
▪ When design requirements are changed, B&A Engineering Systems Inc. communicates changes to relevant team members and amends the appropriate documents
▪ Risks (e.g., new technology, short delivery time scale) have been evaluated (P-712).
7.2.3 Customer communication

B&A Engineering Systems Inc. has implemented an effective procedure (P-720) for communicating with customers in relation to:

- Product Information
- In-process reviews
- Inquiries, contracts and amendments
- Customer Feedback, including customer compliments and complaints

7.3 Design and Development

7.3.1 Design and development planning

The design and development procedure (P-730) outlines the process for guiding the design and development process. The design process includes:

- Design and development stages
- Required design reviews, verification and validation appropriate to each design stage
- Responsibilities and authorities for design and development.
- The division of the design effort into distinct activities, where appropriate
- The tasks, resources, responsibilities, design content, input, output, and planning constraints for each activity
- The ability to produce, inspect, test, and maintain the design
- Identification of the technical interfaces required for the project
- Updating of the design plan as the project progresses
- The different design and development tasks to be carried out, defined according to specified safety or functional objectives and in accordance with customer or statutory and regulatory authority requirements.

7.3.2 Design and development inputs

Inputs relating to the design requirements are determined and documented according to the Design and Development procedure (P-730). All inputs are reviewed for adequacy and completeness, and to resolve any ambiguous inputs. Inputs include:

- Functional and performance requirements
- Applicable statutory and regulatory requirements
- Where applicable, information derived from previous similar designs
- Other requirements essential for design and development
7.3.3 Design and development outputs

Outputs of design and development are documented according to the Design and Development Procedure (P-730). They are documented in a format that enables verification against the inputs, and are approved prior to release. Outputs:

- Meet the input requirements
- Provide appropriate information for purchasing, design, and support as applicable
- Specify the characteristics of the design that are essential for its safe and proper functioning.
- Identify critical items such as key characteristics in accordance with design or contract requirements and action to be taken for these items

7.3.4 Design and development review

The design plan specifies suitable stages of the project to conduct design and development reviews. Reviews take place according to the design and development procedure; results of design review are recorded in minutes of the design review meetings which are maintained as a quality record. Design reviews:

- Evaluate the results of design and development activities and determine if they fulfill requirements
- Identify any problems and generate an action item list and propose necessary remedies
- Include representatives of functions concerned with the design and development stage being reviewed to authorize progression to the next stage.

7.3.5 Design and development verification

Design verification is planned and performed to ensure that the design and development outputs have satisfied the design and development input requirements. Records of the results of the verification and any necessary actions are maintained according to the Design and Development procedure (P-730).

7.3.6 Design and development validation

Design and development validation is performed according to the design plan to ensure that the resulting design is capable of fulfilling the requirements for the specified or known intended use or application. Validation is completed prior to delivery. Records of the validation activities are maintained according to the design and development procedure.
7.3.6.1 Design and Development Functional, Environmental, Verification and Validation Testing

Functional, environmental, verification and validation tests are planned, controlled, reviewed, and documented to ensure and prove the following:

- The design functions as it is required to
- The design can pass all environmental tests
- The design is properly correct configured
- All acceptance criteria are met

7.3.6.2 Documentation of Design and Development Verification and Validation

At the completion of design and/or development, the organization ensures that reports, calculations, test results, etc., demonstrate that the design meets the specification requirements for all identified operational conditions.

7.3.7 Control of design and development changes

The design and development procedure defines a process for identifying, recording, verifying, validating and approving design changes. The review of design and development changes includes an evaluation of the effect of the changes on constituent parts and the overall final design. Records are maintained to show the results of the review and any necessary actions identified during the review. Changes are controlled according to the Configuration Management Procedure. (P-713)

BAENG controls internal and external documents and data such as engineering drawings, Bill of Material and test procedures. The design and/or development team members review and approve all applicable documents before they are released.

7.4 Purchasing, Receiving, Supplier Management Information

7.4.1 Purchasing, Receiving, Supplier Management information

The Purchasing, Receiving, Supplier Management Information procedure (P-740) is followed to ensure that any purchased product, and the supplier, conform to the specified purchase requirements. The procedure outlines the extent of control required for suppliers. Suppliers are evaluated and selected based on their ability to supply products in accordance with the requirements as outlined in the procedure.

