FLOW CONTROLS

GLOBAL
QUALITY MANAGEMENT SYSTEM MANUAL

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1. SCOPE

1.1. General

Flow Controls is a business unit comprised of wholly owned subsidiaries of Emerson Electric Co. Flow Controls provides valves, actuators, flow-control devices, instruments, and parts to the Process Control Industry worldwide under the brands Fisher, Crosby, and Sempell.

This Quality Management System Manual specifies requirements for a Quality Management System where Flow Controls:

- needs to demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, and
- aims to enhance customer satisfaction through the effective application of the Quality Management System and the assurance of conformity to customer and applicable statutory and regulatory requirements described herein.

This Quality Management System Manual sets forth requirements to be implemented by Global Management and support function personnel. This Manual sets the direction for the sites who operate under their own Quality Management System Manuals and / or site procedures. The Quality Management System processes flow through Global Quality to the sites. Process activities may physically be performed at locations exclusively established for their purpose or may share space with other functional operating units. (See Figure 1.)

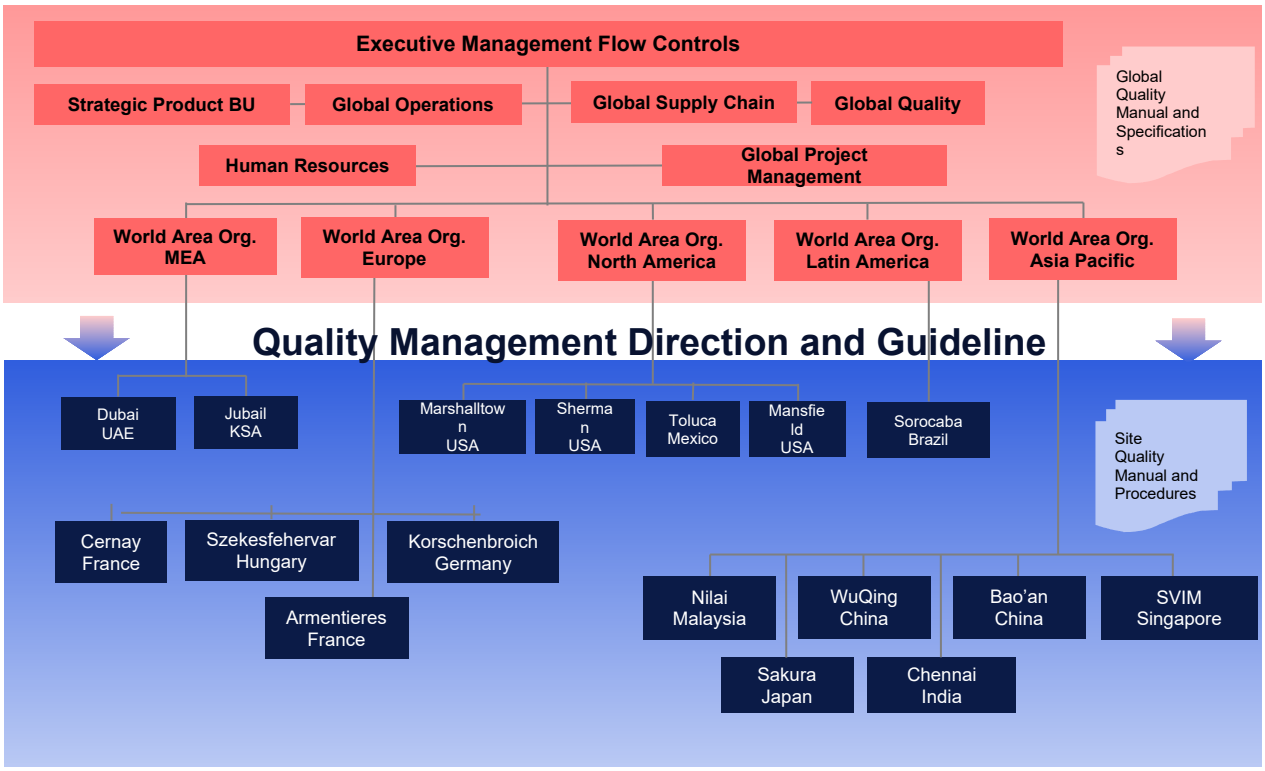


Figure 1. Flow Controls Quality Management Process.

The processes described within this Manual are performed for the benefit of Flow Controls and need not be duplicated at the site level in an attempt to demonstrate compliance with the ISO 9001:2015 and other applicable standards such as the Pressure Equipment Directive 2014/68/EU. The Flow Controls Business Unit includes Process Control Equipment sold under the brands of Fisher, Crosby, and Sempell. Service activities, if applicable, are described by the individual site quality manual. Processes described within this Manual are also in line with ISO29001 requirements.

2. NORMATIVE REFERENCE

The referenced document(s) contains provisions, which, through reference in this Manual, constitute provisions of this Quality Management Systems Manual. The latest revision of these documents applies, unless otherwise stated by edition, issue, revision, or date.

3. TERMS AND DEFINITIONS

This Quality Management System Manual makes use of words and terms to describe concepts and requirements. The objective is to use simple, technically accurate terms and, to the greatest extent possible, rely on common dictionary definitions. However, as with most technical subjects, some terms have specific meanings that differ from their more common dictionary definitions. Definitions of terms listed here have normative status and take precedence over common dictionary definitions.

Audit: Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

Audit Findings: Results of the evaluation of the collected audit evidence against audit criteria.

Auditor: Person with the demonstrated personal attributes and competence to conduct an audit.

Competence: Ability to apply knowledge and skills to achieve intended results

Complaint: Expression of dissatisfaction made to an organization related to its product or service, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected.

Conformity: Fulfillment of a requirement.

Context of Organization: Combination of internal and external issues that can have an effect on an organization's approach to developing and achieving its objectives.

***Note**: The organization's objectives can be related to its products and services, investments and behavior towards its interested parties.*

Continual Improvement: Recurring activity to enhance performance.

***Note:** The process of establishing objectives and finding opportunities for improvement is a continual process using audit findings and audit conclusions, analysis of data, management reviews or other means and generally leads to corrective action or preventive action.*

Correction: Action to eliminate a detected nonconformity.

Corrective Action: Action to eliminate the cause of a nonconformity (3.6.9) and to prevent recurrence

Note 1: There can be more than one cause for a nonconformity.

Note 2: Corrective action is taken to prevent recurrence whereas preventive action is taken to prevent occurrence.

Customer: Person or organization that could or does receive a product or a service that is intended for, or required by, this person or organization

Customer Satisfaction: Customer's perception of the degree to which the customer's expectations have been fulfilled.

***Note:** A customer can be internal or external to the organization.*

***Note:** Customer complaints are a common indicator of low customer satisfaction, but their absence does not necessarily imply high customer satisfaction.*

***Note:** Even when customer requirements have been agreed with the customer and fulfilled, this does not necessarily ensure high customer satisfaction.*

Data:	Facts about an object
Defect:	Nonconformity related to an intended or specified use
Design and Development:	Set of processes that transform requirements into specified characteristics and into the specification of a product, process, or system.
Determination:	Activity to find out one or more characteristics and their characteristic values.
Document:	Information and its supporting medium, i.e. Quality Manual, Procedures, Instructions, Specifications, Drawings, Reports, Records, Standards etc. ***Note:*** *The medium can be paper, magnetic, electronic, an optical computer disc, photograph or master sample, or a combination thereof. A set of documents is frequently called "documentation."*
Documented Information:	Information required to be controlled and maintained by an organization and the medium on which it is contained.
Effectiveness:	Extent to which planned activities are realized and planned results achieved.
Efficiency	Relationship between the result achieved and the resources used.
Emerson Automation Solutions Final Control US LP:	Legal entity of Crosby
Executive management:	Person or group of people, who direct and control an organization at the highest level. i.e. Flow Controls Management, Executive Management, and Site Management.
External Provider / Supplier:	Provider that is not part of the organization, i.e. producer, distributor, retailer or vendor of a product or a service
Fisher Controls International LLC:	Legal entity of Fisher.
Fisher General Specifications (FGS):	Engineering and Quality Documents for Fisher brand products, except where otherwise denoted within the specification.
Flow Controls Business Unit:	Functional operating unit, reporting to Emerson Executives, which provide support to all plant sites including Product Development, Order Management, Applications Engineering and other global functional areas shown in top box (red) in Figure 1.
Flow Controls sites:	Sites managed by Flow Controls Business Unit, shown in bottom box (blue) in Figure 1, and are largely responsible for manufacturing, although additional

activities may include design, sales, and service.

Improvement: Activity to enhance performance.

Information: Meaningful data.

Infrastructure: System of facilities, equipment and services needed for the operation of an organization.

Inspection: Conformity evaluation by observation and judgment accompanied as appropriate by measurement, testing or gauging.

Interested Party: Person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity.

Management: Coordinated activities to redirect and control an organization.

Note: *The term "management" may refer to people with authority and responsibility for the conduct and control of an organization. When "Management" is used in this sense it is used with a qualifier to avoid confusion with the concept "Management" i.e. Flow Controls Management, Site and Executive Management.*

Management Systems: System to establish policy and objectives, and to achieve those objectives.

Note: *A management system of an organization can include different management systems, such as a Quality Management System, a financial management system, or an environmental management system.*

Monitoring: Determining the status of a system, a process, a product, a service, or an activity.

Nonconformity: Non-fulfillment of a requirement.

Objective Evidence: Data supporting the existence or verity of something.

Note: *Objective evidence may be obtained through observation, measurement, test, or other means.*

Organization: Person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives.

Note: *The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, association, charity or institution, or part or combination thereof, whether incorporated or not, public or private.*

Preventive Action: Action to eliminate the cause of a potential non-conformity or other potential undesirable situation.

Procedure: Specified way to carry out an activity or a process.

Note: *Procedures can be documented or not. When a procedure is documented, the term "written*

procedure" or "documented procedure" is used.

Process: Set of interrelated or interacting activities that use inputs to deliver an intended result.

Note: *Whether the "intended result" of a process is called output, product or service depends on the context of the reference.*

Product: Output of an organization, i.e. Service, Software, Hardware, Processed material.

Qualification Process: Process to demonstrate the ability to fulfill specified requirements.

Quality: Degree to which a set of inherent characteristics fulfill requirements.

Quality Improvement: Part of quality management focused on increasing the ability to fulfill quality requirements.

Quality Management: Coordinated activities to direct and control an organization with regard to quality.

Quality Management System: Management system to direct and control an organization with regard to quality.

Quality Manual: Document specifying the Quality Management System of an organization.

Note: *Quality manuals can vary in detail and format to suit the size and complexity of an individual organization.*

Quality Objective: Objective (result to be achieved) related to quality.

Note: *Quality objectives are generally based on the organization's quality policy and are generally specified for relevant functions and levels in the organization.*

Quality Policy: Overall intention and direction of an organization related to quality as formally expressed by top management.

Record: Document stating results achieved or providing evidence of activities performed.

Repair: Action taken on a nonconforming product to make it acceptable for the intended use.

Requirement: Need or expectation that is stated, generally implied or obligatory.

Review: Activity undertaken to determine the suitability, adequacy, and effectiveness of the subject matter to achieve established objectives.

Rework: Action on a nonconforming product to make it conform to the requirements.

Risk: Effect of uncertainty.

Scrap: Action on a nonconforming product to preclude its originally intended use.

Sempell GmbH Legal entity of Sempell

Specification: Document stating requirements.

Strategic Product Business Unit Functional operating unit within the Flow Controls Business Unit, responsible for marketing, design, and engineering support for strategic product types (e.g. Rotary, Sliding-Stem, Instruments, etc.).

Test: Determination of one or more characteristics according to a procedure.

Traceability: Ability to trace the history, application or location of an object.

***Note**: When considering a product or a service , traceability can relate to: the origin of materials and parts; the processing history; the distribution and location of the product or service after delivery.*

Validation: Confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled.

***Note:** The term "verified" is used to designate the corresponding status. Confirmation can comprise of activities such as performing alternate design calculations, undertaking tests and demonstration, and reviewing documents prior to use.*

Verification: Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled.

Work Environment: Set of conditions under which work is performed.

