



**SILEGO**

Quality Policy Manual  
QS-01-500



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QS-01-500

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## **Section 1: General**

### ***Section 1.1: Index and Revision Status:***

The numbering of this Quality Policy Manual directly corresponds to the numbering of ISO 9001: 2000.

Updates to this manual will be made by re-issuing the relevant section of this manual and adapting the revision level in Document Control Master Listing.

### ***Section 1.2: Purpose and Scope:***

This Quality Policy Manual documents our quality system to demonstrate the company's ability to consistently provide product that meet customer and regulatory requirements.

This manual establishes compliance with ISO 9001: 2000. This Quality Policy Manual applies to our research and development, production, sales, marketing, and servicing activities.

### ***Section 1.3: Exclusions:***

Where any requirement of ISO 9001: 2000 can not be applied due to the nature of our organization, its activities and its products, they will be considered for exclusion.

An ISO 9001: 2000 requirement may be excluded only when both of the following conditions are met:

1. The requirement must be within ISO 9001 section 7, Product Realization.
2. The exclusion may not affect our ability, nor absolves us from the responsibility, to provide product that meets customer and applicable regulatory requirements.

The Director of Quality is responsible for identifying those requirements of ISO 9001 that do not apply to our organization or products, and to propose exclusions of such requirements from the scope of the quality system.

The Chief Executive Officer has the responsibility and authority for examining whether the proposed exclusions are appropriate and for approving them. Evaluation and approval of exclusions are conducted within the framework of management reviews of the quality system (refer to procedure QS-02-560, Management Review).

Any exclusions taken are documented in this section of the Quality Manual. The excluded requirements are precisely identified with reference to specific clauses and/or statements in the standard. There is also a brief justification why the exclusion is taken and why it is appropriate.

1. No exclusions to ISO 9001: 2000 section 7, Product Realization Requirements, are taken.



## **Section 2: Company Background:**

### ***Section 2.1 Company Background***

Silego Technology Inc. is a well funded privately held fables semiconductor Components Company focused on the design and manufacture of high performance mixed signal and analog products for high volume applications in computation, communication and digital consumer markets.

Silego's core technical competencies are signal distribution / PLL (phase lock loop) and power management / PWM.

Silego is funded by tier 1 venture capital firms, U.S. Venture Partners, Storm Ventures and Western Presidio. Silego utilizes leading world class subcontractors to manufacture products.

Silego's management team has a successful track record of delivering mixed signal products in high volume to global OEM's that are leaders in their markets.

Silego offers a family of high performance clocks and buffers supporting all major PC chipset manufacturers. The motherboard clock product family provides a cost effective and highly integrated solution for servers, workstations, and desk top PC and notebook PC systems. The family of high performance clocks and buffers support DDR1 and DDR2 registered DIMM. All speed grades defined by the JEDEC committee are supported.

### ***Section 2.2: Company History:***

Silego was founded in 2001.

## **Section 3: Definitions, Conventions and Terminology:**

### ***Section 3.1: Definitions, Conventions and Terminology:***

The Director of Quality is responsible for setting up and maintaining a list of definitions and convention.

### ***Section 3.2: Abbreviations:***

The Director of Quality is responsible for setting up and maintaining a list of abbreviations used in the quality manual.

## **Section 4: Quality Management System:**

### ***Section 4.1 General Requirements:***

Silego has established, documented, implemented and maintains a Quality Management System in accordance with the requirements of ISO 9001: 2000. Silego continually improves the effectiveness of its QMS.

Silego's Quality Management System:

1. Identifies the processes needed for its operations and their application throughout the organization.
2. Determines the sequence and interaction of these primary processes.
3. Determines criteria and methods needed to ensure that both the operation and management of these processes are effective.
4. Ensures the availability of resources and information necessary to support the operation and monitoring of these processes.
5. Ensures monitoring, measurement and analyses of these processes and ensures implementation of actions necessary to achieve planned results and continual improvement of these processes.

Silego manages these processes in accordance with the requirements of ISO 9001: 2000.

Where any process that affects product conformity with requirements is outsourced, Silego ensures management of such processes. Methods of management of such outsourced processes are identified within the QMS per the procedure PR-02-740, Supplier Selection and Engagement Procedure.

