



# QUALITY POLICY MANUAL

## QMS-PO-01



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**INTRODUCTION:**

THIS DOCUMENT DESCRIBES THE QUALITY POLICIES AND OBJECTIVES OF WHITLAM LABEL COMPANY'S QUALITY MANAGEMENT SYSTEM (QMS). THE QMS MEETS THE ISO/TS 16949:2009 TECHNICAL SPECIFICATION INCLUDING THE REQUIREMENTS OF ISO 9001:2008.

**SCOPE:**

Manufacturer of Printed Labels for the Automotive and Commercial Industries.

**COMPANY OVERVIEW:**

The name of our organization is WHITLAM LABEL COMPANY, INC.

The site location is 24800 SHERWOOD AVENUE, CENTER LINE, MICHIGAN, and 48015, U.S.A.

WHITLAM LABEL COMPANY was founded in 1957. The company is classified under SIC Code 2700, 3700. We ship directly to Chrysler and General Motors. We ship to Tier 1 suppliers that supply assemblies to Chrysler, Ford, and GM.

**PROCESS APPROACH:**

WHITLAM LABEL COMPANY has adopted a process approach to our Quality Management System to emphasize the importance of:

- Understanding and meeting customer requirements.

- The need to consider processes in terms of added value.

- Obtaining results of process performance and effectiveness.

- Continual improvement of processes based on objective measurement.

**COMPANY STRUCTURE:**

WHITLAM LABEL COMPANY operates its ISO/TS 16949:2009 manufacturing facility at one location in CENTER LINE, MICHIGAN, USA. The Senior Executive responsible for this manufacturing operation is the company President.

WHITLAM LABEL COMPANY maintains a written Organizational Chart designating positions and responsibilities of company executives, managers, and other employees.

**MISSION STATEMENT:**

It is our mission to be a leading provider of pressure sensitive labels and related products across North America. Whitlam has been a significant quality provider to the automotive industry in the last half of the 20<sup>th</sup> century.

In the 21<sup>st</sup> century, Whitlam will continue to provide exceptional quality and on-time deliveries to businesses and organizations across North America. We will continue to maintain a leadership position in automotive labels.

Whitlam strives to provide a safe and environmentally friendly work area for our employees and a profitable result for the shareholders.

**CONTINUAL IMPROVEMENT STATEMENT:**

WHITLAM LABEL COMPANY is committed to Continual Improvement in quality of products, services, cost and productivity.

The process of Continual Improvement is achieved by creating an atmosphere for knowledge, innovation, training and team effort throughout the organization.

**CODE OF ETHICS and CONDUCT:**

WHITLAM LABEL COMPANY is committed to conducting its business in a way that is open and accountable to all. It is with serious consideration that we agree to embrace and support, within our sphere of influence, a set of core values in the areas of:

- Human Rights
- Labor Standards
- The Environment, and
- Anti-Corruption.

It is within the framework of the United Nations Global Compact that we enact this policy.

**CORPORATE QUALITY POLICY STATEMENT:**

WHITLAM LABEL COMPANY is dedicated to a total Quality Management System that recognizes quality as **Conformance to Requirements**. Our performance standard is zero defects and our goal is to achieve this standard at all levels of operation.

OUR QUALITY SYSTEM is designed to prevent defects and we will measure our success through Customer Satisfaction.

**CORPORATE QUALITY OBJECTIVES:**

- Enhance Customer Satisfaction by Meeting Customer Requirements.
- Enhance Customer Satisfaction by Maintaining a World Class Quality Management System.
- To Provide Zero Defect Products and Services.
- To Train and Continually Educate Employees in the Quality Function.
- To Continually Improve our Products and Processes.

**DISTRIBUTION LIST:**

Management Review Binder  
WLC Policy & Procedure Master Book  
WLC Intranet

**OMISSIONS:**

Sections (Note: Reference to Product Design Only):  
7.3.1 – Design and Development Planning (Product)  
7.3.2.1 – Product Design Input  
7.3.3.1 – Product Design Outputs – Supplemental  
Reasoning: Customers supply the design outputs required to plan for product realization.

## **4. QUALITY MANAGEMENT SYSTEM**

### **4.1 GENERAL REQUIREMENTS**

- Our organization has established a Quality Management System (QMS). It is documented in the Quality Policy Manual (QMS-PO-01). The Quality Management System has been implemented and is maintained with specific responsibility by our Top Management Representative.
- The effectiveness of the Quality Management System is continually improved in accordance to the ISO/TS 16949:2009 Standard.  
IN ADDITION,
  - a) The processes needed for the Quality Management System have been identified;
  - b) The sequence and interaction of these processes have been determined;
  - c) The criteria and methods that ensure the effective operation and control of these processes have been identified;
  - d) Resources and information are available to support the Quality Management System processes;
  - e) The Quality Management System processes are monitored, measured and analyzed;
  - f) Actions are implemented to achieve our planned results and continual improvement of these processes.
- Processes affecting our Quality Management System are managed in accordance to the ISO/TS 16949:2009 Standard. In the event that we choose to outsource any processes, we will ensure and identify such control within the Quality Management System.

#### **4.1.1 General Requirements – Supplemental**

- In the event that we choose to outsource processes, we will assume full responsibility for conformance to customer requirements.

### **4.2 DOCUMENTATION REQUIREMENTS**

#### **4.2.1 General**

- Quality Management System documentation includes our Quality Policy Manual and Quality Objectives statements.
- The Quality Policy Manual is documented.
- Procedures are documented as required by the ISO/TS 16949:2009 Standard.
- Documented procedures ensure the effective planning, operation, and control of the Quality Management System processes. Other documents include instructions and forms to support the procedures.
- Records are maintained in both written and electronic formats.