Responsibilities and criteria for selection, evaluation and re-evaluation, status and status change and risk analysis are documented in the procedure. Records of the evaluation and any necessary actions are maintained as quality records. The organization is responsible for the quality of all products purchased from suppliers, including customer-designated sources.
This is achieved through our documented Purchasing, Receiving, Supplier Management Information procedure and includes:

- Maintaining documentation and files for qualified suppliers
- Reviewing supplier performance
- Defining action to take when suppliers do not meet requirements
- Ensuring that B&A Engineering Systems Inc. and our suppliers use customer-approved special process sources
- Defining responsibility, authority and the process for approval status decisions, changes of status, and conditions for controlled use of a supplier
- Determining and managing the risk when selecting and using suppliers

7.4.2 Purchasing, Receiving, Supplier Management information

Purchasing, Receiving, Supplier Management Information describes the following, where/as applicable:

- Requirements for approval of product, processes and equipment
- Requirements for qualification of personnel
- Quality management system requirements outlined in the Purchasing, Receiving, Supplier Management Procedure (P-740)
- Identification and revision status of documentation and relevant technical data
- Requirements for design, test, inspection, verification, use of statistical techniques for product acceptance and related instructions, critical items including key characteristics
- Requirements for test specimens, design approval, inspection/verification, investigation or auditing
- Requirements for the supplier to notify of nonconforming product, obtain approval for nonconforming product disposition, notify of changes in product or process, changes of suppliers, changes of manufacturing facility location, and flow down requirements to the supply chain
- Records retention maintenance
- Right of access to areas of the facilities and records

The purchasing, receiving, supplier management documents are reviewed to ensure the adequacy of requirements before orders are placed with the supplier.

7.4.3 Verification of purchased product

The Purchasing, Receiving, Supplier Management procedure (P-740) describes the process used to verify, and as applicable test, that purchased product meets specified requirements. Purchased products are not used or processed until they have been
verified and/or tested to determine if they conform to specified requirements unless they are released under positive recall procedure. If test reports are used to verify purchased products, the data must meet applicable specifications.

When verification activities are delegated to the supplier, the requirements are defined and a record of the delegation authority is maintained.

If B&A Engineering Systems Inc., or the customer, will perform verification and/or testing at the supplier’s premises, the verification arrangements and method of product release are documented in the purchasing information. Where specified in the contract, the customer or the customer’s representative is given the right to verify at the supplier’s premises and organization’s premises that product conforms to specified requirements.

### 7.5.4 Customer property

B&A Engineering Systems Inc. exercises care with customer property while it is under the organization’s control or while in use. A procedure (P-754) outlines the Identification, verification, protection and safeguarding of customer property provided for use.

The customer is immediately notified, if any customer property is lost, damaged or otherwise found to be unsuitable for use. All anomalies are documented and all such records are maintained. Customer property can include intellectual property and proprietary data used for design, production and/or inspection.

### 7.6 Control of monitoring and measuring equipment

B&A Engineering Systems Inc. will utilize the appropriate monitoring and measurement equipment when applicable to ensure design and process conformity the stated and planned requirements.

A register of monitoring and measuring equipment is maintained and the documented procedure (P-760) outlines the process used to ensure that monitoring and measurement to be carried out are performed in a manner that is consistent with the monitoring and measurement requirements:

- Calibrated, verified or both at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards.
- Adjusted or re-adjusted as necessary
- Identified to enable the calibration status to be determined
- Safeguarded from adjustments that would invalidate the measurement result
• Protected from damage and deterioration during handling, maintenance and storage
• Be recalled according to a defined method when requiring calibration

In addition, Quality Control assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. B&A Engineering Systems Inc. takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained.

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This is undertaken prior to initial use and reconfirmed as necessary.

B&A Engineering Systems Inc. ensures that environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out.

Related Documents

- Risk Management P-712
- Configuration Management P-713
- Design and Development P-730
- Key Characteristics P-731
- Purchasing P-740
- Identification and Traceability P-753
- Customer Property P-754
- Control of Monitoring and Measuring Equipment P-760
8.1 General

B&A Engineering Systems Inc. plans and implements the monitoring, measurement, analysis and improvement processes as needed

- To demonstrate conformity of the designs
- To ensure conformity of the quality management system
- To continually improve the effectiveness of the quality management system.