Processes needed for the QMS referred to above include processes for management activities, provision of resources, product realization and measurement.

### ***Section 4.2: Documentation Requirements:***

The activities governed by the quality system are identified and documented. These documented procedures are controlled and effectively implemented to ensure that our products meet customer requirements. The quality system is defined in the following controlled documents:

1. The quality policy and the quality objectives
2. The Quality Policy Manual
3. Documented procedures required by ISO 9001: 2000
4. Work instructions
5. Quality records required by ISO 9001: 2000.



Where the term "documented procedure" is used in this quality policy manual, the procedure is established, documented and maintained.

### **Section 4.2.1: Quality Policy Manual:**

Silego has established and maintains this quality policy manual including:

1. The scope of the quality management system, including details of and justification for any exclusion per the application section of this Quality Policy Manual.
2. Reference to the documented procedures established for the quality management system.
3. A description of the interaction between the processes of the quality management system.

### **Section 4.2.2: Management of Documents:**

Documents required by the QMS are managed per the documentation management system which is composed of DC-02-421: Documentation Numbering Procedure, DC-02-422: Control of Documents, DC-02-423 ECN Procedure. Quality records are managed per the quality records procedure, DC-02-420.

The documentation management system, describes the method of:

1. Approving documents for adequacy prior to issue.
2. Reviewing and updating documents.
3. Ensuring that changes and the current revision status of documents are identified.
4. Ensuring that relevant versions of applicable documents are available at points of use.
5. Ensuring that documents remain legible and readily identifiable.
6. Ensuring that documents of external origin are identified and their distribution managed.
7. Preventing the unintended use of obsolete documents, and applying suitable identification to them if they are retained for any purpose.

Changes in the documents will be reviewed and approved by the same functions who originally reviewed the concerned documents. These functions will have access to pertinent background information.

### **Section 4.2.3: Management of Records:**

Records are established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Mechanisms are established for records to remain legible, readily identifiable and



retrievable. A documented records procedure, DC-02-420: Record Control, is established to define the means needed for the identification, storage, protection, retrieval, retention time and disposition of records.

When arranged contractually, quality records will be available for customer evaluation.

## **Section 5: Management Responsibility:**

### ***Section 5.1: Management Responsibility:***

The management formulates the organization's quality policy and the associated quality objectives. The quality policy is adjusted once a year.

The CEO promotes the need to meet customer requirements and regulatory and legal requirements.

The tasks, the responsibilities and the authorities of the personnel have been defined via job profiles, procedures, process plans and work instructions.

The CEO is responsible for the provision of quality resources to improve the quality system.

The Director of Quality is appointed as the management representative and is responsible for the maintenance of the quality management system.

The management reviews once a year the quality management system. The procedure QS-02-560, Management Review, is employed.

### ***Section 5.2: Customer Focus:***

With focus on customer satisfaction, top management shall ensure that customer requirements are determined and met.

Customer requirements are identified via the contract review procedure MA-03-521. If these requirements are appropriate and feasible, they are met.

Customer requirements can range from the reliability of a product or service, product specifications, product safety and functionality, to meeting defined delivery dates. This includes requirements not directly specified by the customer and which are considered as implied.

The intent of this clause is to identify customer requirements, to analyze them regarding their feasibility and to convert them into requirements if applicable. The results could be changes, amendments or establishment of customer service procedures, packaging, delivery methods, etc. or changes or improvements to products or services provided, or could lead to the development of a new product or service.

***Section 5.3: Quality Policy:***

The company's philosophy and hence commitment to quality is declared in a Policy Statement signed by the CEO. The policies for enabling this philosophy to be maintained throughout the company's operations are documented in this quality policy manual, approved by the management.

The quality policy is developed in conjunction with other organizational goals, periodically reviewed by the management team against the market analysis of current customer expectations and needs, and amended as appropriate.

The quality policy emphasizes the need to meet requirements and makes a commitment to continuous improvement.

In order to maintain established quality standards and facilitate continuous improvement in the quality of the company's products and services, quality objectives are established each year and a program implemented to achieve them. The program and resources to carry it through are authorized by the CEO and managed by the Director of Quality.