***Note:** Conditions include physical, social, psychological, and environmental factors, e.g. temperature, recognition, ergonomics, and atmospheric composition.*

4. CONTEXT OF THE ORGANIZATION

4.1. Understanding the organization and its context

Flow Controls is a business unit comprised of wholly owned subsidiaries of Emerson Electric Co. which provides valves, actuators, flow-control devices, instruments and parts to the Process Control Industry worldwide under the brands Fisher, Crosby, and Sempell. Facilities are maintained throughout the world, with its President located in Marshalltown, Iowa, and World Area Management in North America, Europe, Middle East, and Asia-Pacific. The President reports to Emerson Electric Executives.

Flow Controls Management has determined the external and internal issues that are relevant to its purpose and its strategic direction and that reflect its ability to achieve the intended results of the Quality Management System. Information about these internal and external issues are continuously monitored and reviewed as part of the yearly executive management-planning process with Emerson, described in Chapter 6.

4.2. Understanding the needs and expectations of interested parties

Due to their effect or potential effect on its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, the interested parties as well as the requirements of these interested parties that are relevant to the Quality Management System have been determined. (See Figure 2.)

Flow Controls monitors and reviews information about these interested parties and their relevant requirements. Necessary changes are implemented as appropriate.

Interested Party	Needs	Expectations	Metrics
Customers	Quality Product on Time	On-Time Delivery Meet Requirements Proactive Communication	RDSL PDSL Lead Time SR's Warranty Survey Sales Exception Reporting
Suppliers	Accurate PO	Actionable PO Committed Leadtime Commercial Considerations	Exception Reporting Short Dated Order Volume DPO
Employees	Employment	Compensation Safe Work Environment Positive Work Environment	Salary Plans Benefit Sign-Ups TRR Climate Survey
Emerson	Profit with Integrity	Income Integrity	Sales GP Budget Exception Reporting 3rd Party Certifications
Community	Corporate Social Responsibility	Trusted Partner Sustainability	Annual Report to Shareholders Green House Gas Report

Figure 2. Example of interested parties and their expectations.

4.3. Determining the scope of the Quality Management System

Flow Controls recognizes its responsibility as a provider of process control equipment to comply fully with customer and applicable statutory and regulatory requirements. To this end, a Quality Management System has been developed. This system establishes controls throughout the entire business cycle from proposals and bids to end-item delivery and service. It also assures meeting business and quality objectives and minimizes the possibility of compromises, which could affect product quality, safety, and reliability. The Quality Management System is complete and responsive to the requirements of the ISO 9001 standard. The Quality Management System and referenced procedures outlined by this Manual define the Policy.

Flow Controls Management determined the processes for the Quality Management System. These processes provide direction and common support activities for all Flow Controls manufacturing locations. It is for this purpose that this Quality Management System Manual has been prepared.

Each site is required to adhere to the Quality Management System requirements, as applicable to the activities described within this Manual. However, each site is provided the latitude to establish their own processes, criteria, and methods needed to ensure the operations and controls of these processes are effective. This includes, but is not limited to, managing the availability of resources, administering information necessary to support the operation, monitoring, measuring, and analyzing the processes, and taking the necessary actions to achieve improvement of the processes, provided the processes at each location are managed in accordance with the requirements of ISO 9001.

Where a site chooses to outsource a process that affects product conformity with requirements, that site shall ensure control over such processes. The type and extent of control to be applied of these processes shall be identified within the site Quality Management System.

4.4 Quality Management System and its processes

This Manual has been prepared to define the Quality Management System requirements for Flow Controls described herein. This Quality Management System Manual is a narrative description of the processes designed to provide our employees, as well as our customers and suppliers, with an overview and insight into our quality policies and procedures which govern the delivery of our products and services. It is to be used to implement activities affecting quality at Flow Controls sites.

The referenced Quality Assurance Procedures are documents that prescribe actions and assign responsibility to whom, where, when, and how each procedure is to be performed. Compliance with the procedures is required.

Processing Requirements, in addition to those set forth within this Manual, have been prepared to specifically address certain statutory and regulatory requirements for Sales Orders which are subject to these regulations. Each location responsible for the processing of these Sales Orders is required to comply with these Processing Requirements.

This Manual will be revised and added to, as necessary, to reflect changes in quality requirements and is issued on a controlled-copy basis. It is the goal of Flow Controls and the purpose of this Manual to assure the quality and reliability of our products and services.

Suggestions for improvement to this Manual are solicited from its users. Users may submit suggestions to Quality Assurance personnel for consideration.

Supporting Procedures

Fisher General Specification - FGS 15B15.2 - Pressure Equipment Directive (PED) Processing Requirements
Sempell Quality Procedure - SQM-QM-9901 - Pressure Equipment Directive (PED)
Fisher General Specification - FGS 15B15.13 - Managing of AD2000 – Merkblatt Orders
Fisher General Specification - FGS 15B15.14 - Processing of CU_TR Orders
Fisher General Specification - FGS 15B15.3 - Quality System Requirements, Hazardous Locations

***Note:* Many countries such as but not limited to Brazil, South Korea, China, India, etc. model their requirements after the IECEx Scheme.**

5. LEADERSHIP

Core Values:

An uncompromising commitment to safety and quality
A clear focus on delivering customer results
A drive for exceptional performance
A reputation for integrity that is earned every day
A passion for innovation
A culture built upon people and relationships

5.1. Leadership and commitment

5.1.1. General

The Executive Management of Flow Controls demonstrates its commitment to the development and implementation of the Quality Management System and continually improving its effectiveness by having established:

- Formal communication plans used throughout the organization to provide a means of effectively communicating its business Core Values, quality policies, goals, objectives, customer expectations, and statutory/regulatory requirements which impact business activities and the products and services provided, promoting the use of the process approach and risk-based thinking,
- A quality policy that mandates conformance to requirements and continual improvement,
- Measurable business and quality objectives, which enables the organization to focus its attention and obtain meaningful results,
- A system by which management may review the performance of operations, measure performance in regards to the established goals and objectives, and make the necessary changes when required; and
- A system by which the business may identify and obtain the necessary human and physical resources needed to achieve success within the business operations.

5.1.2. Customer Focus

Flow Controls is committed to its customers. The organization strives to provide products and services of the highest quality in line with all applicable statutory and regulatory requirements, which assure our customers that their expectations have been clearly satisfied.
Risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed through market studies, new product developments, industry and country product certifications as well as customer loyalty surveys and related actions.
This commitment is expressed in the Quality Policy put forth by management.

5.2. Policy

Flow Controls Quality Policy is defined as follows:

> **"Our mission is to be the leading supplier of process management solutions that provides excellent products and services to increase our customer's competitiveness.**
>
> **Customer loyalty is our primary goal.**
>
> **We are committed to comply with the Quality Management System and regulatory requirements.**
>
> **We empower our employees to initiate actions to ensure both quality and continual improvement in all that we do.**
>
> **We behave as an ethical and responsible organization in all we do."**
>
> **Kevin G. Meyer**
> **President, Flow Controls**

Management is responsible for communicating this policy to each employee via communication plans, training, and postings. It is also available to relevant interested parties as appropriate.

The Quality Policy will be reviewed in accordance with the revision of the Flow Controls Quality Manual to assure its continuing suitability.

5.3. Organizational rules, responsibilities and authorities

Management at all levels shall be responsible for the activities under their control as defined by the organization charts contained herein, and as delegated throughout the Flow Controls sites Worldwide and described within their respective Quality Manuals and organizational descriptions.

Management at each site shall establish management systems which ensure conformance with industry standards, jurisdictional regulations, company policy, as well as customer and supplier contractual requirements.

The Director Global Quality, has been appointed as the Management Representative with the responsibility and authority to:

- ensure that processes needed for the Quality Management System are established, implemented, maintained and delivering their intended outputs, and
- report to the President, Flow Controls on matters concerning the performance of the Quality Management System and need for improvement, and
- ensure the promotion of awareness of customer requirements, industry standards, and jurisdictional regulations.

The Director Global Quality, shall be supported through the appointment of management representatives at each site responsible for providing products and services to customers.

The Director Global Quality, and other appointed management representatives shall further be authorized and have the organizational freedom to:

- Identify quality problems, risks and opportunities,
- Initiate actions that result in solutions to the problems, risks and opportunities,
- Verify implementation of solutions to those problems, risks and opportunities,
- This authority includes the limitation and controlling of work when necessary.

The Director Global Quality, and other appointed management representatives are not to be overridden by other company divisions, departments, or managers.

In the event of an impasse between the Director Global Quality, or other appointed management representatives, and other divisions, departments, or managers, the President, Flow Controls shall be the arbitrator and his decision will be final and binding to all parties within Flow Controls.

This responsibility and authority are evidenced by the approval of this Manual by the President, Flow Controls.

6. PLANNING

6.1. Actions to address risk and opportunities

Flow Controls determines and addresses the risks and opportunities as appropriate through its annual executive management-planning processes with Emerson - listed below - in order to:

- give assurance that the Quality Management System can achieve its intended results;
- enhance desirable effects;
- prevent or reduce undesired effects;
- achieve improvement.

a) ***S&OP Process*** – The S&OP process is used to gain the consensus of the organization and implement into a single operating plan. This is done through a monthly planning process that consolidates time phased business projections for product demand and supply covering a rolling 18-month period.

b) ***Value Creation Conference*** – An annual review that looks 5 years back and 5 years forward at the business with a focus on sales, markets, key customers, and products. The conference looks at 5 years of historical activity, present business position, and plans, goals and objectives for the next 5-year period.

c) ***Profitability Review*** – An annual review that looks 5 years back and 5 years forward with a focus on the Manufacturing Operations, performance to sales objectives, cost reductions, capital resourcing, material containment, research and development resources, and profitability. Performance plans, goals, and objectives are set as a result of this review.

d) ***Innovation Review*** – A bi-annual review with a focus on marketing, engineering, manufacturing design technology, research, new product development, and manufacturing ability to produce new products, so as to provide quality products for customers at competitive prices.

e) ***Organization Review*** – An annual review that looks 3 years back and 3 years forward with a focus on organization structure, succession, diversity, and recruitment planning. The review emphasizes the levels of management and supervision and staffing requirements to run the business.

Further to the management-planning processes with Emerson, the below listed Global programs also address the risks and opportunities at different areas and generate actions to mitigate them:

a) **Strategic risk**:

- Market analysis
- Customer Surveys
- New Product Development
- Acquisitions
- Intellectual Property Protection – Patents

b) **Finance related risk:**

- POR process
- Budget Planning

c) **Compliance related risk:**

- Trade Compliance program
- Ethics program
- Product Safety Committee
- Retention Policy

d) **Operations related risk:**
- Quality Programs
- Engineering Gate Validation Process
- Supplier Risk Mitigation program
- Additive Manufacturing program
- Perfect Execution program

e) **Human related risk:**
- Organization review
- Performance Evaluation Process (PEP)
- Talent Management program
- Training programs
- Employee Opinion Survey

f) **Environment related risk:**
- Environment, Safety and Health (ES&H) program

6.2. Quality Objectives and planning to achieve them

Based on the information resulting from the planning processes, Executive management establishes goals and objectives needed to meet the requirements of the business. These include, but are not limited to, performance objectives that are communicated and measured throughout the organization and the expectations for customer satisfaction, product requirement and development, fiscal management, profitability, employee satisfaction, and organizational improvement.

Objectives, which are consistently set, are:

- Customer Loyalty and Satisfaction
- On-Time Delivery to Customer Required Date
- Lead Time Reduction
- Sales Growth
- Cost Reduction
- Quality Metrics
- Safety
- Profitability

Evidence of the planning process is maintained in documented information, in the form of presentation documentation, meeting minutes, and reports, which are made available through executive management, as well as goals and objectives stemming from the planning processes that have been documented.

6.3. Planning of changes

When need for changes are anticipated during the Executive management business planning processes described in 6.1, they are planned and implemented in a fashion that assures the integrity of the business management systems and provides for a smooth transition while considering:

- the purpose of the required changes and their consequences;
- the integrity of the Quality Management System;
- the availability of resources;
- the allocation or reallocation of responsibilities and authorities.

7. SUPPORT

7.1. Resources

7.1.1. General

Flow Controls considers, determines, plans, and arranges Human and Infrastructure Resources during the Organization Review and Profitability Review planning processes described in 6.1.

Executive management takes into consideration resources needed to establish, implement and maintain the Quality Management System and continually improve its effectiveness.

Headcount is reported by Human Resource Management on a monthly basis and is monitored by Executive management to assure human resource goals and objectives are met based on the headcount plans developed during the Organization Review and Profitability Reviews.