#### **4.2.2 Quality Policy Manual**

- The Quality Policy Manual is established and maintained. It includes:
  - a) The scope of the Quality Management System and details of any stated exclusions;
  - b) A reference to our procedures;
  - c) A description of the interaction between the processes of the Quality Management System.

### 4.2.3 Control of Documents

- Documents required by the Quality Management System are controlled. Specifically, the Management Systems Coordinator controls our Quality Policies, Procedures, Instructions and Forms.
- Records are controlled as described in documented procedures.
- Document and Data Control is defined in a documented procedure. This procedure references a method to:
  - a) Approve documents prior to issue;
  - b) Review and update as necessary and re-approve;
  - c) Ensure that revision changes and revision status is identified;
  - d) Ensure the proper distribution of documents;
  - e) Ensure the documents remain legible and easily identifiable;
  - f) Ensure that documents of external origin are identified and their distribution is controlled;
  - g) Ensure that obsolete documents are prevented from being used.

#### 4.2.3.1 Engineering Specifications

- Customer engineering standards/specifications are reviewed in a timely manner by the Quality Supervisor, and are implemented and distributed within 2 weeks after receipt. Most of our notifications are electronic.
- A master log of the current revision or issue status is maintained by the Quality Supervisor, which includes a record of the date change. All applicable documents are updated.

### 4.2.4 Control of Records

- Records are established and maintained as evidence that the Quality Management System conforms to requirements, both internal and external.
- All records are legible, properly identified, and reasonably protected.
- A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

#### 4.2.4.1 Record Retention

- The control of records includes satisfying regulatory and customer specific requirements.

Section (4): Reference Procedure: QMS-PR-01 – “Quality Management System Control”

Other Documentation: Appendix A – “Process Diagrams”

Appendix B – “Process Linkage Chart”

Appendix C – “Quality Management System Roles, Responsibilities, Authority”

Appendix D – “Reference Procedures”

Appendix E – “QMS Documentation Linkage Chart”

## 5. MANAGEMENT RESPONSIBILITY

### 5.1 MANAGEMENT COMMITMENT

- TOP MANAGEMENT IS COMMITTED to the development and implementation of the Quality Management System. The Top Management Representative will ensure that this commitment is maintained and continually improves the effectiveness of the Quality Management System by:
  - a) Communicating our commitment to meet customer requirements, including statutory and regulatory requirements;
  - b) Establishing a Quality Policy;
  - c) Establishing Quality Objectives;
  - d) Conducting management reviews;
  - e) Ensuring the availability of resources.

#### 5.1.1 Process Efficiency

- Top Management Team conducts reviews of product realization processes and support processes to ensure that they are effective and efficient. Internal audits and key criteria measurements and assessments are used to evaluate process efficiency.

### 5.2 CUSTOMER FOCUS

- Top Management reviews the Customer Satisfaction key criteria to ensure that our Quality Management System is meeting customer requirements.
- Customer Requirements are identified and documented during the Sales Process.

### 5.3 QUALITY POLICY

- Top Management Representative ensures that the Quality Policy:
  - a) Is appropriate for our organization;
  - b) Includes a commitment to comply with requirements and continually improve the Quality Management System;
  - c) Provides a framework for establishing and reviewing Quality Objectives;
  - d) Is communicated and understood throughout our organization;
  - e) Is reviewed at our Management Review meetings for continuing stability.

### 5.4 PLANNING

#### 5.4.1 Quality Objectives

- Top Management Representative ensures that the company's Quality Objectives and Key Criteria measures are established and documented and are consistent with the Quality Policy.

##### 5.4.1.1 Quality Objectives: Supplemental

- Top Management has defined the company's Quality Objectives and measurements. The Management Review Team reviews the objectives and measurements quarterly. Corporate Quality Objectives are included in our Business Plan.

#### 5.4.2 Quality Management System Planning

- Top Management Representative ensures that the planning of the Quality Management System is carried out to meet Quality Management System requirements and Quality Objectives.
- If revisions are made to the Quality Management System, the Top Management Representative ensures that the integrity of the Quality Management System is maintained.

### 5.5 RESPONSIBILITIES, AUTHORITY AND COMMUNICATION

- Top Management has defined and communicated the responsibilities and authorities within our organization.
- A chart of Responsibilities and Authorities is maintained in addition to our organization chart.

#### 5.5.1.1 Responsibility for Quality

- All personnel responsible for *conformity to product requirements* have the authority to stop production to correct problems. This is stated in job descriptions and work instructions where applicable.
- The Quality Manager is responsible for *conformity to product requirements*.
- Procedures are documented and maintained to allow for the prompt reporting of non-*conformity of* products or processes.

#### 5.5.2 Management Representative

- A Top Management Representative has been appointed to have responsibility and authority for:
  - a) Ensuring that Quality Management System Processes are established, implemented and maintained;
  - b) Ensuring that the performance of the Quality Management System and needed improvements are reported to the Top Management. This is a joint effort with the Quality Manager.
  - c) Promoting the awareness of customer requirements throughout the organization. Awareness programs include company-wide meetings and processes that review customer requirements.

#### 5.5.2.1 Customer Representative

- Top Management has designated personnel who ensure that customer requirements are addressed. They include personnel from all disciplines including Sales, Engineering, Human Resources, Quality, and Top Management.