This policy is developed in conjunction with the staff that will implement them and only published once they have been agreed and understood. Managers coach their staff to ensure understanding and provide help and advice in the implementation of the published policy and procedures.

Procedures and standards are developed to implement the agreed policy, subject to a comprehensive program of independent audits.

**Silego Quality Policy Statement**

Silego is committed to provide **TOTAL CUSTOMER SATISFACTION** through quality, service and low cost of ownership.

Our goal is to design and manufacture the **HIGHEST QUALITY PRODUCTS** and offer the most reliable service.

**CONTINUOUS IMPROVEMENT** (by every one) is the methodology used to achieve zero defects.

Our commitment to quality starts and ends with our **CUSTOMERS**.

**Mission Statement**

To provide quality professional tools to the professionals who demand the very best.

***Section 5.4: Quality System Planning:***

Quality objectives are established throughout the organization to implement the quality policy, to meet requirements for products and processes, and to improve the quality system and the quality performance.

Quality objectives define the direction and priorities for continual improvement. Use of quality objectives for facilitating continual improvement is explained in procedure QS-02-850, Continuous Improvement.

Quality system elements and processes are planned to ensure that the system is appropriate for its intended purpose, and that it is effective and efficient. The purpose of the quality system is:

1. To achieve the quality policy
2. To ensure and demonstrate our ability to provide products that meet customer and regulatory requirements
3. To ensure a high level of customer satisfaction
4. To facilitate continual improvement
5. To comply with the requirements of ISO 9001 standard.

The output of quality system planning is documented in this quality manual, in associated procedures, and in other referenced documents. These documents identify and define all elements and processes of the quality system.

Planning of product realization, verification and validation processes is addressed in section 7.1 of this manual.

Improvements of the quality system are planned within the frame of management reviews. The output of this planning is expressed in the form of quality objectives, as defined above and in procedures QS-02-850, Continuous Improvement and QS-02-560, Management Review.

***Section 5.5: Organization and Communication:***

The responsibility and authority of all personnel is defined within the procedures that apply to the operations they perform. In addition, the responsibilities, authority and accountabilities for those holding specific positions or carrying out a particular trade or profession are defined in Job Profiles.

Each of the company's procedures indicates the interrelation of personnel in performing specific tasks of operating specific processes. In addition, an Organization Chart that defines the responsibilities and authorities and their interrelation is maintained. The



responsibilities and authorities of functions and their interrelation are communicated by indoctrination training of all employees.

Where the policies and procedures indicate that actions and decisions are to be taken by certain authorities, the organization to which this authority has been delegated for a particular contract is specified in the Quality Plan.

All staff has the freedom to identify problems and initiate action to prevent their recurrence but only those with responsibility for certain results have the authority to determine how those results are to be achieved or improved. In the event of a member of staff identifying either an actual or a potential problem for which they are not responsible, the problem and any feasible solutions are reported to their manager for consideration. Any person neglecting to take advice given by a qualified person will be held accountable to their manager.

The personnel assigned to investigate particular problems, implement and verify solutions are identified in forms or reports that relate to the problem and these documents retained in the form of quality records.

Personnel responsible for releasing products or services to the customer are responsible for ensuring that all previously reported and documented problems have been resolved to the satisfaction of those concerned before commencing delivery.

### **Section 5.5.1: Management Representative**

A position of Quality Director has been established and maintained and filled by a permanent member of staff appointed by and responsible to the CEO.

The Quality Director has the delegated authority of the CEO to represent the company regarding the quality system employed to ensure that its products and services meet customer requirements. He is responsible for ensuring that the quality system meets the conditions required to maintain registration to any external quality system standard relevant to the business.

The Quality Director has the delegated authority of the CEO to:

1. Manage the design, development, implementation and evaluation of the quality system including the necessary resources.
2. Determine whether proposed policies and practices meet the requirements of the standard, are suitable for meeting the business needs, are being properly implemented and cause noncompliance's to be corrected.
3. Determine and communicate the effectiveness of the quality system.
4. Report on the quality performance of the organization.



5. Identify and manage programs for improvement in the quality system.
6. Promote the awareness of customer requirements throughout the organization and communicate the importance in meeting these requirements (together with regulatory and statutory requirements).
7. Interface with the appointed Registrar.