7.1.2. People

Resource systems have been established to permit management to requisition both the Human and Infrastructure Resources needed to operate the business. It includes persons necessary for the effective implementation of the Quality Management System and for the operation and control of its processes.

7.1.3. Infrastructure

Flow Controls determines, provides, and maintains the infrastructure needed to achieve product conformity and continue to improve business operations. This infrastructure includes, as applicable:

- buildings, workspace, and associated utilities,
- process equipment (both hardware and software), and
- supporting services (such as transport, communication, or information systems).

Infrastructure is supported by means of the capital appropriation request process. Each year during the profitability review, a percentage of the total sales dollars are set aside for capital spending.

Capital planners at each site prepare a list of items desired to run and improve the business. These lists are compiled, reviewed, and prioritized. Capital appropriation requests are submitted for approval based upon authorization levels and resources. Funds are authorized for capital spending in accordance with the capital plans. A contingency reserve is maintained for unforeseen projects, as they become necessary.

7.1.4. Environment for the operation of processes

Flow Controls is committed to providing a safe, healthful work environment for its employees and the communities in which we do business. Flow Controls provides for the necessary environment needed to produce products (i.e. office facilities, clean rooms, calibration and inspection rooms, special process facilities including paint, welding, heat treatment, etc.). Environmentally controlled facilities used to meet product requirements are monitored and maintained to assure conformity.

7.1.5. Monitoring and measuring resources

Flow Controls has established the monitoring and measurement procedures to be undertaken and the monitoring and measuring equipment needed to provide evidence of the conformity of product to determined requirements (see 8.2.2).

Sites responsible for product development, manufacturing, testing, and service shall establish processes that ensure monitoring and measurement can and will be carried out in a manner that is consistent with the monitoring and measurement requirements set forth for each product.

Measuring equipment used to ensure valid results shall:

- be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded;
- be adjusted or re-adjusted as necessary;
- be identified in order to determine calibration status;
- be safeguarded from adjustment that would invalidate the measurement result; and
- be protected from damage and deterioration during handling, maintenance and storage.

Sites shall assess and record the validity of the previous measuring results when equipment is found not to conform to requirements. Sites shall also take appropriate action on the equipment and product affected. Unsatisfactory results are to be documented and dispositioned via the site's nonconformance process.

Records of the results of calibrations and verifications shall be maintained.

Computer software, when used in the monitoring and measurement of specified requirements, shall be verified to determine that it is capable of satisfying its intended application prior to its initial use and reconfirmed as necessary. These verifications shall be documented.

Supporting Procedures

Engineering Standard - ES 243 - Control Standard for the Calibration and Use of Research and Engineering Lab Test and Measuring Equipment

7.1.6. Organizational knowledge

Flow Controls Management determines the knowledge necessary for the operation of its processes and to achieve conformity of products and services.

Job descriptions are prepared and maintained by Human Resource Management. Job descriptions outline the requirements of the position and the minimum education, training, skills, and experience needed to fulfill the position.

When addressing changing needs, employees are hired, transferred, and promoted based on their ability and willingness to effectively apply required knowledge and skills to fulfill job descriptions as assessed by the responsible manager.

7.2. Competence

Flow Controls Management is responsible for the competency and training of the employees who report to them. Based upon job descriptions, employees are reviewed on an annual basis to aid in communicating whether they are competent in their performance - in accordance with their job descriptions and other goals and objectives that may have been assigned by their respective management.

Salaried employees are reviewed against goals (i.e. Management By Results-MBR, My Annual Plan-MAP, Performance Management Process-PMP, etc.) which set forth requirements for performance based on goals and objectives that have been established by Executive management and driven down into the organization. Salaried employee goals and objectives are developed in support of the business goals and objectives set by executive management. These reviews are documented on a performance evaluation worksheet and summarized on a results review. Reviews are also performed which provide employees the opportunity to express their desires and ideas for career growth. Hourly employees are reviewed against their respective job descriptions and performance expectation. These reviews are documented on a performance evaluation form. In either case, training needs and development plans are documented when appropriate and evaluated for effectiveness at the time of performance reviews or sooner, as the situation warrants. These reviews provide management with the opportunity to ensure that employees are aware of the relevance and importance of their activities and how they contribute to the achievement of the business and quality objectives.

Human Resource Department maintains employee records of performance reviews, education, skills, and experience. Department managers are responsible to assure that training records specific to an employee's job are maintained.

Flow Controls provides employees the opportunity to improve their competence, training, and awareness by offering in-house training seminars, off-site participation in training seminars, and educational reimbursement benefits. On-the-job training is provided to newly hired, part-time, and temporary employees during the initial period of their employment. Training is provided to ensure employees are competent in performing their assigned tasks, general orientation, and applicable procedures and documents within the Quality Management System. Training related to products and safety is provided, as appropriate, to employee assignments. Specific training is documented. However, much of what an employee learns is by exposure to the job and activity in which they are involved.

Supporting Procedures

Fisher General Specification - FGS 15B15.11 - Quality Assurance Employee Training
Sempell Quality Procedure - SQM-WP-9701 - Personnel Qualification and Training
Crosby Procedure - HR-57-3001 - Training

7.3. Awareness

Flow Controls Management ensures via communication plans, training, and postings that people at all levels of the organization are aware of:

- The Quality policy.
- Relevant quality objectives.

- Their contribution to the effectiveness of the Quality Management System including the benefits of improved performance.
- The implications of not conforming to the Quality Management System requirements.

7.4. Communication

Organizational effectiveness and business growth is a direct result of creating an environment that encourages employees. In support of creating this positive environment, Flow Controls communication's strategy focuses on the following key areas:

a) ***Enrollment of People:*** Communication of business results, strategies, policy, benefits changes, and special recognition of significant accomplishments.

b) ***Employee Involvement and Feedback:*** Avenues for all employees to share their thoughts, concerns, and suggestions to any person in the organization. This also includes the utilization of cross-functional and natural work teams.

c) ***External Communication:*** Establishing a bridge between our customers, suppliers, community, and our employees.

This strategy facilitates communication at all levels and in all directions of the organization. Managers have the responsibility to ensure that information flows in accordance with this strategy and all employees share accountability for communicating.

Flow Controls philosophy will also center on developing values and behaviors which foster high-performing individuals, teams, and organizations. The following values are inherent in our business and communications philosophy:

a) ***Truth:*** Openly sharing information, ideas, and thoughts.

b) ***Accountability:*** Accepting the consequences of choices and learning from our mistakes.

c) ***Support:*** Encouraging each other's personal and professional growth.

d) ***Trust:*** Knowing, with confidence, that our employees have the company's best interest at heart.

e) ***Energy:*** Being motivated to devote our best efforts to perform.

Communication is everyone's responsibility and effective communication will be achieved only if everyone participates. Responsibility for communication varies depending upon one's role in the organization. These are outlined below:

President and Vice Presidents

- Provide leadership in communicating business direction and strategy.
- Set the expectation that communication is critical to the success of the business and, therefore, everyone is expected to participate in the communication process.
- Communicate with individuals at all levels of the organization.

Human Resources

Same as President, as well as:

- Continually monitor employee morale and provide feedback to the President.
- Listen for the changing needs of individuals in the organization.
- Explore and provide training in areas such as diversity, sexual harassment, and other areas as required.

Directors/Plant Managers

- Provide timely communication of progress to achieve business results.
- Translate business direction and strategy so that the function understands its role and contribution to the whole.
- Eliminate blindness in the organization by communicating business direction throughout the organization.
- Continually monitor employee morale and provide feedback to the President and Human Resources.
- Establish strong relationships with other functions to ensure consistency in direction.

Managers/Supervisors

- Translate business direction into specific tactics to be achieved by each department.
- Communicate progress to targets at departmental and company level.
- Gather feedback from employees at all levels of the department and provide feedback to Human Resources.
- Communicate with departments to ensure consistency.
- Provide reasoning behind decisions or changes that are made.

Employees

- Listen to the rationale behind decisions that are made.
- Share concerns and ideas with managers/supervisors/team leaders.
- Ask questions regarding expectations and direction.
- Give feedback to managers/supervisors on communication style.
- Initiate career planning discussions.

Each year, the Vice President of Human Resource prepares communication plans for each area of responsibility together with the timing of these plans. Communication plan objectives for the year are also outlined. A communication plan checklist is completed to assure effective communications throughout the business.

7.5. Documented information

7.5.1. General

Flow Controls Quality Management System is described through various levels of documented information as shown in the Documentation Pyramid (Figure 3).

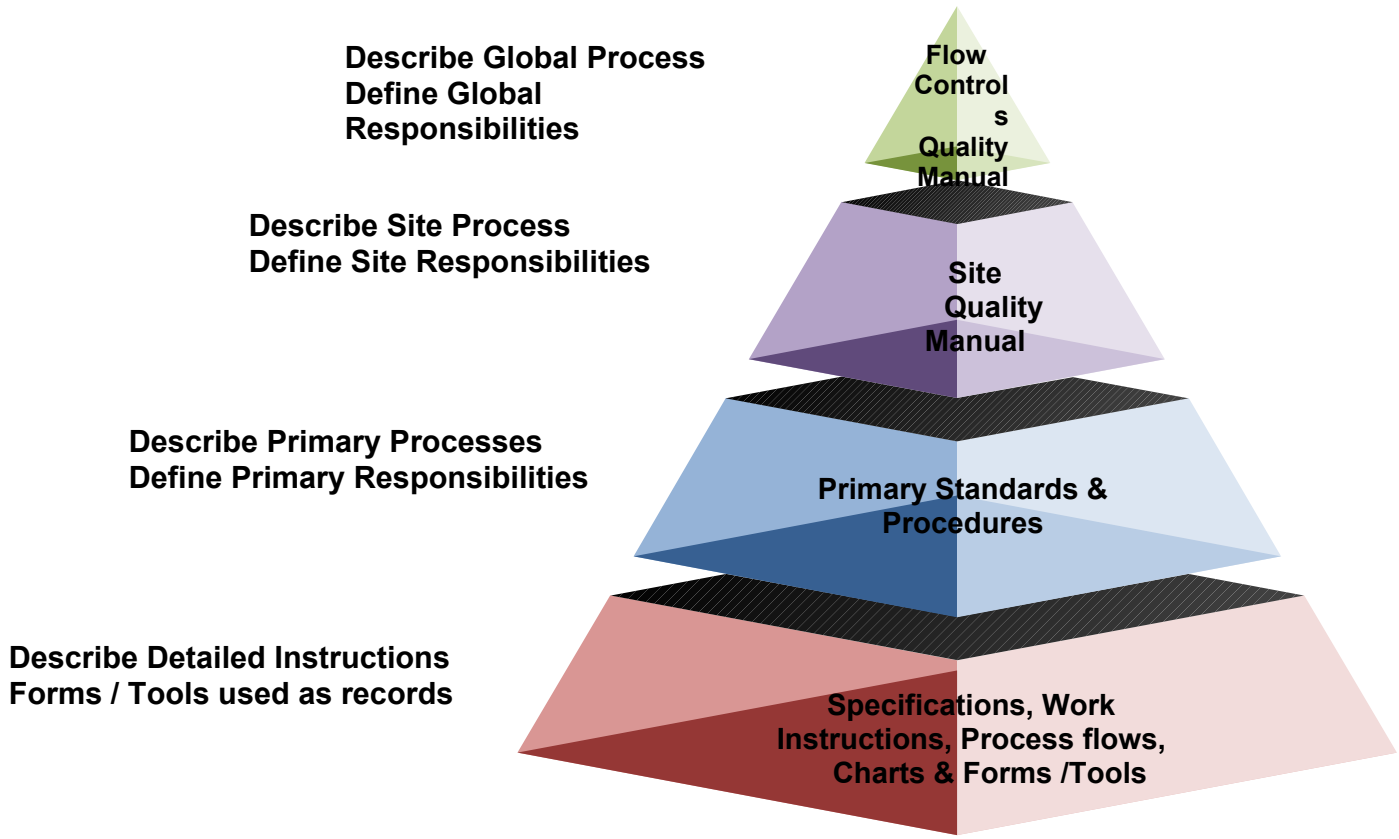


Figure 3. Documentation pyramid

Each Flow Controls site shall document the Quality Management Systems applicable to their activities. The documented information is to include:

- statements of scope of Quality Management System, quality policy and objectives fashioned from the Flow Controls direction,
- quality manual and / or index to implementing procedures,
- documented procedures and work instructions,
- documented information which ensures effective planning, operation, and control of applicable processes, and
- records required by Business Unit, Codes and Standards, and regulations that state results achieved or provide evidence of processes carried out as planned.