These processes are identified in documented procedures and include determination of applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the quality management system, B&A Engineering Systems Inc. monitors information relating to customer perception to determine whether the organization has fulfilled customer requirements.

The information monitored and used for the evaluation of customer satisfaction includes, and is not limited to, design conformity, on-time delivery, customer feedback and corrective action requests. Improvements that address deficiencies are planned and implemented, and the effectiveness of results assessed.

The method for obtaining and using this information is identified in the Management Responsibility procedure (P-500).

8.2.2 Internal Audit

B&A Engineering Systems Inc. conducts internal audits at planned intervals to determine whether the quality management system meets the following requirements:

- Conforms to the planned objectives and to the requirements of this International Standard and to the quality management system requirements established by the organization
- Is effectively implemented and maintained.

An audit program has been designed and implemented including an audit schedule based on the importance of the areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency, methods, responsibilities and requirements for planning and conducting audits, and for reporting and maintaining results, are defined
and documented in the Internal Audit procedure (P-822).

Managers and team members are responsible for the implementation of corrective actions to eliminate any deficiencies found in the audit process. Follow-up activities include the verification of the corrective actions and the reporting of verification results.

### 8.2.3 Monitoring and measurement of processes

B&A Engineering Systems Inc. applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, appropriate corrective actions are implemented to ensure conformity of the designs to all specification requirements. In the event of process nonconformity, the organization will:

- Take appropriate action to correct the nonconforming process
- Evaluate whether the process nonconformity has resulted in design nonconformity
- Determine the scope of the process nonconformity
- Determines if the process nonconformity is limited to a specific case or if it could have affected other processes or designs

### 8.2.4 Monitoring and measurement of product

B&A Engineering Systems Inc. monitors and measures the characteristics of all designs to verify that design requirements are fulfilled.

Measurement requirements for design service acceptance are documented. This documentation is part of the documentation, and includes:

- Criteria for acceptance and/or rejection,
- Where in the sequence measurement and testing operations are performed
- A record of the measurement results
- Type of measurement instruments required and any specific instructions associated with their use.

When key characteristics have been identified, they are monitored and controlled.

Records are maintained indicating the person authorizing release/delivery of designs, and as well as providing evidence that they meet all requirements.

B&A Engineering Systems Inc. ensures that documents required by the contract or purchase order accompany the all deliveries.
8.4 Analysis of Data

B&A Engineering Systems Inc. determines, collects and analyses appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the quality management system can be made. The process for determining, collecting and analyzing this data is defined in the Management Responsibility procedure (P-500). Appropriate data includes data generated as a result of monitoring and measurement and from other relevant sources. Analysis is performed using Statistical Techniques (P-840).

The analysis of data provides information relating to:

- Customer satisfaction/feedback and complaints
- Conformance to design requirements
- Characteristics and trends of processes and designs including opportunities for preventive action
- Suppliers

8.5 Improvement

8.5.1 Continual improvement

B&A Engineering Systems Inc. continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, internal audit results, analysis of data, corrective and preventive actions and management review. Management monitors the implementation of improvement activities and evaluates the effectiveness of results (P-500).

8.5.2 Corrective action

B&A Engineering Systems Inc. takes actions to eliminate the cause of nonconformities in order to prevent recurrence by:

- Reviewing nonconformities (including customer complaints)
- Determining the causes of nonconformities
- Evaluating the need for action to ensure that nonconformities do not reoccur
- Determining and implementing action needed,
- Recording of the results of action taken
- Reviewing the effectiveness of the corrective actions
- Flow down of the corrective action requirement to a supplier, when it is determined that the supplier is responsible for the root cause
- Specific actions where timely and/or effective corrective actions are not achieved
8.5.3 Preventive action

B&A Engineering Systems Inc. determines required steps to eliminate the causes of potential nonconformities in order to prevent their occurrence by:

- Determining potential nonconformities and their causes
- Evaluating the need for any action to prevent occurrence of nonconformities
- Determining and implementing corrective actions needed
- Recording results of corrective actions taken
- Reviewing the effectiveness of the preventive actions

Related Documents

Management Responsibility
Customer Related Processes
Monitoring, Measuring and Analysis of Customer Satisfaction
Internal Audits
Statistical Techniques
Root Cause Analysis
Corrective Action

P-500
P-720
P-821
P-822
P-840
P-841
P-852
## QUALITY SYSTEM MANUAL REVISIONS

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