### **Section 5.5.2: Internal Communication**

The Quality Director is responsible for communication. The effectiveness of the quality management system is periodically communicated to staff via:

1. Weekly: staff/departmental meetings.
2. Once a year: management review meetings.

The meetings are documented, including issues discussed, decisions made, responsibilities assigned and deadlines to be met. The minutes are distributed to the concerned functions in a timely fashion.

Planning activities performed by multi-disciplinary teams are part of communication and are included in the overall approach of effective communication. Training activities are used to communicate information, instructions, requirements and responsibilities.

### **Section 5.5.3: Quality Manual**

Procedures have been documented. The quality system processes interaction has been described. The scope of the quality system has been defined.

### **Section 5.5.4: Quality Documents**

Procedure DC-04-422, Control of Documents is employed to control documents.

### **Section 5.5.5: Quality Records**

Procedure DC-02-420, Record Control, is employed to control all records that demonstrate achievement of customer requirements and the effective operation of the quality system.



Quality system procedures and process plans identify all the quality records that need to be produced and maintained to demonstrate achievement of the required quality and effective operation of the quality system.

### ***Section 5.6: Management Review***

Management reviews take place during the weekly staff meetings. All department managers, or their appointed representative, are in attendance. At the end of the year a broad review takes place: trends against the past years are analyzed and assessed.

The Quality Director collects objective evidence on the effectiveness of the quality management system. This includes:

1. Audit results.
2. Customer feedback.
3. Contract performance data.
4. Nonconformance data.
5. Problem reports.
6. Changes affecting the quality system.
7. Previous management review reports.

On the basis of this input the quality system is tested for its effectiveness, for its relevance and for its implementation.

Particular quality objectives are examined and adjustments are considered because of changes in the conduct of business. These adjustments can be the consequence of:

1. New technologies
2. New quality-ideas
3. Social developments and new regulatory requirements
4. Organization's strengths and weaknesses

Decisions are made regarding actions needed to improve the effectiveness of the quality management system.

Details of this review, how it will be performed and recorded, and the associated responsibilities may be found in the procedure for management review, QS-02-560.

## **Section 6: Resource Management:**



## ***Section 6.1: Provision of Resources***

The management is responsible for identifying and providing the resources necessary for the specified objectives.

The management ensures the workspace needs are provided, that the equipment is maintained and that detailed procedures are present. The management ensures that only calibrated measuring devices are used and that the calibration procedure, OP-02-702 is implemented.

The management ensures that competent personnel are assigned for the control and implementation of the processes and verification-actions such as internal audits.

The management is responsible for the customer satisfaction examination and for identifying and providing the resources needed to achieve customer satisfaction.

## ***Section 6.2: Human Resources and Training***

### **Section 6.2.1: Training**

Training needs are identified through the procedure HR-02-621. When a new employee is hired, the procedure HR-02-621 is used as well.

Any routine training and re-training necessary for a person to perform a particular job effectively provide by specification key sponsors as appropriate.

Training records are established which describe the current qualifications, experience and training of each member of staff. Managers select staff for particular jobs who meet the requirements of the job specification.

Details of any training carried out are recorded on personnel training records and, where issued, certificates provided to the individual.

Training or re-training of an employee is periodically reviewed by managers to identify gaps in training. Assessment is based on direct observation and close contact with employees.

### **Section 6.6.2: Competence and Awareness**



Other measures include the availability of clear and precise instructions, procedures, flowcharts, etc. for activities which do not require specific training.

Appropriate records of the employee's education, training, skills and experience are kept in the employee's personal file.

Employees are informed of the current quality objectives and participate actively in achieving these objectives.

### ***Section 6.3: Infrastructure and Work Environment***

An estimate of the manpower, material, and facilities needed to execute a particular project is established, and agreed with senior management prior to initiating the project. The estimate includes the resources to manage and carry out the work required and in addition the resources required to verify that the work has been completed in accordance with the project requirements.

On receipt of a contract, the documentation is reviewed to identify any verification requirements that may be imposed by the customer. The aspects requiring verification will also be identified and the results documented in the form of plans and specifications that will govern the conduct of work under the contract.