7.5.2. Creating and updating

Flow Controls Management ensures that all documents are identified by document number, revision, title (description) and author.

The documents may exist on paper or as an electronic file.

Business Unit's documents are issued in English. However, they are translated to local language at the sites where needed. When both versions are available, the governing document shall be the English one in the case of conflict.
Site originated documents may be available in the local language. When both, local language and English versions are available, the governing document shall be formally defined by the document owner.

Review and approval of engineering documents are handled 7.5.3 and 8.3.6

When updating or revising documented information, it must continue to show original person who completed the operation. Revising person must have same competencies as the person who completed original operation.

Supporting Procedures

Fisher General Specification - FGS 15B0 - Numbering Convention for Quality Assurance FGS 15B
Engineering Standard - ES 242 - Controlled Documents and Data
Sempell Quality Procedure - SQM-PF-0101 - Document Management
Crosby Department Document - DD-44-3007 - Engineering and Quality Assurance Procedure Control

7.5.3. Control of documented information

The requirements for the preparation, review, approval, distribution, and revision of documented information required by the Quality Management System as described below.

The control of documents is defined within applicable procedures associated with the documents needing control at the Business Unit and site organizations. Documents are maintained in either electronic form or hard copy (paper). In either case, documents are approved by the respective responsible organization.
Changes to documents are approved in the same manner as the original document.

Master lists of the procedures are maintained which provide the most current revision level and preclude the use of invalid or obsolete procedures.

Control of Electronic Documents

Electronic Documents may reside in a secured electronic vault (such as EDOCS, QADocs, Solidworks, Sempell's EDV-System, etc.). Superseded, inactive, and obsolete documents will be stored in the secured document directory. Secured documents will be accessible only to the document owners.

A complete listing of the documents may be seen in the appropriate document index.
In the electronic systems, inactive and obsolete documents will be removed from active service upon approval of the document owner. Superseded documents will be removed from active service upon distribution of the new revision. New documents that have been approved by the document owner will be added to active service upon distribution.

The documents on electronic systems are protected from unauthorized use by the requirement that a user enter a “Log-In ID” and/or “Password.”

Control of Paper Documents

Paper documents that have been approved by the document owner may be distributed. Documents are to be distributed in accordance with Distribution Lists maintained by the document owner.

An acknowledgment of receipt for the distributed document is not required, unless specified otherwise for the controls of said document.

Upon receipt of the distribution of a document, the *superseded* document shall be removed and replaced with the latest revision. Upon notification of a document status being changed to *inactive* or *obsolete*, the document shall be removed from active status and be properly discarded.

Those sites or persons authorized to maintain an *obsolete* document file are to mark the document as *obsolete*. The file may then be stored in a folder or binder. It must be clear that the file contains *obsolete* documents. Copies made of these documents shall be clearly identified as *obsolete.*

Additional Control Rules

Persons requiring a copy of an *obsolete* document may request it from the document owner. Copies shall be identified as *obsolete* documents.

Printed electronic master documents are to be considered uncontrolled. However, electronic document users are permitted to have a controlled paper document set, as long as there is a control system that ensures current active documents are being used. The owner of the controlled paper document set is responsible to ensure that his/her subordinates are using current active documents.

Documented information must be legible.

Control of Records

In accordance with the Emerson Electric Co. Records Retention Manual, Flow Controls version, “the Company” retains records for many purposes. Certain records are necessary for the Company’s day-to-day business decisions, while others must be retained pursuant to government enforcement actions or civil litigation (including pending or threatened government enforcement actions or civil litigation). The proliferation of copying machines and the use of electronic mail and computers reduces the ability of the Company to know, at any given time, whether it has a copy of a record unless all personnel follow a uniform procedure for the retention and disposition of Company records. The Company also incurs substantial storage and handling costs where records are kept longer than necessary. This policy seeks to address these considerations by identifying the types of records the Company retains and by establishing guidelines with respect to when and if they should be discarded.

The Records Retention Officer is responsible for supervising Flow Controls’ compliance with this policy. Questions or comments about implementing this policy should be directed to the Records Retention Officer. Compliance with this policy is required of everyone in the Company.

Supporting Procedures

Emerson Records Retention Manual
Fisher General Specification - FGS 15B15.17 - Control of Documents
Fisher General Specification - FGS 15B15.1 - Control of Records
Engineering Standard - ES 145 - Maintenance Requirements for Standards and Specifications
Engineering Standard - ES 242 - Controlled Documents and Data
Sempell Quality Procedure - SQM-WFD-9607 - Archiving of Inspection Documentations
Crosby Quality Procedure - QA-48-3036 - Quality Records Control

8. OPERATIONS

8.1. Operations planning and control

Flow Controls has planned and developed the processes needed for the design and manufacture of valves, actuators, instruments, and related parts. As a result of this planning, responsibilities for the execution of various product realization processes have been assigned throughout the sites.

Sites are responsible to identify, describe, and control those operations for which they have direct responsibility. These processes shall be carried out in accordance with the requirements of ISO 9001, as a minimum.

In planning operations, Flow Controls has determined the following as appropriate for the valves, actuators, and instruments being provided to our customers:

- quality objectives and requirements for the product;
- the need to establish processes, documents, and provide resources specific to the product;
- required verifications, validations, monitoring, measurement, inspection and test activities specific to the product, and the criteria for product acceptance:
- records needed to provide evidence that the realization processes and resulting product meets requirements.

8.2. Requirements for products and services

8.2.1. Customer communication

Sales and Marketing are responsible for Customer Communication.

Flow Controls has determined and implemented effective arrangements for communicating with the customers in relation to:

(a) Product information

- Product information is communicated by means of Web Page Information (www.emerson.com). Product information is advertised through Emerson's corporate advertising ads in major business and trade media including television, printed outlets, and airport displays.
- Printed product publications are provided to the customer through a worldwide network of Sales Representatives and Emerson Field Sales Offices. Product literature which provides details about each product offered is prepared by Product Managers and Engineers.

(b) Inquiries, contracts or order handling, including amendments

- Sales Representatives and Sales Offices are strategically located in major business areas worldwide. They are staffed with professional and trained sales associates to work with customers in assisting them with the selection of the correct products for their applications.

(c) Customer feedback, including customer complaints

- Customer surveys are conducted periodically to provide the customer an opportunity to communicate on products and services.
- Independent, competitive surveys are reviewed to obtain customer sentiment and overall competitive ranking.
- Sales Representative and Sales Office meetings provide an opportunity to communicate customer satisfaction.
- A Sales Representative Council (Flow Controls Advisory Board) has been formed in North America for periodic meetings with executive management.
- Customer visits and audits provide opportunities for customers to discuss expectations and satisfaction.
- The Customer Support Network has been established to improve the ability to identify, resolve, and archive field problems encountered by customers. The processes enable responsive warranty and goodwill claims and provide the ability to respond quickly to customer hardware problems. The system provides statistical data for analysis and provides a basis for corrective and preventive actions to be formulated.

Supporting Procedures

CSN Business Process Manual – FGS15B16.0 - Global Support Guide

8.2.2. Determining the requirements for products and services

Sales and Marketing, with the Strategic Business Units product managers, are responsible for the determination of the requirements applicable to the product.

Flow Controls utilizes Sales Representatives, within defined territories throughout North America, Asia, and parts of Europe and are also known as Emerson Impact Partners or Local Business Partners; and Emerson Sales Offices in Asia-Pacific, Europe, Middle East, Africa, and Latin America to offer customers products and services provided by Flow Controls.

Sales Representatives are independent businesses contracted by Flow Controls to promote and pursue opportunities in the solicitation of orders for products and services. Customer orders shall be promptly transmitted to the Flow Controls Business Unit and shall be subject to the written approval and acceptance of the Business Unit. In no event shall the Sales Representative accept any order or otherwise attempt to bind Flow Controls in any transaction unless specifically authorized.

Although the Sales Representative is a key link between Flow Controls and the ultimate customer, this Quality Management System does not extend to the activities of the Sales Representative or to their interfaces with the customer. The activities included within these paragraphs are to provide a better understanding of how Customer Orders are received by Flow Controls.

Emerson Sales Offices are company operated facilities which promote and pursue opportunities in the solicitation of orders for products and services. Customer Orders are reviewed and entered directly within these offices.

The Sales Representatives and Emerson Sales Offices are responsible for defining and documenting product or service requirements as specified by the customer, including delivery and post-delivery activities, requirements not stated by the customer but necessary for specified or intended use as known, statutory and regulatory requirements applicable to the product, any additional requirements

considered necessary by the organization, reconciling differences between the order requirements and the quotation, and acknowledging the capability to meet customer order requirements.

8.2.3. Review of the requirements for products and services

Project management and order administration is controlled by the responsible world area management with direction from Global Project Management.

The Customer Request for Quotations is reviewed by the Sales Representative/Emerson Field Sales Office. The Sales Representative/Emerson Field Sales Office prepares an offer of products and services to the customer via quotations based on the product catalogs, Price Books or specific requirements to the customer request. Pricing and delivery information is included.

The customer reviews the offer in the form of the Quotation and is responsible to determine if the product being offered is suitable for the service in which it is to be applied.

Upon acceptance of the Quotation, the Customer places their Purchase Order.
Customer Purchase Orders are reviewed by the Sales Representative/Emerson Field Sales Office prior to Order Entry. This review ensures that:

- product requirements are defined,
- contract or order requirements differing from those previously expressed in the quotation are resolved, and
- Flow Controls has the ability to meet the defined requirements.

Sales Support are responsible for supporting the Sales Representative/Emerson Field Sales Office order inquiries specific to contract terms and conditions, quotation of unpublished pricing, definition of non-standard product structure and other associated order requirements not published. Sales Support communicates documentation of contract requirements and agreements to the Sales Representative/Emerson Sales office.

The Sales Representative/Emerson Sales office retains a copy of the customer's purchase document.

Commercial orders are entered by the Sales Representative/Emerson Sales Office. The Sales Representative/Emerson Sales Office conducts product selection through reference of catalog numbers and product options. Where catalog selections have not been established for products, the specific customer requirements are described in note fields during the entry process.

Standard Product Entry

The selection and entry of the appropriate catalog product description causes the computer validation and processing of the order requirements, which results in the creation of a Sales order..

Nonstandard Product Entry

Unstructured product, product service notes, or special requirements must be entered manually with sufficient details to allow subsequent review (customer purchase order, specification sheets, design specification, etc.).

Order Review

Order Review is performed by a product order engineer prior to release of the order to the manufacturing site verifying product form, fit, and function as well as order completeness and additional customer requirements. The Sales order is released to the manufacturing site responsible for production to begin.
The manufacturing site then confirms the planned ship date and generates a confirming Order Acknowledgment to the Customer and the Representative/Emerson Sales Office.

The Order Acknowledgment includes the ship date for each item and a description.

The Sales order records the results of the contract review process and forms the basis for the Order Acknowledgement.

8.2.4. Changes to requirements for products and services

Amendments and changes to the Customer's order shall be processed in the same manner as the original customer order. Changes initiated by the customer shall be processed through the Sales Representative/Emerson Sales Office. Changes recommended by Flow Controls shall be communicated to the Customer by the Sales Representative/Emerson Sales Office for Customer acceptance and amendment of the customer's purchase documents. Changes shall be communicated and documented by revision to the Sales order entered by the Sales Representative/Emerson Sales Office and confirmed by Order Acknowledgement.

Supporting Procedures

Fisher Order Entry Procedure Guide
Sempell Quality Procedure - SQM-PB-L-0201 - Offer Processing
Sempell Quality Procedure - SQM-V-9901 - Contract Review
Crosby Procedure - OE-61-3003 - Order Entry and Editing

8.3. Design and development of products and services

8.3.1. General

The President, Strategic Product Business Units is responsible for Design and Development.

Flow Controls has established procedures to control and verify the design of products to ensure that the specified requirements are met. The activities included in this process include new design and redesigns or modifications to existing designs.