#### 5.5.3 Internal Communication

- Top Management Representative ensures that appropriate communication takes place within the organization. The Quality Manager is responsible for ensuring that communication takes place regarding the effectiveness of the Quality Management System.

## 5.6 MANAGEMENT REVIEW

- Top Management conducts regularly scheduled reviews of the Quality Management System to ensure suitability, adequacy, and effectiveness. The review is documented and includes assessing opportunities for improvement and identifying needed changes to the Quality Management System including the Quality Policy and Objectives.
- Records are maintained.

### 5.6.2 Review Input

- Management Review input includes the Results of Audits, Customer Feedback, Process Performance and Product Conformity, Status of Preventive and Corrective Actions, Follow-up Actions from previous review meetings, Improvement recommendations and the reporting of any changes that affect the Quality Management System.

#### 5.6.2.1 Review Input - Supplemental

- Management Review includes an analysis of field failures and their impact on quality, safety, and the environment.

### 5.6.3 Review Output

- Management Review output includes any decisions and/or actions that:
  - a) Improve the effectiveness of the Quality Management System and its related processes;
  - b) Improve products;
  - c) Determine resources.

Section (5) Reference Procedure: QMS-PR-02 – “Management Responsibility”  
Other Documentation: Appendix C – “Quality Management System Roles, Responsibilities and Authority”

## 6. RESOURCE MANAGEMENT

### 6.1 PROVISION OF RESOURCES

- Top Management provides the necessary resources to implement and maintain the Quality Management System, improve its effectiveness, and enhance Customer Satisfaction.

### 6.2 HUMAN RESOURCES

#### 6.2.1 General

- All personnel affecting *product conformity to requirements* will be required to be competent through education, training, skills, and workplace experience.

#### 6.2.2 Competence, *Training and Awareness*

- Employees performing work that affects *product conformity to requirements* will have job descriptions that determine the necessary competency requirements to maintain *product conformity*.
- The Human Resource Director will facilitate training agendas and training.

## 6.2.2 Competence, *Training and Awareness* (con't)

- The Management Review Team, using key criteria measurements of the Quality Management System and Customer Satisfaction results, evaluates effectiveness of the training.
- Employee information/awareness boards are updated by the Quality Supervisor to give employees an awareness of Quality and Customer Satisfaction achievements.
- Records are maintained. Training progress is reviewed at Management Review meetings.
- Awareness regarding an employee's work and how it affects our Quality Objectives is communicated through work instructions.

### 6.2.2.1 Product Design Skills

- Product Design is exempt from the scope of our activities. Process design skills are required of key personnel involved in process design activities.

### 6.2.2.2 Training

- A documented training procedure defines the methods to establish training needs for all employees, including those that directly affect *conformity to product requirements*.
- Training Agendas include addressing customer specific requirements where applicable.

### 6.2.2.3 Training on the Job

- On the job training is a requirement of all Training Agendas affecting *conformity to product requirements*. The training format addresses conformance to customer requirements. Nonconformances and resulting corrective actions are communicated back to the affected employees.

### 6.2.2.4 Employee Motivation and Empowerment

- Top Management has implemented a process that allows employees to participate in changes and improvements to the quality and technology of our products. This is accomplished through employee participation in the APQP Team and In-Process Job Revision Requests.
- Employee motivation is measured by training completion and attendance.
- Top Management recognizes employee impact through an employee recognition program.

## 6.3 Infrastructure

- Top Management has provided the appropriate infrastructure to achieve *conformity to product requirements*

### 6.3.1 Plant Facility and Equipment Planning

- APQP Team is responsible for the planning of the facility and equipment.
- Plant layouts optimize the work and material flow and make use of lean manufacturing principles.
- Existing operation effectiveness is evaluated through key criteria measurements of the Quality Management System and financial results reporting.

### 6.3.2 Contingency Plan

- Contingency Plan is documented and addresses key customer requirements in the event of emergencies.

### 6.4 Work Environment

- Work environment is managed by department managers and top management personnel to ensure conformance to product requirements. Manager responsibilities are defined in job descriptions and addressed in training agendas for each manager.

#### 6.4.1 Personnel Safety to Achieve *Product Conformity To Requirements*

- Product safety is addressed in the APQP design of manufacturing activities.
- Personnel safety is the responsibility of *Human Resources* and Department Managers and is compliant with customer, *statutory and* regulatory requirements.

#### 6.4.2 Cleanliness of Premises

- All areas within the facility and external grounds are maintained for order and cleanliness and repair. Environmental Management System Internal Auditors conduct regularly scheduled cycle audits of the premises to assure compliance to this standard and to the environmental standard (ISO 14001).

Section (6) Reference Procedure: QMS-PR-03 – “Resource Management”

## 7. PRODUCT REALIZATION

### 7.1 PLANNING OF PRODUCT REALIZATION

- The processes needed for Product Realization are planned and developed and are consistent with the requirements of the other Quality Management System processes.
- Product Realization planning includes:
  - a) Quality Objectives and requirements for the product;
  - b) The processes, documents and resources specific to the product;
  - c) Required verification, validation, monitoring, inspection and test activities needed for product acceptance;
  - d) Records to provide evidence of *product conformity to requirements*.
- The output of product planning is in a form suitable for the operation of the Quality Management System.

#### 7.1.1 Planning of Product Realization - Supplemental

- Product Realization planning includes customer requirements and reference to their technical specifications.

#### 7.1.2 Acceptance Criteria

- Acceptance Criteria (Conformance Criteria) is defined and, if required, approved by customer.
- Zero defects are the acceptance level for attribute data sampling.