Where the working environment needs to be controlled, measures are taken to train staff and prevent unauthorized access.

## **Section 7: Product Realization:**

### ***Section 7.1: Planning of Product Realization***

The quality system defines and controls the preparation, use and maintenance of those documents that describe how the required features and characteristics are to be designed and built into the company's products and how the achievement of these features and characteristics are to be verified. This is accomplished through design rule specifications and FMEA's.

On receipt of a project proposal, all of the items necessary to complete the work are determined and the quality plan reviewed. The manufacturing quality plan is reviewed and approved by the Vice President of Operations. Items considered in the plan are:

1. Controls
2. Processes



3. Inspection equipment
4. Fixtures
5. Production resources such as equipment, materials, skills, documentation and utilities.

In order to ensure compatibility between contractual requirements, company specifications, procedures and process capability, reviews are undertaken at each document release stage in the form of design reviews.

Contracts, the associated documents, and any specifications produced by the company to implement the requirements are assessed. Any changes needed to the existing quality controls, inspection and test techniques and instrumentation determined.

The contractual requirements and any company specifications produced to meet them are assessed for any measurement capability that exceeds the state of the art. If such a capability is identified the customer is notified and the contract re-negotiated or the parameters relaxed.

On receipt of a contract, the documentation is reviewed to identify any verification requirements that may be imposed by the customer. Following determination of the work needed to satisfy the customer requirements and provide the required products and services, the aspects requiring verification are identified, the stage of verification determined and the results documented in the form of plans and specifications that will govern the conduct of work under the contract.

It is incumbent upon Silego to determine the customer requirements and ensure that they are understood, achievable and verifiable using the resources at the company's disposal. Where the customer has not adequately specified the acceptance requirements and declines or is unwilling to be specific he is advised that the company standards will prevail.

The contractual requirements and the plans prepared to execute a contract are assessed and the quality records required identified and listed in the quality plan. Any new records Required are designed and implemented using quality system procedures.

Quality objectives for product are included in this planning process.

## ***Section 7.2: Customer Related Processes***

Contracts and tenders for catalog products are reviewed in accordance with the procedure MA-03-521, Contract Review. On receipt of an enquiry or invitation to tender, the



customer requirements are examined by Marketing to establish that they are adequately defined and that the company is able and willing to meet them.

Customer requirements for custom products are recorded by means of a functional specification and treated according to the procedure DE-02-730, Design Control.

For both catalog products and custom products, the requirements not specified by the customer, but which are necessary for the defined, implied or intended use of the product, are also identified.

### ***Section 7.3: Design***

The procedure DE-03-734 is employed to control and verify product design.

Procedures are established, implemented and maintained which ensure that all product and service design activities are conducted under controlled conditions that result in designs that have been proven compliant with agreed requirements.

Each new design is classified as a project. A project manager is appointed with responsibility and authority to direct the efforts of all those to whom design tasks have been assigned and to ensure compliance with the agreed design requirements.

The design project consists of the following subdivisions:

1. Gathering and review of functional specifications.
2. Preliminary product specifications
3. Competitor analysis
4. Technical development
5. Design review and verification
6. Design validation
7. Introduction into the market

### ***Section 7.4: Purchasing***

The procedures PR-02-742: Purchasing, and PR-02-741: Purchased Product Verification are employed to control and verify purchasing.

The company has established a purchasing process to ensure that purchased products and/or services conform to specified requirements.

To evaluate suppliers, Silego observes the following procedures:



1. Evaluates and selects suppliers/consultants on the basis of their ability to meet specified requirements, including the quality system and any specific quality-assurance requirements.
2. Defines the type and extent of control exercised by the company over its suppliers/consultants. This will be dependent upon the type of product and/or service, the impact of the purchased products or services on the quality of the final product and if management decides to do an audit, on the quality reports and/or quality records of the previously demonstrated capability and performance of suppliers.
3. Establish and maintain quality records of acceptable vendors.