8.3.2. Design and development planning

All brands under the Flow Controls Business Unit use a Phase/Gate process, in alignment with the Emerson New Product Development process, to provide a structure for consistent new product development. The basis of the process consists of Phases and Gates that forces pre-defined deliverables in each Phase to be completed before entering the next Phase. The Phases consist of cross-functional teams executing actions to meet pre-defined deliverables within a specified timeframe. Gates are meetings designed to review the progress of the new product. The Phase/Gate process is flexible and can be modified to meet the needs of the business/product and is described in GP 1 and visually represented in Figure 4 below.

Figure 4. Phase/Gate process in place at Flow Controls.

A Design Plan shall be prepared by a Project Engineer/Project Team at the beginning of the design work. The Design Plan shall be prepared, reviewed, and revised in accordance with the applicable Engineering Procedure. The Design Plan shall include a listing of Project Engineers or Project Team Members, outline of the design and development activities, outline of verification activities to assure product conformance to the Technical Specification, and identification of responsibilities for each activity.
Design control measures, to identify and control design interfaces, shall include the establishment of participating organizations for the review, approval, release, distribution, and revision of documents.

Design activities are carried out at key sites in each world area. Engineering Standard ES119 or ES269 shall be used as a basis for the Design and Development controls for Fisher branded products; SQM-VR-9901 for Sempell branded products, and GE-40-3006 for Crosby branded products.

Product status and responsibility for the engineering and marketing maintenance of products will be assigned in accordance with ES250 and made accessible using the 'ES250 database application'.

8.3.3. Design and development input

Design input requirements are derived either from customer order requirements or marketing requirements. At the beginning of the design project, the design-input requirements, including

applicable statutory and regulatory requirements, shall be translated into a Technical Specification developed by Engineering. The Technical Specification shall be of sufficient detail to permit the design activity to be carried out correctly and to provide a consistent basis for making design decisions, design changes, and to be used as a design verification checklist. The Technical Specification shall be developed, reviewed, approved, documented, and included in the project file.

8.3.4. Design and development controls

Design reviews are conducted prior to the completion of the design process. Design reviews are conducted and documented in accordance with the requirements for Design Approval described in brand-specific design procedures. Design approvals shall be conducted by representatives of the function concerned with the design phase being reviewed. Design approvals shall be maintained by Engineering with the applicable design records.

Design verification is the process of reviewing, confirming, or substantiating the design by one or more methods to provide assurance that the design outputs meet the specified design inputs and performance requirements. The Project Engineer shall identify and document the particular verification methods to be used. Acceptable methods include, but are not limited to:

- Technical Assessment Process (ES238).
- Failure Modes and Effects Analysis.
- Alternate Calculations.
- Testing.

The verification method and result shall be documented in the project file. The verifier shall be an Engineer competent in the applicable field of design. Verification may be performed by the originator's supervisor provided the supervisor did not specify a singular design approach or rule out certain design inputs used in the design. Identification of the verifier and the date verified shall be included in the project file.

Design validation is conducted in accordance with specified product test procedures. Test procedures are prepared by Engineering to comply with defined user needs and to applicable codes and standards appropriate to the product offering. Engineering specifies Special testing requirements when required and agreed upon with the customer. Design validation requirements shall be specified within the technical specification developed by Engineering. Records of the results of validation and any necessary actions shall be included in the project file.

Additive Manufacturing (often referred as 3D printing) is driving innovation in product design and development at Flow Controls sites. The process and related responsibilities are described by GP8.

Rebranding a buyout or acquired product. To enlarge the total product offering available to customers, product complimentary to but not originally developed by Fisher, Crosby, or Sempell can be thoroughly reviewed, and potentially modified as needed, to ensure they have all the attributes necessary to carry the desired brand.
A gap analysis process shall be carried out on products of an Emerson or Non-Emerson company for potential rebranding considering the design controls of the specific brand to be applied (as described by this section). The process described by GP9 provides a framework for this gap analysis, however may be adapted as needed. The results of the gap analysis shall be documented.

In the case of an acquired company, the process begins after the company has been acquired by Emerson and there is a desire to rebrand some or all if the acquired company's products as defined in the Market Requirements Specifications document. This process involves investigation of the company and products by applicable functional areas, followed by presentation of issues and risks uncovered during the investigation to Executive Management.

8.3.5. Design and development output

The Project Engineer or Project Team shall be responsible for documenting the design output in terms of requirements, calculations, and analysis. Design output shall be in sufficient detail to permit design verification, identify assemblies and components that are part of the product design, and show conformance to the Technical Specification requirements and the design inputs.
Documentation shall include reference to production performance testing and inspection requirements and acceptance criteria. It shall also show conformance to appropriate statutory/regulatory requirements and identify characteristics of the design that are crucial to the safe and proper functioning of the product. The requirements for documentation are contained in applicable Engineering Procedures.

Design analysis shall be performed in a planned, controlled, and documented manner. Design analysis documents shall be legible and suitable for reproduction, filing, and retrieval. They shall be sufficiently detailed regarding purpose, method, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analysis and verify the adequacy of the results without recourse to the originator.

Documentation of design analysis shall include the following:

- Definition of the objective of the analysis.
- Definition of design inputs and their sources.
- Results of literature searches or other applicable background data, when used.
- Identification of assumptions and indication of those that must be verified as the design proceeds.
- Identification of calculations (e.g. computer programs used, revision level, inputs, outputs, reference to computer program verification).
- Review and approval dates.

Calculations shall be identified by subject, originator, reviewer, and date. When computer programs have been utilized in the preparation of calculations, the program shall have been verified to show that it produces correct solutions for the encoded mathematical model.

The computer program used for the preparation of calculations shall be controlled in accordance with an approved Engineering Procedure. When changes to previously verified programs are made, verification of the changes shall be performed by the program controller and documented in the change records section of the program documentation file along with the reason for the change.

8.3.6. Design and development changes

Changes to engineering drawings and other engineering documents shall be identified, reviewed, and approved by authorized personnel prior to their implementation in accordance with applicable engineering procedures. The review of design and development changes shall include evaluation of the effect of the change on constituent parts and product already delivered. Records of the results of the review of changes and any necessary actions shall be maintained. The web-based ECRN (Engineering Change Request/Notice) system shall be used by all Flow Controls sites per ES192. Additional processing requirements, where needed, are described by the individual site quality program.

Supporting Procedures

Engineering Standard - ES118 - Design Verification for Valve and Regulator Components
Engineering Standard - ES119 - Design Control Requirements
Engineering Standard - ES192 - Engineering Change Request Procedure
Engineering Standard - ES235 - Product Safety - Fisher Valve Division
Engineering Standard - ES238 - Technical Assessment Process
Engineering Standard - ES250 - Product Assignment – Designated Engineer List
Engineering Standard - ES269 - Instrument Engineering – Product Development Process
General Practice - GP1 - New Product Development Process
General Practice - GP8 - Additive Manufacturing Procedure for Fisher Parts
General Practice - GP9 - Gap Analysis for Potential Application of the Fisher™ Brand to a Buyout or Acquired Product
SQM-VR-9901 - Sempell Design Control
GE-40-3006 - Crosby Design Control Procedure

8.4. Control of externally provided processes, products and services

8.4.1. General

Flow Controls Global Supply Chain is responsible for the selection of suppliers who provide material, parts, and services to multiple manufacturing sites. Flow Controls Global Quality is responsible for the evaluation of selected suppliers. However, each manufacturing site may select and evaluate suppliers based on their individual needs. Suppliers identified on the Qualified Suppliers List may be used by any other manufacturing site for the materials, parts, and services they were qualified to provide.

The responsibility to place purchase orders and ensure that externally provided products and services (including ones directly provided to customer) to be in line with requirements resides with the manufacturing site.

8.4.2. Type and extent of control

Flow Controls established a comprehensive supplier selection, qualification and performance monitoring process that includes supply chain risk assessment and risk mitigation activity to ensure that externally provided product and services do not adversely affect its ability to consistently deliver conforming product and services to customers.

Supplier selection shall be based on their ability to meet the following:

- Technical and quality requirements.
- Delivery requirements.
- Cost requirements.
- Business stability and financial position.

Supplier selection is controlled in accordance with Flow Controls Procurement Procedures (FPP). Supplier evaluation and selection is based on their ability to meet procurement requirements, including quality systems and specific quality and technical requirements.
The type and extent of control over the supplier shall be dependent upon the type of product, the impact of the supplier product on the quality of the final product and the quality records of previously demonstrated capabilities and performance. Criteria for the selection, evaluation, and re-evaluation are described within FGS15B13.2. Suppliers meeting these requirements are identified on a Qualified Suppliers List.

Documented information of the results of supplier evaluations and any necessary actions arising from the evaluations shall be maintained.

Manufacturing sites shall utilize the Qualified Suppliers List for suppliers as defined in FGS15B13.0 Supplier Quality Procedure.

Manufacturing sites shall establish and implement inspection or other activities necessary to ensure that purchased products meet specified purchase requirements. These inspections or activities take place at the manufacturing site responsible for issuing the purchase order. The process shall be described within the manufacturing site's Quality Management System manual and or procedures.
When a manufacturing site or customer requires that source inspection take place at the supplier's facilities, the purchase order shall provide for the verification arrangements and describe the method for product release.

Verification by the manufacturing site or by the customer of materials, products, or services at the supplier's facilities shall not relieve Flow Controls or the supplier of the responsibility to provided acceptable material, product, or service, nor shall it preclude subsequent rejection and corrective action. Furthermore, when the manufacturing site or the customer carries out source inspection at the supplier's facility, the supplier shall not use this as evidence of effective quality control.

Supporting Procedures

Fisher General Specification - FGS 15B13.0 - Supplier Quality Procedure
Fisher General Specification - FGS 15B13.2 - Supplier Evaluation
Flow Controls Procurement Procedure - FPP-009 - Supplier Set-up Qualification Worksheet
Flow Controls Procurement Procedure - FPP-022 - Procedure for Supplier Evaluation and Risk Assessment
Crosby Procedure - PUR-30-3003 - Procurement of Production Material and Services

8.4.3. Information for external providers

Strategic Product Business Unit Engineering shall be responsible for providing details about the technical and quality requirements for the procurement of material, products, and services.

Material, products, and services are procured through the issuance of a purchase order. The purchase order may take the form of electronic communication or paper communication, issued from the applicable manufacturing site.

Each purchase order shall describe the following information as applicable:

- Name and address of the supplier.
- Part number and description or service description.
- Type, size, class, material, reference codes and other descriptive requirements.
- Applicable drawings, procedures, instructions, including revision levels.
- Requirements for the quality documentation and certification.
- Requirements for the qualification of personnel.
- Requirements for purchased product verification at the supplier's facilities by the manufacturing site and customers along with the method of product release.
- Requirements for adherence to quality program standards applicable to the material, product, or service being procured.

Each purchase order shall be reviewed for adequacy and approved by authorized purchasing personnel prior to its issuance.

8.5. Production and service provision

Flow Controls provides for the production and service of products through manufacturing sites throughout the world. It is not the intent of this Manual to describe the controls and processes for these locations. However, Strategic Product Business Unit does require the controls and processes carried out at these locations to be described within their respective Quality Management System Manuals and procedures and that the relevant requirements set forth within this Manual and the ISO 9001 Standard be met, at a minimum.

8.5.1. Control of production and service provision

Manufacturing sites shall plan and carry out production and service provision under controlled conditions. Controlled conditions shall include, as applicable:

- the availability of information that describes the characteristics of the product;
- the availability of work instructions, as necessary;
- the use of suitable equipment;
- the availability and use of monitoring and measuring equipment;
- the implementation of monitoring and measurement;
- the implementation of release, delivery, and post-delivery activities.

Additionally, sites shall strive to incorporate global manufacturing best practices including machining methodologies, assembly techniques, digital operations strategies, and factory automation processes.

Manufacturing sites use "Special" processes where the output cannot be verified by subsequent monitoring or measurement. These processes may include those where deficiencies become apparent only after the product is in use or the service has been delivered.

It is the policy of Flow Controls to validate these processes in accordance with the following codes and standards, at a minimum:

Welding – welding procedures, welders, and welding operators shall be qualified in accordance with recognized international codes and standards as applicable to customer and regulatory requirements and as specified by Engineering.

Non-Destructive Examination – NDE procedures and personnel shall be qualified in accordance with recognized international codes and standards as applicable to customer and regulatory requirements and as specified by Engineering.

Heat Treatment – heat treatment when used in conjunction with welding shall be validated as part of the welding qualification process. Heat Treatment when used to obtain specified material properties shall be validated by the materials ability to achieve these properties in accordance with the applicable ASME, ASTM, or other recognized material specification codes or standards.