### 7.1.3 Confidentiality

- Customer products and programs are subject to a confidentiality policy that applies to all employees.

### 7.1.4 Change Control

- Changes that impact product and manufacturing process realization (including those caused by supplier) are subject to verification and validation activities (including PPAP resubmission) to ensure compliance to customer requirements.
- Changes affecting proprietary design (where applicable) are subject to customer review.
- Any additional verification or identification requirements by the customer will be met as appropriate.

## 7.2 CUSTOMER RELATED PROCESSES

### 7.2.1 Determination of Requirements Related to the Product

- Product Requirements includes determination of:
  - a) Customer requirements (Including delivery and post delivery activities);
  - b) Non-customer requirements necessary for specified use;
  - c) Statutory and regulatory requirements;
  - d) Additional internal requirements defined by our organization.
- Product requirements include compliance to our Environmental Management System goals and objectives.

#### 7.2.1.1 Customer Designated Special Characteristics

- Customer special characteristics are designated, controlled, and documented on appropriate documentation.

### 7.2.2 Review of Requirements Relating to a Product

- Review of customer product requirements takes place prior to commitment to supply product.
- The review of customer product requirements is conducted during the Sales Process, and will include:
  - a) Defining product requirements;
  - b) Resolution of any changes;
  - c) A feasibility review.
- Records of the review are documented using appropriate forms or electronic media.
- If no customer requirements are stated, acceptance by the customer will be confirmed through a formal document.
- Any changes to product requirements will be amended on relevant documentation. Affected personnel will be updated.

#### 7.2.2.1 Review of Requirements Relating to a Product - Supplemental

- Customer authorization is required for a waiver of the formal review of requirements related to the product.

### 7.2.2.2 Organization Manufacturing Feasibility

- The Sales process review of customer requirements includes confirmation and documentation of the manufacturing feasibility of the product. A risk assessment (PFMEA) for each manufacturing process exists.

### 7.2.3 Customer Communication

- Customer communication for product and contract information is a function of the Sales process.
- Customer feedback, including customer complaints, is communicated as defined in our customer feedback process and problem solving process.

#### 7.2.3.1 Customer Communication - Supplemental

- All data communication is in a customer specified language and format.

## 7.3 DESIGN AND DEVELOPMENT (PROCESS)

- The requirements of 7.3 will be applied to the design of our manufacturing process.

### 7.3.1 Design and Development Planning

- Manufacturing process design is a function of our Advanced Product Quality Planning process which includes (as appropriate to our organization):
  - a) Determining the design and development stages of the Manufacturing Process.
  - b) The review, verification and validation of the Manufacturing Process design.
  - c) Determining responsibilities and authorities for the Manufacturing Process design.
- Effective communication for the design process is managed by the Engineering Department.
- The Planning output is updated as appropriate.

#### 7.3.1.1 Multidisciplinary Approach

- A multidiscipline approach is utilized during the preparation for Product Realization.
- Preparation for product realization includes processing special characteristics, review of PFMEAs, and control plans.

### 7.3.2 Design and Development Inputs

- The customer will determine inputs to product requirements.

#### 7.3.2.1 Product Design Input

- Product design input is the responsibility of the customer.

#### 7.3.2.2 Manufacturing Process Design Input

- Manufacturing process design input requirements are identified and documented including:
  - a) Customer product design output data.
  - b) Targets for productivity (cost accounting defined), process capability (customer defined), and cost (cost centers defined).
  - c) Customer requirements, (if any).
  - d) Experience with related or previous designs.

### 7.3.2.3 Special Characteristics

- Special characteristics are identified and included on the control plan.
- Customer specific special characteristic definitions and symbols are utilized.
- Customer specific special characteristics and are included on process control documents, PFMEAs, and appropriate operator instructions.

### 7.3.3 Design and Development Outputs

- Design outputs are provided in a format that enables verification against design input and will be approved prior to release.
- Design outputs will include:
  - a) Meeting design input requirements.
  - b) Providing information for purchasing and production and for service (if applicable).
  - c) Providing product acceptance criteria.
  - d) Specifying characteristics of the product that are essential for safe and proper use (where appropriate).

#### 7.3.3.1 Product Design Outputs-Supplemental

- Customers provide design outputs to facilitate our manufacturing process design and product realization.

#### 7.3.3.2 Manufacturing Process Design Outputs

- APQP team is responsible for the basic format of manufacturing process design output. The manufacturing process design output includes:
  - Specifications and drawings from customer.
  - Flow Charts.
  - PFMEA.
  - Control Plan.
  - Work (Job) Instructions.
  - Acceptance Criteria (Conformance Card Criteria).
  - Quality Data.
  - Results of error proofing (as appropriate).
  - A method to detect and provide rapid detection of nonconformities.

### 7.3.4 Design and Development Review

- The APQP Team is responsible for the review of the basic manufacturing process design at appropriate stages in order to:
  - a) Evaluate the results of the process design to meet requirements.
  - b) Identify problems and propose any necessary actions.
- Records of the review are maintained for each process design.
- A review of the manufacturing processes that are currently established for product fabrication is conducted by Quality prior to PPAP submission.
- Customer part numbers (products) are categorized into one of the five pre-defined manufacturing processes (Family of Parts).

#### 7.3.4.1 Monitoring

- Process design measurements are defined and specified at different stages of the manufacturing process.
- Results of measurements are input to Management Review.