Purchasing documents will contain data clearly describing the product and/or services:

1. The type, class, grade or other precise identification.
2. The title or other positive identification and applicable revisions of specifications, drawings, or process requirements for approval. This should also include specifications of products and/or services, procedures, process equipment and personnel.
3. The title, number and revision of the quality-system standards to be applied, if applicable
4. The purchasing agent(s) review and approval of all purchase orders prior to issue.

### ***Section 7.5: Operations***

Process control: Silego identifies and plans the processes and services, which directly affect quality and will ensure that these processes and services are carried out under controlled conditions. Controlled conditions include:

1. Documented process plans and work instructions defining the manner of production or manner of service delivery where the absence of such procedures could adversely affect quality.
2. Compliance with reference standards/codes, quality plans, and/or documented procedures.
3. Monitoring and control of suitable process parameters and product and/or service characteristics.
4. The approval of processes and equipment as appropriate.
5. An approval process for new services and equipment.

Product identification and traceability is governed by PC-03-750: Product Identification and Traceability Illustration.



Product traceability is accomplished through the assignment of lot and wafer identification numbers beginning with the wafer fabrication step in the manufacturing process. The traceability is continued on through the assembly and test operations. Top side marking on each device states at a minimum the device name, lot number and date code of assembly. The information is also contained on the box labels of the shipping containers.

Process plans and work instructions contain provisions for identifying products.

Products are given an identity at or before the first verification stage and retain this identity until incorporated into other products, following which their identities are traceable through the product specification.

Products having functional characteristics carry identification to enable records to be traced to the product that has been processed, inspected or tested.

Individual product identity is recorded on batch history records.

No tests of customer property are carried out without authorization from the customer, provision of the relevant test instructions and relevant equipment.

Preservation of products and components: the need for special handling, storage, packaging, preservation and marking provisions is established during product design and production planning and appropriate standards, procedures and guidelines documented and issued to those concerned.

The procedures OP-03-750: Prep for Shipping to Assembly, OP-03-751: Drop Shipping, OP-03-758: Die Packing Procedure, OP-03-755: Tape and Reel and Dry Packing Service Requirements, indicate the needs for special handling, storage, packaging, preservation and marking provisions.

Individual device parameters that are specified on their data sheet but not tested for are guaranteed through the design of the product.

All products are designed according the design rules set forth by the wafer fabrication foundry and the assembly subcontractor. The design rules are established by those entities through process capability studies, characterization of the process, FMEA, and measurement system evaluation among other things. From this, the critical nodes of the process are derived and placed under statistical control. Design simulation models are constructed which incorporate these rules and are used to check the compatibility of any particular design with the underlying wafer fabrication and assembly process.

Continual monitoring of the process statistically as well as periodic audits by Silego, monitoring of electrical test yields, a rigid qualification requirement for changes, and a



change notification requirement ensures the stability of the parameters guaranteed by design.

### ***Section 7.6: Inspection, Measuring and Test Equipment***

The calibration procedure, OP-02-702 is employed to control measuring devices.

All devices used to demonstrate conformance of product with the product specification are registered with the calibration subcontractor.

A means is provided to distinguish between devices which require periodic calibration and those devices that do not. Devices used for product acceptance purposes where the accuracy is susceptible to change are subject to periodic calibration. All such devices are calibrated prior to first use and the calibration intervals varied according to the nature of the device, the conditions of use and the seriousness of the consequences of any incorrect results.

The user of a measurement device ensures that it is capable of the accuracy required prior to use and if damaged submits the device to engineering for disposition.

## **Section 8: Measurement Analysis and Improvement:**

### ***Section 8.1: Planning of Monitoring and Measuring***

Inspections and tests of the product are planned to take place at the point in the process where the characteristics being achieved are accessible for measurement.

All inspections and tests ensure that no product is used, processed or released to the customer that does not meet the requirements specified for the product.

The inspections and tests required are specified in the process plans and work instructions. The acceptance criteria are specified in inspection and test specifications.

Each department will inspect, test and verify that incoming products and services meet all specified requirements.

Each department ensures that work-in-process meets all requirements before work is allowed to continue.



Each department ensures that all products and services meet all requirements before they are made available for use.

Silego has established and maintains records which provide evidence that products and services have been inspected and/or tested. These records show clearly whether the product or service has passed or failed inspection and/or tests according to defined acceptance criteria. Where the product fails to pass any inspections and/or test, the procedure for control of nonconforming product, OP-02-831 will apply.