Other Processes – (such as painting, plating, coating and potting which may fall within the category of "Special" processes) – validated based on Engineering acceptance criteria described within applicable instructions, procedures, and specifications.

Validation shall demonstrate the ability of these processes to achieve planned results.

Flow Controls shall establish arrangements for these processes including, as applicable:

- defined criteria for the review and approval of the processes,
- approval of equipment and qualification of personnel,
- use of specific methods and procedures,
- requirements for records, and
- revalidation.

Supporting Procedures

Fisher General Specification - FGS 15B08.1 - Development and Operational Control of Welding Procedure and Performance Qualifications
Fisher General Specification - FGS 15B08.2 - Development and Operational Control of Welding Procedure Qualifications – Non-Code Parts
Fisher General Specification - FGS 15B19.3 - Positive Material Identification (PMI) X-Ray Fluorescence Type Alloy Analyzers
Fisher General Specification - FGS 15B10.2 - Visible Dye Solvent Removed Liquid Penetration Inspection
Fisher General Specification - FGS 15B10.4 - Wet Fluorescent/Daylight Visible Magnetic Particle Inspection
Fisher General Specification - FGS 15B15.16 - Nondestructive Testing Personnel Qualification and Certification
Sempell Quality Procedure - SQM-PB-L-0207 - Mechanical Manufacturing / Welding

8.5.2. Identification and traceability

Flow Controls requires that the manufacturing sites establish suitable means to identify product throughout the realization process. Quality Plans in the form of shop routings, travelers, job cards,

and work orders may be used to establish the identity and suitability of product as it proceeds through the realization process.

Inspection and test status of the product is to be identified and provide an indication of the conformance of the product with regard to the inspection and test requirements. In addition to the Quality Plans mentioned, other status indicators such as markings, authorized stamps, tags, labels, inspection records, and physical location may be utilized. Status may also be maintained on a computerized database.

Material traceability is associated with the ability to maintain identification of raw material to its corresponding chemical and/or physical analysis performed during the material manufacture process. Material traceability is usually accomplished by the material manufacturer assigning a heat number or heat code to the material and identifying the material with the corresponding number.

Manufacturing sites shall maintain material traceability on pressure retaining parts used in valve assembly. Material traceability may be maintained on other product parts and material when specifically required by the customer order or engineering.

Flow Controls has established policy that requires assembled product to be serialized by each manufacturing site prior to shipment to the customer to maintain product traceability. Serial numbers are to be affixed to the product and provide a means to identify the product to its associated manufacturing and engineering records.

Supporting Procedures

Fisher General Specification - FGS 7E5 - Product Serial Number System

8.5.3. Property belonging to customer or external providers

Flow Controls requires that customer (or external providers as applicable) furnished material, equipment, special tooling, and/or test equipment be examined prior to use and that it be properly identified and protected from unauthorized use or disposition. Lost, damaged, malfunctioning, or deteriorated property shall be reported to the customer (or external provider). Records shall be maintained. Customer (or external provider) property may include intellectual property and personal data.

Manufacturing sites are to establish procedures which provide for the verification, storage, and maintenance of customer (or external provider) property until incorporated into finished product or no longer required and returned to the customer (or external provider).

These procedures shall define:

- Positive identification and/or part number assignment.
- Receiving inspection.
- Storage appropriate to maintain the property.

Lost, damaged, malfunctioning, or deteriorated property shall be handled in accordance with the manufacturing site's nonconformance process.
Verification by manufacturing sites does not absolve the customer (or external provider) of the responsibility to provide acceptable property.

Supporting Procedures

Order Entry Document - OED II Series

8.5.4. Preservation

Flow Controls sites have prepared procedures and/or instructions that provide for the preservation of product during internal processing and delivery to its intended destination. These procedures and/or instructions provide for the identification, handling, packaging, storage, protection and preservation of materials, parts, and assemblies as applicable to assure product conformity.

Supporting Procedures

Fisher General Specification - FGS 8A31 - Handling and Storage of Elastomeric Items
World Manufacturing Procedures - WMP Series - As applicable to the Preservation of Product

8.5.5. Post-delivery activities

The Sales Representatives and Emerson Sales Offices are responsible for defining and documenting product or service requirements as specified by the customer, statutory and regulatory requirements applicable to the product and any additional requirements considered necessary by the organization in the terms and conditions of delivery.

8.5.6. Control of changes

Each Flow Controls site shall review and control changes (like design, documentation, customer requirements, regulatory changes…etc.) that affect production or service provision to the extent necessary to ensure continuing conformity with requirements.

Documented information is retained describing the:

- result of the review of change,
- the person authorizing the change, and
- any necessary actions arising from the review.

8.6. Release of product and services

Manufacturing sites monitor and measure the characteristics of the products to assure that product requirements have been met. Monitoring and measuring activities are carried out at appropriate phases throughout the product realization process in accordance with quality plans. Monitoring and measuring activities include drawings, work instructions, procedures, routings, shop travelers, and order requisitions.

Product monitoring and measurements are carried out by the manufacturing sites at various phases depending upon the complexity and technical requirements of the product.
Monitoring and measurements may take place at any phase. However, formal monitoring and measurement processes usually occur during Tryout Inspection, Receiving Inspection, In-process Inspection, Assembly and Test, and Final Inspection of the product.

Manufacturing site management is responsible to develop quality plans which provide the necessary assurance that products comply with the specified requirements set forth by the Customer, Engineering, and Quality. Manufacturing Engineering, in cooperation with Engineering and Quality is responsible for determining what characteristics of the product are monitored or measured and for the preparation of the quality plans.

Quality plans shall identify and define the manufacturing, assembly, test, and quality control requirements, and be described within the manufacturing site's quality program. Quality plans shall identify or make reference to the acceptance criteria applicable to the product, provide a record of acceptance by persons authorized to release product from various phases up to and including final release. Manufacturing personnel may carry out the required inspection and test activities and record the results. Personnel not directly responsible for the work being inspected monitor these activities.

Where the product fails to pass inspections or tests, the procedures for the control of non-conforming product shall apply.

Unless approved by the manufacturing site Quality management, and where applicable by the customer, product shall not be released for shipment until the activities specified in the quality plans and/or product procedures have been satisfactorily completed and the associated documentation has been properly authorized. Documented information shall be maintained.

8.7. Control of nonconforming outputs

Flow Controls manufacturing sites ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities are defined within manufacturing site documented procedures.

Nonconforming product shall be reviewed in accordance with documented information and shall be dealt with in one or more of the following manners:

- reworked to meet the specified requirements,
- accepted under concession with or without repair,
- re-graded for alternative applications,
- rejected: returned to the subcontractor or scrapped.

Where required by contract, the proposed use or repair of product that does not conform to specified requirements shall be reported for concession to the customer or customer's representative. The description of the nonconformity that has been accepted and repairs shall be recorded to denote the actual condition.

Repaired and/or reworked product shall be re-inspected in accordance with the original specified requirements.

When nonconforming product is detected after delivery or use has started, the manufacturing site shall take action appropriate to the effects, or potential effects, of the nonconformity as determined by the site Material Review Board and/or the Product Safety Committee.

Documented information (record) of the nature of nonconformity and any subsequent actions taken (including concessions obtained) with the identification of the authority decided the action respect of the nonconformity, shall be maintained.

Supporting Procedures
Fisher General Specification - FGS 15B15.10 - Control of Nonconforming Product

PERFORMANCE EVALUATION

8.8. Monitoring, measurement analysis and evaluation

8.8.1. General

Flow Controls plans and implements the monitoring, measurement, analysis and improvement processes needed to:

- demonstrate conformity to product requirements,
- ensure conformity of the Quality Management System, and
- continually improve the effectiveness of the Quality Management System.

Flow Controls monitors and measures the Quality Management System processes by tracking performance against goals and objectives set by Executive Management.

Flow Controls shall define measurement objectives appropriate to the activities for which they are responsible and shall report these measurement results on a monthly basis.
These measurements are to be reviewed by the site management.
When planned results are not achieved, correction and corrective actions shall be taken, as appropriate, to ensure conformity of the products and improve the Quality Management System.

Goals and objectives are further defined at the sites to be meaningful to each employee. Measurement charts and graphs are utilized by sites for this purpose and are to be conspicuously posted in the work areas by management to provide employees information relative to their performance and the performance of the Quality Management System.

Appropriate documented information is retained as evidence of the results.

8.8.2. Customer satisfaction

Flow Controls monitors information relating to customer perception and whether Business Unit has met customer requirements in the following ways:

Customer Support Network (CSN) – The CSN system has been established to improve Flow Controls Business Unit's ability to identify, resolve, and archive field problems encountered by Sales Representatives/ Emerson Field Sales Offices and customers. This system enables improved responsiveness on warranty claims, goodwill claims, and product problem resolution. It relies upon the Sales Representative/ Emerson Sales Offices to play a key role in responding quickly to customer hardware problems. In addition to problems associated with the products and parts, the system has been designed to accommodate significant and/or recurring service and support concerns.

Sales Representative/Emerson Field Sales Office Communication – Flow Controls Business Unit has established an organization of Sales Representatives/Emerson Sales Offices who periodically meet with Flow Controls Sales Management and report on such issues as: Business Growth Potential, Key Customer Accounts, Best Practices, Customer Satisfaction, and general open discussions for improvement. Minutes of these meetings are taken to summarize the discussions and identify action items for improvement.

Industry Publication Reviews – Reviews are conducted by Marketing Management and provide customer feedback based upon surveys conducted by independent publications. This information is reported to Executive management so improvement opportunities may be identified.

Industry Group Goals Reviews –Sales Development and Support Group is organized by Industry Groups that meet periodically with members of Executive management to discuss customer satisfaction issues, and to identify opportunities for improvement, the status of which are reported via monthly reports.

Customer Audits – Locations may be audited by customers periodically. These audits present an opportunity for Flow Controls Business Unit to better understand the expectations of customers and to improve communication. Audit findings and recommendations for improvement are acted upon via the corrective action and preventive action processes at each of the Flow Controls sites.

Informal Customer Satisfaction and Perception Feedback – Information is obtained from the following: Customer visits of the Flow Controls sites, or Emerson employee visits to customer sites. Information arising from these visits is communicated via employee monthly reports and trip reports which are shared with management.

Formal Customer Satisfaction and Perception Surveys – Customer loyalty and satisfaction information is obtained periodically through surveys conducted by third party organizations. This information is reported to Executive management so improvement opportunities may be identified.

8.8.3. Analysis and evaluation

Flow Controls has identified relevant data that is collected, analyzed, and reported to management. This data, and the information extracted there from, provides the ability to determine the suitability and effectiveness of the Quality Management System. The data provides management with information for evaluation so continual improvement of the Quality Management System may be implemented effectively.

Data is generated as a result of the monitoring and measurement processes discussed in section 9.1.1 of this Quality Management System Manual, and from other relevant sources deemed appropriate by management, and included within Management Review activities (section 9.3).

The data provides meaningful information for management to measure performance against established goals and objectives.

In addition to financial, environmental, safety, health, and other business-related data, information is provided based on data analysis relating to:

***(a) Customer satisfaction*/loyalty** (see 9.1.2) – in the form of On-Time Delivery, Lead-time, Market Share, Warranty, Goodwill, and third party customer survey results.

(b) Conformity to product requirements (see 8.2.2) – in the form of Scrap and Rework.

(c) Characteristics and trends of processes and products – including opportunities to address risk, such as Lean enterprise techniques, product audit results and right the first-time performance.

(d) Performance of external providers (suppliers) – in the form of Supplier On-Time Delivery, Reject rates

(e) Performance of Quality Management System – in the form of open corrective action requests, audit results.

Data may be presented using techniques such as performance indicators, Pareto diagrams, charts, and graphs to transform data into meaningful information that shows trends or comparisons to expected results, to which management may respond.

8.9. Internal audit

The Global Quality Director is responsible for the implementation of internal audits.

Flow Controls locations conduct internal audits at planned intervals to determine if the Quality Management System is effectively implemented and maintained.

The audit process is planned and takes into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit scope, frequency, and method are defined. Auditor selection and conduct of the audit ensures objectivity and impartiality of the audit process. Auditors shall not audit their own work.

The Management Representative/Quality Manager assigned responsibility to oversee the site and/or processes shall prepare a documented procedure that defines the responsibilities and requirements for planning and conducting audits, reporting results and maintaining audit records.