#### 7.3.5 Design and Development Verification

- Manufacturing process design outputs are verified to meet process design inputs through review of process performance results.
- Records of the results are maintained and reported at PPAP.

#### 7.3.6 Design and Development Validation

- Manufacturing process design validation is performed at the time of PPAP or other customer specific method for validation of resulting product.
- When practical, the validation process is completed prior to production.
- Records of customer validation or approval are maintained and reported at PPAP.

##### 7.3.6.1 Design and Development Validation - Supplemental

- Manufacturing process design validation is performed per customer requirements.

##### 7.3.6.2 Prototype Program

- Prototypes are available for customers when required.
- Prototypes follow the same manufacturing process and tooling as production.
- Prototype performance testing is monitored for timely completion and conformance to requirements.
- If outsourced services are required, Purchasing and Engineering are responsible for technical leadership.

##### 7.3.6.3 Product Approval Process

- The product part approval process (PPAP) and manufacturing process approval procedure conforms to customer specific requirements. The AIAG PPAP procedure is normally used for automotive production parts.
- For suppliers that provide subcontracted production parts, the customer specific product and manufacturing approval procedure is applied where applicable.

#### 7.3.7 Control of Design and Development Changes

- Changes to the manufacturing process design are identified and recorded.
- Changes are reviewed, verified, and validated, as appropriate, and approved (Including PPAP as required).
- Changes are reviewed for any effects on related parts and product already delivered.
- Change revision records are maintained.

## 7.4 PURCHASING

### 7.4.1 Purchasing Process

- Purchasing is a defined support process.
- The purchasing process includes a method that ensures *conformity to product requirements*.
- Suppliers and the products supplied are controlled to the extent to which the supplied product affects product realization or finished product.
- Suppliers are evaluated and selected based on their abilities to meet specified requirements.
- Criteria for selection and evaluation is established.
- Records are maintained.
- An “Approved Supplier List” is maintained.

#### 7.4.1.1 Statutory and Regulatory Conformity

- Purchased products or materials conform to applicable *statutory and* regulatory requirements.
- *Statutory and* regulatory conformity is a defined supplier requirement.

#### 7.4.1.2 Supplier Quality Management System Development

- Supplier Quality Management System development is performed with a goal of supplier conformity to ISO/TS 16949:2009.
- Suppliers are *expected* to conform to ISO 9001:2008 as a minimum.
- Suppliers unable to conform to the minimum requirements are *requested* to submit a plan to achieve conformance or *to* request a waiver.

#### 7.4.1.3 Customer Approved Sources

- Customer approved sources will be used where specified by customer drawings or specifications.
- *Conformity* of purchased products will remain the responsibility of WLC Purchasing.

### 7.4.2 Purchasing Information

- Purchasing documentation will include (where applicable):
  - Description of product purchased;
  - Requirements for product approval;
  - Requirements for qualified personnel;
  - Supplier Quality Management System requirements.
- Procurement Manager ensures the adequacy of specified purchase requirements prior to communication to suppliers.

### 7.4.3 Verification of Purchased Product

- Purchased product and materials are subject to adequate receiving inspection to ensure *conformity to product* requirements.
- If WLC or Customer verification is required at the supplier's premises, verification requirements will be stated on purchasing information.

### 7.4.3.1 Incoming *Product Conformity To Requirements*

- Incoming *product conformity to requirements* is assured by one of the following:
  - Receiving inspection and/or testing of product or material supplied by non-ISO approved suppliers (or ISO approved suppliers with unacceptable *product conformity* records);
  - Receipt and evaluation of product data by ISO certified suppliers with acceptable records of delivered *product conformity to requirements*.

### 7.4.3.2 Supplier Monitoring

- Supplier performance in quality and delivery is monitored.
- Supplier field incidents (supplier complaints) are monitored.
- Supplier's special status related to a customer notification is monitored (e.g., "Containment Status").
- WLC "General Guide for Supplier Requirements" outlines supplier requirements including a need to monitor performance of their manufacturing processes.

## 7.5 PRODUCTION AND SERVICE PROVISION

### 7.5.1 Control of Production and Service Provision

- Production and service provision is provided under controlled conditions including:
  - a) Information describing the characteristics of the product (conformance criteria);
  - b) Work instructions;
  - c) Equipment required;
  - d) The availability of monitoring and measuring *equipment*;
  - e) Monitoring and measurement;
  - f) Release, delivery and post delivery activities.

#### 7.5.1.1 Control Plans

- Control plans are developed for product supplied using AIAG format or other customer specified format.
- Control plans are developed for pre-launch, prototype, and production and formatted to AIAG requirements.
- Control Plans include:
  - List of controls used for the manufacturing process;
  - Monitoring of control of special characteristics;
  - Customer specific required information (if any);
  - A reaction plan.
- Control plans are reviewed and updated to reflect changes in the product, manufacturing process, measurement, logistics, supply sources, or FMEA as needed.

#### 7.5.1.2 Work Instructions

- Work instructions are documented for all employees having responsibility for product *conformity to requirements*.
- Instructions are accessible for use at appropriate workstations.
- Work instructions are based on control plan requirements and the product realization process.

#### 7.5.1.4 Verification of Job Setups

- Job setups are subject to verification (1<sup>st</sup> Piece Sign-off).
- Verification is applicable to part number changeovers that are fabricated during the same job setup.
- Work instructions are available for all job setups and include verification audits during the fabrication run-time.