## ***Section 8.2: Monitoring and Measuring***

### **Section 8.2.1: Customer Satisfaction**

1. Marketing is responsible for developing suitable indicators of customer satisfaction, and for defining methods for collecting and analyzing the relevant information. Data concerning customer satisfaction is collected from several sources. Specifically, these are:
  - a. Customer feedback and surveys.
  - b. Awards and recognitions.
  - c. Product returns and warranty claims.
  - d. Repeat customer rate.
  - e. Market share.
  - f. RMA's

The procedure CS-03-821, Customer Satisfaction, defines the system for collecting and analyzing the pertinent information and data, and for reporting results to the top management.

2. Customer feedback and survey

Customer complaints, spontaneous expressions of satisfaction, and other unsolicited customer feedback are collected and processed by Marketing. These activities are defined in procedure CS-03-821, Customer Satisfaction. The resulting information is periodically examined by the Marketing manager and is presented at management review meetings.

3. Repeat customers

Sales records are periodically analyzed to identify repeat customers and track their ordering frequencies and patterns. The ratio of repeat customers is one of the



most important indicators of customer satisfaction. Statistics on repeat customers frequencies and trends are presented and discussed at management reviews.

#### 4. Awards and recognitions

Silego presents its products for independent evaluations and assessments. It also encourages customers to rate its performance, and seeks to participate in customer's awards and recognition programs. These recognitions and ratings are considered as an important input into determining customer satisfaction.

#### 5. Market share

Marketing is responsible for collecting and analyzing data regarding competition, competitive products, and market share. This data is periodically analyzed and presented at management review meetings.

#### 6. RMA

Information about the rate of product returns and warranty claims is extracted from accounting, quality, and servicing records. Records and trends are reported and analyzed at management review meetings.

### **Section 8.2.2: Internal & External Audit**

#### 1. Planning and scheduling

The Director of Quality establishes an internal & external audit plan and schedule in accordance with procedure QA-03-822, Audit Procedure. Each activity and area is audited on an as needed basis. Selected activities are audited more frequently, depending on their importance and quality performance history.

#### 2. Audit team and preparation for audit

Only personnel independent of the audited activities are assigned to conduct internal audits. Normally, the Director of Quality leads the audit team except when QA activities are being audited. Audits of QA activities are usually conducted by Engineering.

Auditors prepare for audits by reviewing applicable standards and procedures, analyzing quality records, and establishing questionnaires and checklists. Selection of auditors and preparation for the audit are explained in procedure QA-03-822, Audit Procedure.



### 3. Conducting the audit

Conducting the audit, auditors seek objective evidence indicating whether the audited activities comply with the requirements of the documented quality system and ISO 9001, and whether the quality system is effective. The evidence is collected by observing activities, interviewing personnel, and examining records.

Nonconforming conditions are documented and recorded using the audit report QA-04-822.

Audits are conducted in a way that minimizes disruption of the audited activities.

### 4. Corrective action and follow-up

When nonconforming conditions are identified, the manager responsible for the affected area or activity is requested to propose and implement a corrective action via a nonconformity report.

Implementation and effectiveness of the action are verified by a follow-up audit.

### 5. Reporting

When the auditing cycle is completed, all nonconformity reports established during the cycle are compiled and analyzed, and are presented at the management review meeting.

## **Section 8.2.3: Monitoring of Quality System Process**

### 1. Process monitoring

Quality system processes are monitored by variety of approaches and techniques, as appropriate for a particular process and its importance. These include:

1. Conducting internal audit of the quality system.
2. Monitoring trends in corrective and preventive action requests
3. Analyzing product conformity and other quality performance data and trends
4. Measuring and monitoring customer satisfaction

### 2. Response actions



When a quality system process does not conform to requirements, Quality Assurance may request the manager responsible for the process to implement a corrective action, in accordance with procedure QA-02-802, MRB Procedure.

## **Section 8.2.4: Monitoring and Measurement of Product**

### **1. Product verification**

Inspection and testing program for a product is defined in various types of documents, such as product drawings and specifications, production work orders, purchasing documents, inspection and testing procedures, work instructions etc. Documents defining the inspection and testing program for a product are collectively referred to as process plans. Section 7.1 of this manual defines the process for establishing process plans.