Flow Controls Business Unit management is responsible for the location and/or process being audited and shall ensure any necessary corrections and corrective actions are taken without undue delay to eliminate detected non-conformities and their causes. Follow-up activities shall include the verification of the actions taken and the reporting of verification results.

Flow Controls has established Operation Excellence and Quality Management System Audits at scheduled intervals to determine if Quality expectations and requirements are being fulfilled.

Product validation audits are also conducted at defined intervals to determine whether products are meeting engineering and production requirements defined by applicable Quality procedures and Engineering specifications.

Supporting Procedures

Fisher General Specification - FGS 15B15.8 - Divisional Operation Excellence Audits and Quality Management System Audits
Fisher General Specification - FGS 15B15.15 - Product Quality Validation and Audit Procedure
Fisher General Specification - FGS 15B15.9 - Auditor/Lead Auditor Qualifications

8.10. Management Review

8.10.1. General

Management review is accomplished by a variety of activities that take place throughout the year.

Executive management plans the policies, goals, and objectives as a result of the planning processes discussed in paragraph 6. These are communicated as policies, goals, and objectives throughout the organization as described in paragraph 7.4. Management within Flow Controls reviews the status of these policies, goals and objectives, as well as the suitability, adequacy, effectiveness and alignment with the strategic direction of the organization on a regular basis.

The following management review activities take place as a minimum:

a) ***Management Monthly Reports*** – Provide a vehicle to pass critical information through each level of management.

b) ***Staff Meetings*** – Management meetings that take place at each level of management and provide the opportunity to communicate from top down and bottom up. The Flow Controls Management Representative will periodically report on the implementation and effectiveness of this Quality Management System and make recommendations for improvement.

c) ***Operation Reviews*** – Management meetings that take place at each site and provide Executive management a report on the progress of goals and objectives that have been established by each functional area at the site.

d) ***President Performance Report Reviews*** – Management meeting that takes place by World Area and provides Executive management an overview on Enterprise Perfect Execution performance and related initiatives.

8.10.2. Review Input

These management review activities take into account information from the following:

- results of audits,
- customer feedback,
- feedback from relevant interested parties,
- review of achievement of quality objectives,
- process performance and conformity of product and services,
- key nonconformities and related corrective actions,
- changes of external and internal issues relevant to Quality Management System,
- the adequacy of resources,
- the effectiveness of actions taken to address risks and opportunities,
- follow-up actions from previous management reviews,
- recommendations for improvement.

8.10.3. Review Output

As a result of the management review, activities, decisions, and actions from management are formulated for many areas of the business including:

- opportunities of improvement,
- any need for changes to the Quality Management System,
- resource needs.

Records of management review are maintained in the form of documented monthly reports, staff meeting minutes, operation review presentations, planning conference, profitability review, technology and organization review presentations, and other meeting minutes.

Supporting Procedures

Fisher General Specification - FGS 15B15.12 - Management Review

9. IMPROVEMENT

9.1. General

Flow Controls determines and selects opportunities for improvement and implements any actions to meet customer requirements and enhance customer loyalty by:

- Improving products and services to meet requirements as well as to address future needs and expectations,
- Correcting, preventing or reducing undesired effects,
- Improving the performance and effectiveness of the Quality Management System.

9.2. Nonconformity and corrective action

Flow Controls is committed to eliminating the causes of non-conformities in order to prevent recurrence. Corrective actions are to be appropriate to the effects of the non-conformities encountered and address risks and opportunities determined during planning process if necessary.

A documented information (procedure) shall be prepared and implemented at each Flow Controls site to define the requirements for:

- reviewing non-conformities (including customer complaints),
- determining the cause of non-conformities,
- evaluating the need for action to ensure that non-conformities do not recur,
- determining and implementing action needed,
- recording the results of actions taken, and
- reviewing the effectiveness of corrective action taken.

Flow Controls shall have documented information (procedures) for identifying and eliminating the causes of non-conformities in products, processes, or Quality Management System. Key features of the documented information necessary to effectively implement corrective action include:

- clear and accurate identification of the process output concerned,
- ability to identify problems in a timely manner and take appropriate action,
- ability to identify in a timely manner, the initial recipient(s) of defective process outputs,
- a summary of activities, findings, and recommendations associated with the corrective action prepared by a designated person,
- an adequate and effective system for controlling corrective action, reviewed and challenged at defined intervals,
- clear descriptions of the course of action, with designated responsible persons identified.

Supporting Procedures

Fisher General Specification - FGS 15B15.6 - Corrective Action

9.3. Continual improvement

Flow Controls is committed to continually improving the suitability, adequacy, and effectiveness of the Quality Management System through the use of the:

- Quality Policy (5.2)
- Quality Objectives (6.2)
- Management Review (9.3)
- Internal Audits (9.2)
- Analysis of Data (9.1)
- Corrective Action (10.2)

Continual improvement of products, processes, and systems is an objective of each employee within Flow Controls, as set forth in the Quality Policy.

The effectiveness of the Quality Management System is determined by the Business Unit's ability to realize and achieve results by the attainment of goals and objectives set forth by Executive Management. Effectiveness is monitored and measured from information provided through data analysis and reported through management review.

The process of establishing goals, objectives and identifying opportunities for improvement is a continual process made possible through the use of audit findings, data analysis, and management review. The cyclical process generally leads to corrective actions which re-establish goals and objectives, a continual improvement process.

RELEASE/REVISION RECORD

Release/Revision: A - E

Date: March 11, 2011
Written by: See Signature Page 1
Approved: See Signature Page 1
Date Approved: March 11, 2011
Department: Global Quality Assurance

Reason: Updated Organization Chart. Updated Supporting Fisher Procedures listed.

Revision: F

Date Revised:
Revised by: See Signature Page 1
Checked and Approved by: See Signature Page 1
Date Checked and Approved:

Reason: Added Release/Revision Record section. Updated Fig 1 to include global plant structure. Added Documentation Pyramid to Section 4.2.1. Changed references for following FGS 15B documents: 15B43 (Replaced by 15B15.2); 15B42 (Replaced by 15B15.1); 15B30.2 (Replaced by 15B10.2); 15B77 (Replaced by 15B04.1); 15B78 (Replaced by 15B04.2); 15B75 (Replaced by 15B08.1); 15B83 (Replaced by 15B15.8); 15B81 (Replaced by 15B15.6); 15B85 (Replaced by 15B15.10) Added references for following FGS 15B documents: 15B15.12; 15B15.11; 15B08.2. Removed reference to FGS 15B25, now referenced from Supplier Quality Manual FGS15B13.0. Updated Appendix A Organizational Chart. Removed reference to “Valve Division” or modified reference to “Fisher”.

Revision: G

Date Revised:
Revised by: See Signature Page 1
Checked and Approved by: See Signature Page 1
Date Checked and Approved:

Reason: Updated Fig 1 Jubail and Fisher India transferred to Global ISO Cert. Released FGS 15B15.13. Engineering Process Fig 5 – Technical Assessment changed from Decision to Process Flowchart Shape. Added Note to FGS15B45 reference in Section 4.2.2. Changed Manual & Quality Policy approval to President, Fisher Global Sales and Operations and President, Fisher Business Units. Updated title for position responsible for Design & Development Section 7.3. Changed Stage/Gate (Trademarked) references to Phase/Gate. Updated Fig 8 to latest Emerson NPD visual. Updated Title of ES119, ES251, ES235. Updated Appendix A Org Cart.

Revision: H

Date Revised:
Revised by: See Signature Page 1
Checked and Approved by: See Signature Page 1

Date Checked and Approved:

Reason: Updated Fig 1 Fisher Stafford, USA. Compliance statement to ISO29001 requirements. Changed Manual & Quality Policy approval to President, Fisher. Updated Section 5.4 with Perfect Execution Review. Updated Section 7.3 with title for position responsible for Design & Development as well as referenced applicable new ES documents. Referenced OpEx audit and Product validation audit process in Section 8.2.2. Updated Appendix A Org Chart.

Issue: **3**
Revision: **A**
Date Revised:
Revised by: See Signature Page 1
Checked and Approved by: See Signature Page 1
Date Checked and Approved: November 14, 2017

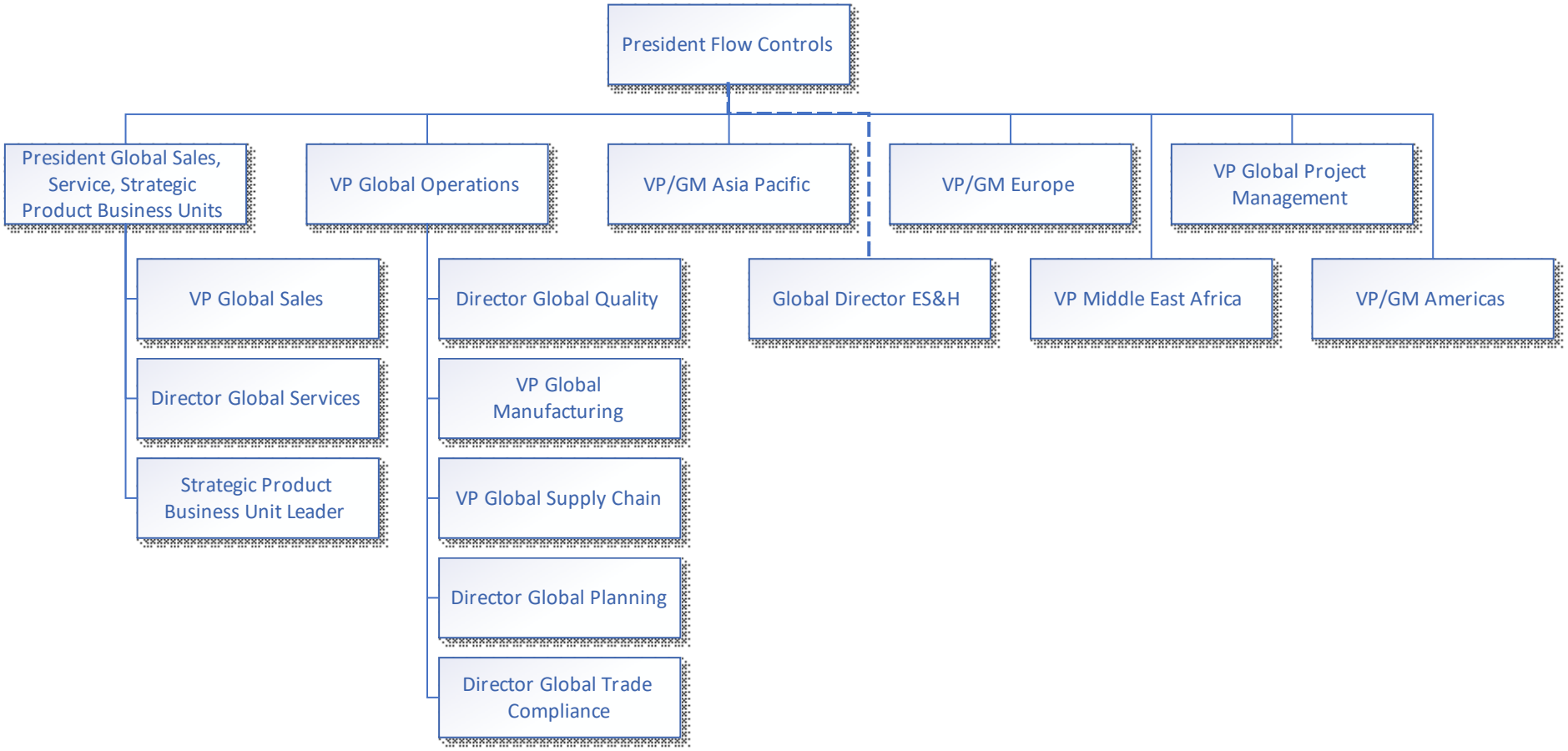
Reason: Revised Manual in line with ISO9001:2015 edition requirements and structure.

Issue: **3**
Revision: **B**
Date Revised:
Revised by: See Signature Page 1
Checked and Approved by: See Signature Page 1
Date Checked and Approved: Feb 9, 2024

Reason: Revised Manual to incorporate Flow-Controls business unit requirements and structure.