#### 7.5.1.4 Preventive and Predictive Maintenance

- A documented preventive maintenance program identifies key process equipment and includes a system that:
  - Plans maintenance activities;
  - Preserves equipment and tools through proper handling;
  - Provides for availability of replacement parts of key equipment;
  - Documents maintenance activities.
- Predictive maintenance activities are applied to production tooling to improve the effectiveness and efficiency of the tooling in order to avoid production interruptions.

#### 7.5.1.5 Management of Production Tooling

- Resources are provided for the management of production tooling activities.
- Production tooling is outsourced and subject to verification activities by Engineering.
- Management of production tooling includes:
  - Maintenance (outsourced and monitored);
  - Storage and recovery;
  - Tool designation for job setups;
  - Method to determine if tools need to be replaced;
  - Tool design changes or modifications (results in a PPAP requirement);
  - Proper tool identification (including customer designated ownership);
  - A method to receive and inspect tooling to verify that applicable requirements are met.

#### 7.5.1.6 Production Scheduling

- Production Provision is a scheduled activity designed to meet customer requirements for on-time delivery.
- Schedule tracking is available at key stages of production.

#### 7.5.1.7 Feedback of Information from Service

- The Quality Manager and/or Supervisor communicates customer nonconformances to Manufacturing and Engineering. Feedback is documented and readily available for improvement of company wide awareness of service or field problems arising from *nonconformity of product requirements*.

#### 7.5.1.8 Service Agreement with Customer

- When Customer Service Agreements exist, we will verify the effectiveness of:
  - any service center;
  - any special tools or measurement equipment;
  - the training of service personnel.

## 7.5.2 Validation of Processes for Production and Service Provision

- Processes for production and service provision are validated as applicable:
  - a) Affected processes are defined and subject to review and approval;
  - b) Equipment approval and personnel qualifications are defined;
  - c) Specific methods and procedures are defined;
  - d) Records are required;
  - e) Retesting or revalidation is part of the process validation requirement (as required).

### 7.5.2.1 Validation of Processes for Production and Service Provision - Supplemental

- The validation requirements apply to all processes for production and service provision.

## 7.5.3 Identification and Traceability

- Product is identified throughout product realization.
- The status of product is identified with respect to monitoring and measurement requirements.
- Traceability is maintained using a unique lot number identification for each production part.
- Traceability is uniquely connected to raw materials, finished product, and customer specific deliveries.

### 7.5.3.1 Identification and Traceability – Supplemental

- Product is identified throughout Product Realization in all situations.

## 7.5.4 Customer Property

- Customer supplied property is a documented procedure.
- *Conformity* of incoming customer supplied product is verified by receiving inspection procedures.
- Nonconforming, damaged or lost products are reported to the customer. (Ref: SA-PR-01, “Sales Process: Control of Customer Supplied Product”.)

### 7.5.4.1 Customer Owned Production Tooling

- Customer owned production tooling is clearly marked and visible. Markings are both physical and electronic.

## 7.5.5 Preservation of Product

- Conformity of product to customer requirements is preserved during internal process handling and delivery of product.
- Product sensitive and customer specific packaging ensures conformity during delivery.
- Preservation includes identification, handling, packaging, storage and protection.
- Finished product is assessed to detect deterioration and obsolescence.
- FIFO is used to optimize material movement using lot number assignments.

## 7.6 CONTROL OF MONITORING AND MEASURING EQUIPMENT

- Monitoring and measurement requirements are determined based on customer and internal requirements to provide evidence of product conformity.
- Monitoring and Measurement is carried out as defined in work instructions, conformance criteria, and performance testing procedures as needed.
- The *equipment* needed to perform monitoring and measurement are determined by the Quality Supervisor and defined in our Testing Facility manual.

The measuring equipment is:

- a) Calibrated or verified at specific intervals against standards traceable to NIST measurement standards. If not available, the basis for other traceability is recorded as needed.
  - b) Adjusted as necessary;
  - c) Identified to calibration status;
  - d) Safeguarded from unauthorized adjustments;
  - e) Protected from damage during handling and maintenance.
- If equipment is found to be nonconforming, there is a process that allows reporting of the nonconformity and assessment of appropriate action on the equipment or products that are affected.
  - Records are maintained.
  - Computer software is confirmed for appropriate use in measurement devices prior to initial use and reconfirmed by outside calibration sources as needed.

### 7.6.1 Measurement System Analysis

- Appropriate statistical studies are performed on measuring and testing equipment as referenced in the control plans.
- Analytical methods conform to customer specific reference manuals.

### 7.6.2 Calibration / Verification Records

- Records of calibration/verification are maintained to provide evidence of conformity of product.
- Records include:
  - Equipment identification;
  - Measurement standard (e.g., NIST);
  - Revisions to any engineering changes;
  - Out of specification readings;
  - Follow up assessment of the out of specification condition;
  - A statement of conformity;
  - A notification process to the customer if suspect material was shipped.

### 7.6.3 Laboratory Requirements

#### 7.6.3.1 Internal Laboratory

- Laboratory requirements are defined in our Testing Facility manual.
- Internal laboratory requirements include:
  - A defined scope and capabilities;
  - Laboratory scope is documented;
  - Technical requirements for the adequacy of laboratory procedures;
  - Competency of laboratory personnel;
  - Procedures to test product;
  - Documented performance requirements testing and reference to specific customer performance standards and relevant process standards;
  - Internal laboratory documentation is provided to customer at PPAP.