### **2. Verification of purchased product**

All purchased products are subjected to a visual inspection by the receiving clerk, and then some designated product are subjected to a more detailed and technical QC inspection. Procedure PR-02-741, Verification of purchased product, sets forward detailed rules for performing receiving and QC inspections.

### **3. In-process inspections**

In-process inspections may be in the form of first article inspections, operator of QC inspections, continuous product verification by automated inspection equipment, or statistical process control (SPC). The focus is on defect prevention rather than detection.

### **4. Final inspection**

Finished products are subjected to the final QC inspection. First, inspectors verify that all specified receiving and in-process inspections have been carried out satisfactorily. Then they perform the remaining inspections and tests necessary to complete the evidence of product conformity. Only products that pass the final inspection can be shipped.

### **5. Inspection, test and monitoring records**



Results of inspections and tests are recorded. Filing and maintenance of inspection records are regulated by procedure DC-02-420, Control of Quality Records.

#### 6. Product Release

Products are released for delivery only after all specified activities have been satisfactorily completed and conformity of the product has been verified. Only personnel performing product inspections and tests have the authority to release products. The identity of the person authorizing product release is recorded.

Product & Process Qualification – QA-03-710 applies

### ***Section 8.3: Control of Non-Conforming Product***

The procedure OP-02-831 is employed to control nonconforming products or services.

Silego has established this policy to ensure that products or services that do not conform to specified requirements are prevented from unintended use. This control provides for identification, documentation, evaluation, segregation (when practical) and disposition of nonconforming products or services. The control also calls for notification to the functions concerned. The correction action system is used to identify nonconforming products and services.

Because Silego has adopted a continuous improvement philosophy and process, each department will develop procedures for reviewing and disposing of nonconforming products or services. Such procedures may include:

1. Rework the product or service to meet the requirements
2. Reject or scrap the product or service

Any nonconforming products/services are reported to the Director of Quality. Records are documented on corrective actions.

### ***Section 8.4: Analysis of Quality Information***

Statistical techniques employed to determine process capability are specified in the process plans and based on proven statistical theory. Staff using the techniques are trained and provided with the necessary charts, data and instrumentation to make correct decisions from the evidence they have acquired.



Statistical techniques may be used to accept product when large quantities of homogeneous product are involved and these are specified in the relevant inspection or test procedures.

Where product characteristics cannot be verified except over prolonged periods and using a large sample size, statistical techniques may be used to predict performance providing the techniques are based on valid authenticated data. The prediction methods are defined in documented procedures and staff trained in their use.

The applicable data are analyzed as a means of determining where improvement of the quality management system can be made.

The organization analyzes this data to provide information on:

- a) customer satisfaction
- b) conformance to product requirement
- c) characteristics and trends of processes and products, including opportunities for preventive actions
- d) suppliers

### ***Section 8.5: Continual Improvement***

The procedure QS-02-850 is employed to describe continual improvement.

Silego strives for the continual improvement of its organization and its products. Possibilities for quality improvement is gathered, reviewed and, when possible, implemented.

Silego authorizes process owners to take any corrective or preventive action to eliminate the causes of actual or potential non-conformities to the degree appropriate to the magnitude of problems and commensurate with the risks encountered. The management review team will approve changes proposed by process owners resulting from corrective or preventive action.

In general the corrective action procedure includes:

- a) the effective handling of customer complaints and reports of product or service non-conformities
- b) investigation of the cause of non-conformities relating to product, process, service and quality system, and recording the results of the investigation
- c) determination of the corrective action needed to eliminate the cause of non-conformities



- d) Application of controls to ensure that corrective action is taken and that it is effective.

In general the procedure for preventive action includes:

- a) The use of appropriate sources of information such as processes and work operations which affect product or service quality, concessions, audit results, quality records, service reports, and customer complaints to detect, analyze, and eliminate potential causes of non-conformities.
- b) determination of the steps needed to deal with any problems requiring preventive action
- c) Initiation of preventive action and application of controls to ensure that it is effective.