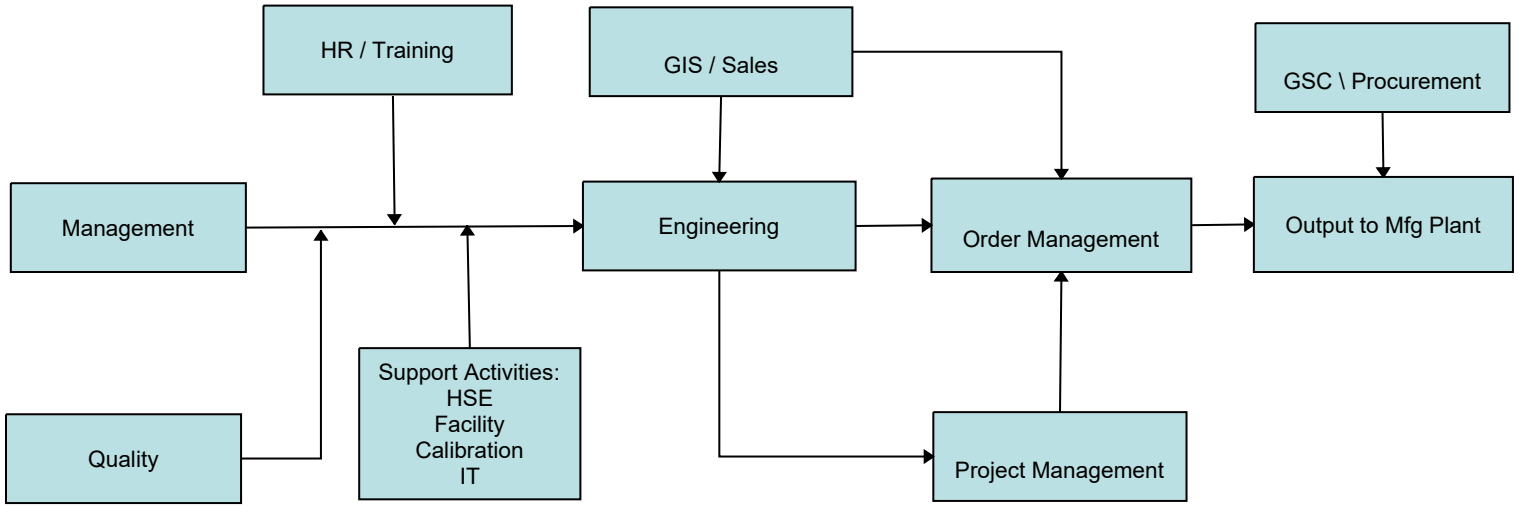
Appendix A:

Flow Controls Organization Chart (For latest version, contact Human Resource department)

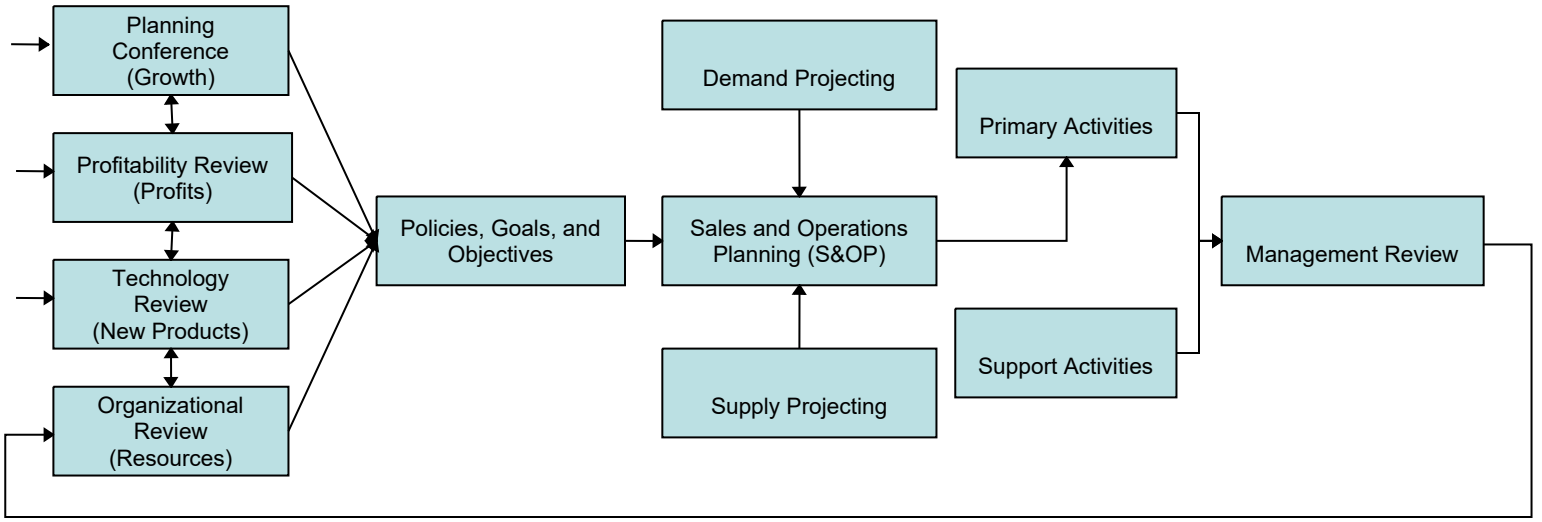


Appendix B:
Business Process Flow Charts:

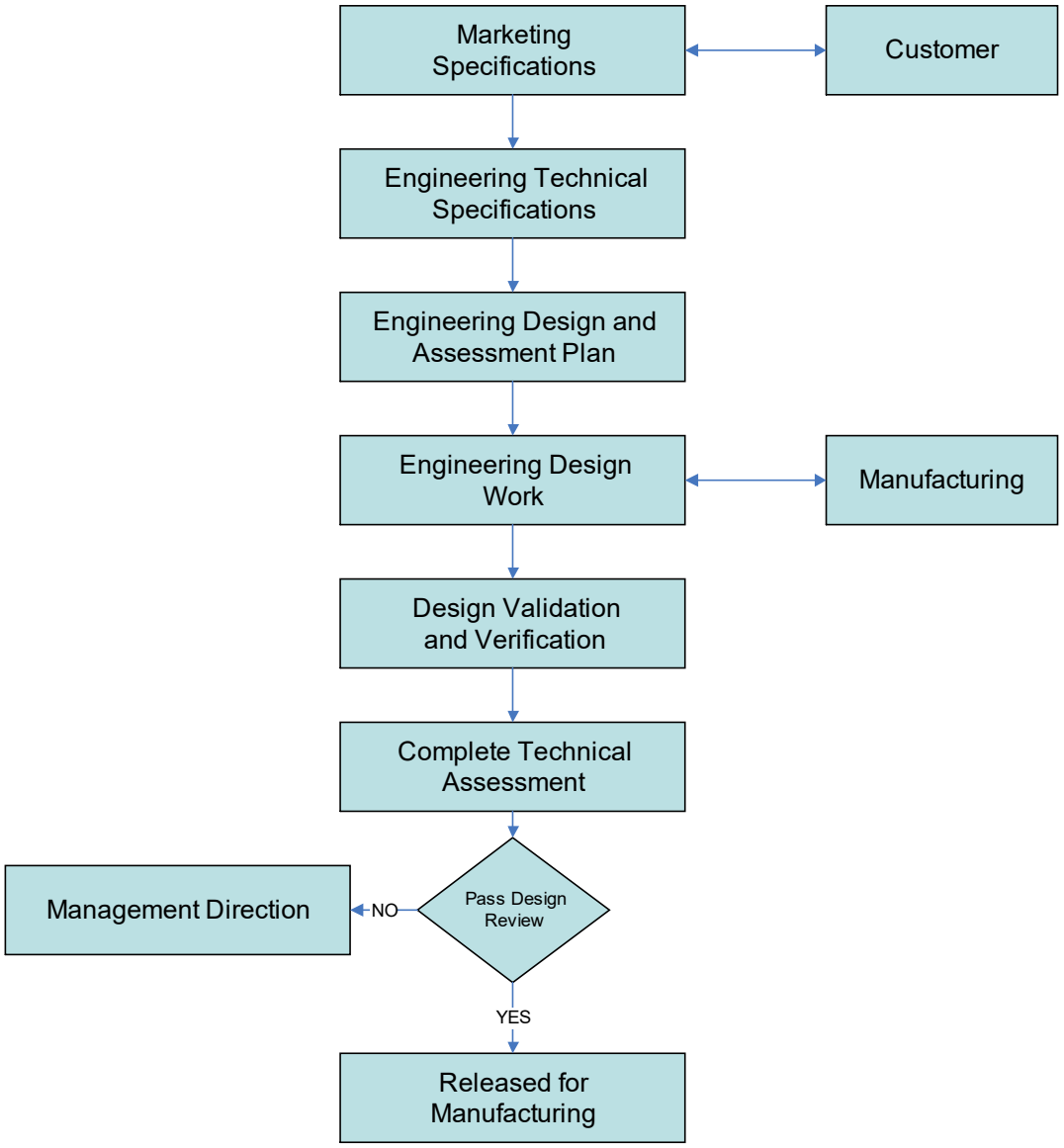
Headquarters Process Flow Chart



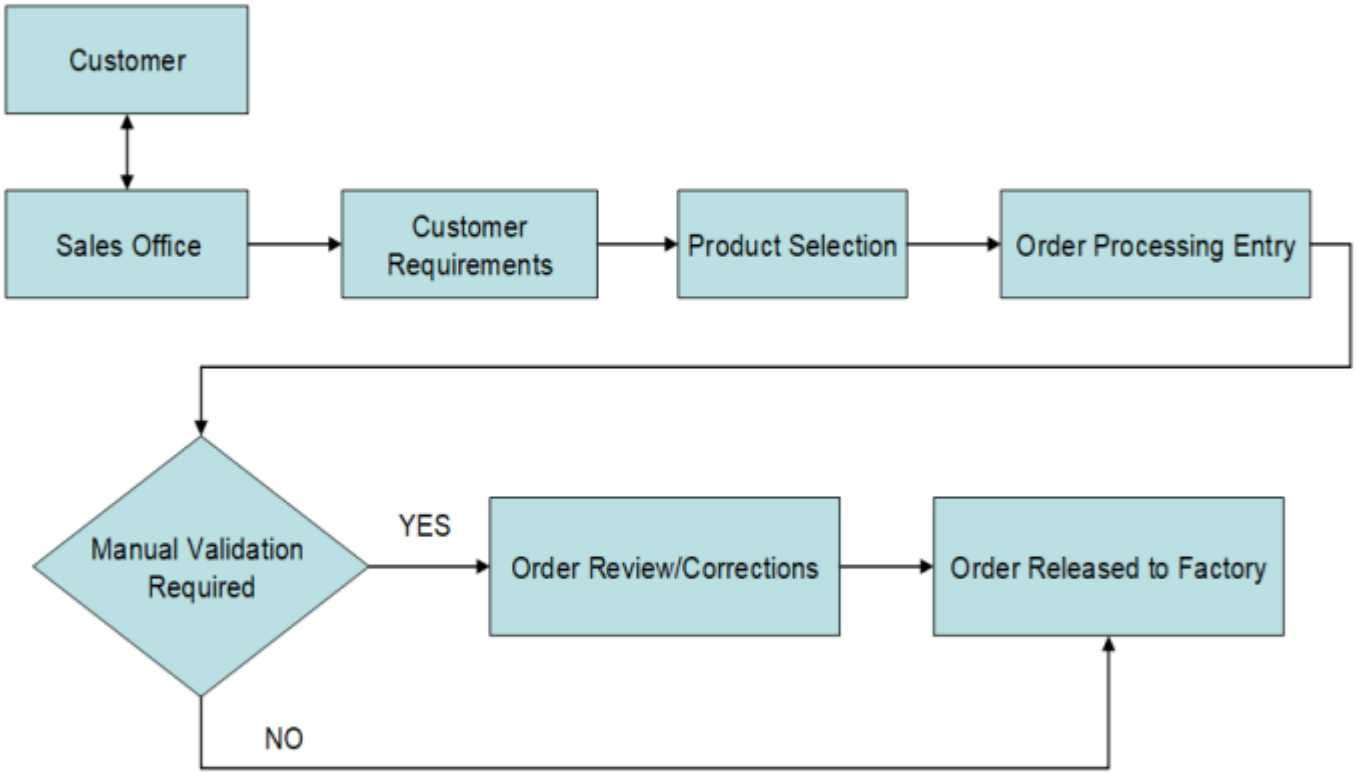
Management Process



Engineering Process



Order Process



Manufacturing Process