#### 7.6.3.2 External Laboratory

- External laboratories are required for testing and calibration services outside the scope of our internal laboratory.
- External laboratories have a documented scope and list of capabilities.
- External laboratory documentation is provided to customer at PPAP.
- External laboratories are accredited to ISO/IEC 17025 (or a national equivalent).
- *OEM services are allowed in lieu of the availability of an accredited laboratory.*

Section (7) Reference Procedures:

- QMS-PR-04 – “Product Realization”
- SA-PR-01 – “Sales Process”
- PU-PR-01 – “Purchasing Process”
- EM-PR-01 – “Environmental Management System Planning”

## 8. MEASUREMENT, ANALYSIS AND IMPROVEMENT

### 8.1 GENERAL

- Monitoring, measurement, analysis and improvement processes are implemented to:
  - a) Demonstrate *conformity of product*;
  - b) Ensure Quality Management System conformity;
  - c) Continually improve the effectiveness of the Quality Management System.
- Methods, including statistical techniques, to accomplish this have been determined and are the responsibility of the Quality Manager.

#### 8.1.1 Identification of Statistical Tools

- The APQP team determines the applicable statistical tools needed for each process and are documented on the appropriate control plan.

#### 8.1.2 Knowledge of Basic Statistical Concepts

- Basic concepts of statistical tools that are applicable to our processes are understood and utilized in the manufacturing process and testing facility.

## 8.2 MONITORING AND MEASUREMENT

### 8.2.1 Customer Satisfaction

- Customer Satisfaction Index (CSI) is measured using an index that relates to key customer requirements. The CSI is reviewed at quarterly Management Review meetings. CSI information is compiled and monitored monthly by the Quality Supervisor.
- CSI information is compiled utilizing customer quality and delivery feedback, customer surveys, success of PPAP submissions and other related criteria.

#### 8.2.1.1 Customer Satisfaction - Supplemental

- The Quality Supervisor monitors customer performance indicators monthly.
- Performance indicators include:
  - Quality Performance (PPM);
  - Customer Disruptions>Returns;
  - Delivery Performance (% On-time);
  - Number of customer complaints in Quality /Delivery.
- Internal manufacturing performance is monitored for customer requirements and measured in terms of scrap and/or rework.
- Cost of Poor Quality is monitored.

### 8.2.2 Internal Audit

- Internal audits are planned and scheduled to determine if the Quality Management System:
  - a) Conforms to our Quality Planning requirements;
  - b) Conforms to ISO/TS 16949:2009 requirements;
  - c) Conforms to our Quality Management System requirements;
  - d) Is effectively implemented and maintained
- The internal audit program has the following format:
  - It is planned and prioritized by the status and importance of the processes and areas to be audited and previous audit results.
  - Criteria for the audit, scope, and frequency and methods are defined;
  - The Lead Auditor and trained internal auditors are assigned audit areas based on objectivity and impartiality to avoid auditors auditing their own work.
- Audit procedure is documented with defined responsibilities.
- Department managers are responsible for corrective actions discovered during the audit.
- Internal auditors are responsible for verification activities and reporting the verification results.
- Audit results are subject to quarterly Management Review.

#### 8.2.2.1 Quality Management System Audit

- The internal audit includes auditing the Quality Management System to ensure compliance to ISO/TS 16949:2009.

#### 8.2.2.2 Manufacturing Process Audit

- Manufacturing process audits are conducted to determine effectiveness.
- Audits are conducted at a defined frequency.

### 8.2.2.3 Product Audit

- Product audits are conducted and include stages of production, rewind inspection, packaging, labeling, and delivery requirements.
- Product audits are conducted at a defined frequency.

### 8.2.2.4 Internal Audit Plans

- Internal audits are scheduled and cover all Quality Management processes and activities according to our annual plan.
- Audit frequency and priorities are based on internal nonconformances and customer nonconformances and/or complaints.
- Internal Auditors and the Quality Manager are responsible for increasing audit frequency based on internal/external complaints.

### 8.2.2.5 Internal Auditor Qualification

- Lead Internal Auditor is trained by a qualified third party (AIAG).
- Lead Internal Auditor is responsible for training additional Internal Auditors.
- All auditors are qualified to audit to this technical specification (ISO/TS 16949:2009).
- A list of qualifications for each Auditor is maintained.

## 8.2.3 Monitoring and Measurement of Processes

- Methods are implemented for monitoring and measurement of the Quality Management System processes.
- Monitoring and measurement methods are designed to demonstrate that the Quality Management System processes have achieved planned results and if not achieved, appropriate corrective action is taken.

### 8.2.3.1 Monitoring and Measurement of Manufacturing Processes

- Process studies are conducted for all new manufacturing processes in order to verify process capability.
- Process studies results provide documented specifications as a means to achieve production.
- Process studies include objectives for manufacturing process capability and acceptance criteria.
- Manufacturing process performance is maintained per the PPAP requirements of all customers.
- Control plans and process flow diagrams have been implemented and adhere to specified measurement techniques, sampling plans, acceptance criteria, and reaction plans.
- Significant process events are recorded (on the Conformance Card).
- The control plan incorporates a reaction plan when a process becomes unstable. The reaction plan includes 100% inspection and containment for our commodity per appropriate procedures.
- The reaction plan includes responsibility by the Quality Manager and/or Quality Supervisor to complete corrective action where the process is deemed to be unstable. If required, the customer may review and approve the corrective action plan.
- Records are maintained for effective dates of any process changes (revisions). (Job History File maintenance is controlled by Engineering)

## 8.2.4 Monitoring and Measurement of Product

- Product characteristics are monitored and measured to verify *conformity* to requirements.
- Monitoring and measurement of the product is conducted during appropriate stages of product realization as planned.
- Evidence of *conformity of product* is maintained along with records of approvals on process documents associated with the flow of the product. Records indicate the person authorizing acceptance of product.
- Product is released only after completion of all planned steps.

### 8.2.4.1 Layout Inspection and Functional Testing

- A layout inspection and functional verification takes place at the onset of product fabrication. Records are maintained of the results and are available for customer review as needed.

### 8.2.4.2 Appearance Items

- Appearance items that are designated by the customer are evaluated with the following criteria:
  - Appropriate lighting resources including a MacBeth Spectralight booth
  - Color masters as appropriate
  - Maintenance and control of masters and evaluation equipment per our Testing Facility Manual.
  - Verification that personnel are qualified to make appearance judgments.

## 8.3 CONTROL OF NONCONFORMING PRODUCT

- Product that does not conform to requirements is identified and controlled to prevent unintended use or delivery.
- Controls and related responsibilities and authorities are defined in a documented procedure.
- Nonconforming product is addressed in the following manner:
  - a) -Action is taken to eliminate the nonconformity;
  - b) -Action is taken to avoid its intended use.
- Records are maintained regarding the nature of the nonconformity and any actions taken.
- If nonconforming product can be corrected, it is re-verified by using the production inspection process.
- If nonconforming product is detected after delivery has started, appropriate action is taken to address the impact on the customer. The Quality Manager and/or Quality Supervisor is responsible for control of nonconforming product.

### 8.3.1 Control of Nonconforming Product - Supplemental

- Unidentified product or suspect product is considered nonconforming and will be subject to re-verification.

### 8.3.2 Control of Reworked Product

- Instructions for rework (including re-inspection) are available to authorized rework personnel.

### 8.3.3 Customer Information

- The Quality Supervisor informs customers if nonconforming product is shipped.

### 8.3.4 Customer Waiver

- Customer waiver is obtained per specific customer method if product or manufacturing process is different than what the customer approved (at PPAP or other approval method).
- Special customer waivers include a record of the expiration date or quantity authorized.
- After the waiver expires, compliance to original specifications is ensured.
- Waiver materials are properly identified when shipped.
- The waiver format is used with suppliers when it pertains to purchased product.

## 8.4 ANALYSIS OF DATA

- Data appropriate to the Quality Management System is collected and analyzed to demonstrate the suitability and effectiveness of the Quality Management System and used to evaluate where continual improvement can be applied.
- Collected data is the result of monitoring and measurement methods.
- Analysis of data provides information related to:
  - Customer Satisfaction
  - Product conformity to requirements
  - Product and process characteristics and trends including opportunities for preventive action (Management Review).
  - Suppliers (Quality and Delivery Data)

### 8.4.1 Analysis and Use of Data

- Quality and operational performance trends are compared to documented progress toward objectives.
- Actions taken will support:
  - The development of priorities for prompt solutions to customer related problems.
  - Review of key customer-related trends and creation of processes for decision-making and long term planning.
  - An information system for the timely reporting of product information after usage. (Customer Feedback Process)
- Analysis and use of data occurs during Management Review.

## 8.5 IMPROVEMENT

### 8.5.1 Continual Improvement

- Continual improvement of the Quality Management System is realized through the use of the Quality Policy, Quality Objectives, Audit Results, Analysis of Data, Corrective and Preventive Action, and Management Review.

#### 8.5.1.1 Continual Improvement of the Organization

- The Continual Improvement process is defined and documented.

#### 8.5.1.2 Manufacturing Process Improvement

- Improvement of the manufacturing process includes focus on the control and reduction in variation of product characteristics and manufacturing process parameters.
- Continual improvement projects and small-step improvement actions are designed to reduce variation.

## 8.5.2 Corrective Action

- Corrective action is taken to eliminate the cause of nonconformities and prevent recurrence.
- Corrective action is appropriate to the effects of the nonconformity encountered.
- A corrective action documented procedure exists and defines requirements for:
  - Review of the nonconformity including customer complaints
  - Determining the cause of the nonconformities
  - Evaluating the need for action to ensure the nonconformities do not recur
  - Determining and implementing corrective action
  - Maintaining records of the action taken
  - Management review of corrective action
- Corrective action is the responsibility of the nonconforming department Manager.

### 8.5.2.1 Problem Solving

- A defined process for problem solving leads to root cause identification and elimination.
- Customer prescribed problem-solving formats will be used as required.

### 8.5.2.2 Error Proofing

- Error proofing methods are used in corrective action.

### 8.5.2.3 Corrective Action Impact

- Systemic corrective action is applied to similar processes and products when appropriate.

### 8.5.2.4 Rejected Product Test/Analysis

- Reject parts are tested and/or analyzed in a timely fashion consistent with the time frame related to the problem solving process. The time frame is kept to a minimum.
- Records are kept and available on request.
- Rejected product analysis will initiate corrective action to prevent recurrence.

## 8.5.3 Preventive Action

- Preventive action is determined to eliminate the causes of potential nonconformities in order to prevent occurrence.
- Preventive action is appropriate to the effects of the potential problems.
- Preventive action is a documented procedure and includes:
  - a) Determining potential nonconformities and their causes.
  - b) Evaluating the need for action to prevent occurrence of nonconformities.
  - c) Determining and implementing action needed.
  - d) Records of action taken.
  - e) Management review of action taken.
- Preventive action is the responsibility of the nonconforming department Manager.

Section (8) Reference Procedure: QMS-PR-05, "Measurement, Analysis And Improvement"