



# Quality Manual

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## Quality Manual - Section 1.0 Introduction-Scope-Mission Statement

This operating systems manual describes the policies, processes and control systems of Vivid Design Group, Inc.'s Management System. This system meets the requirements of the ISO Technical Specification.

Procedures referenced in this manual are identified by their procedure numbers and located in Appendix C.

An overview of the Quality System showing the interactions and process maps is located in Appendix B.

This manual is a controlled document, with the Management Representative assigned responsibility for its maintenance and distribution. This manual is reviewed in its entirety on an annual basis through Management Review and Internal Auditing activities. Revisions are recorded in Appendix D.

### **Scope:**

Manufacturing and Assembly of Interior and Exterior Trim Components and other Products.

### **Mission Statement**

Vivid Design Group, Inc. is committed to satisfying our customers with competitive products by consistently striving to increase value through quality and continuous improvement.

We believe that the pursuit of this task will allow us to prosper as a business and to develop as individuals. These results are derived from the dedicated efforts of each employee with supportive participation from management at all levels of the organization.



## Quality Manual - Section 2.0 Quality Policy, Goals & Objectives

Vivid Design Group, Inc. is committed to creating, maintaining and improving a quality management system in accordance with the ISO Technical Specification. To realize the goal reflected in our Mission Statement, we must build upon this system and actively embrace the concepts of continuous improvement, customer satisfaction, and problem prevention. At the same time, we must develop relationships with our suppliers that emphasize continuous improvement in product quality, service and support.

Vivid Design Group, Inc. recognizes our people to be our greatest resource. As a result, every employee has a vested interest in the execution of the objectives contained in our Mission Statement and Quality Policy. We continue to promote the development of our work force through education and training to support their health, welfare and safety, and have empowered each employee to improve the systems that affect their work. We foster an environment that supports teamwork, and continue to recognize individual employee contributions to our improvement efforts.

### **Vivid Design Group, Inc. outlines it's Quality Goals as:**

- Delivering conforming product 100% on-time for production parts and with satisfactory delivery performance to OEM Service Divisions and Export & Growth Divisions.
- Increase sales by 3% from previous year by responding to customer needs, and continuously improving our operations to enable us to produce and deliver quality products and services at competitive prices.
- Track, analyze and improve customer satisfaction using Performance Reports, Customer Surveys and Feedback.

VDG remains acutely aware that we must continue to be flexible and customer focused. This is the key to building strong customer relationships and will allow us to realize our goal.

*Jeffrey D. Harrison*  
President and CEO

*Robert A. Shigenaka*  
Executive Vice President



## Quality Manual Section 3.0 Organization

Vivid Design Group, Inc. operations consist of a combined engineering, program management and manufacturing facility located in Harrison Township, Michigan. The senior executives responsible for the operation are the President, CEO and Executive Vice President. The Vivid Design Group, Inc. organizational chart is located in Appendix A of this manual, designating positions and referencing the job descriptions that define the responsibilities of company executives, managers, and employees.

Vivid Design Group, Inc. is dedicated to manufacturing low to medium volume components and assemblies of the highest quality, with reduced time to market. This is accomplished by utilizing superior program management practices and manufacturing processes that increase productivity and reduce waste. Our primary focus is to meet or exceed customer expectations.

The corporation's customer base is the major North American Manufacturers, including Automotive, Aerospace and respective second tier suppliers.

The production facility operates under a team leader concept. Program Managers are given full latitude in managing projects under their direction. The executives' function is to develop long term business planning, and provide support to the team leaders & Program Managers with respect to equipment acquisition, human resource management, engineering, quality, sales, and marketing functions.





## Quality Manual Section 4.0 Quality Management System

### 4.1 General Requirements

Vivid Design Group, Inc. has established, documents, implements and maintains a quality management system and continually improves its effectiveness in accordance with the requirements of ISO Technical Specification.

VDG:

- 1) Determines the processes needed for the quality management system and their application throughout the organization, as shown in section 1.0 and Appendix B of this manual;
- 2) Determines the sequence and interaction of the major processes, as shown in Appendix B of this manual;
- 3) Determines criteria and methods needed to ensure that both the operation and control of these processes are effective;
- 4) Ensures the availability of resources and information necessary to support the operation and monitoring of these processes;
- 5) Monitors, measures, where applicable and analyzes these processes;
- 6) Implements actions necessary to achieve planned results and continual improvement of these processes.

These processes are managed by the organization, in accordance with the requirements of Technical Specification

Where VDG chooses to outsource any process that affects product conformity to requirements, VDG ensures control over such processes. Controls of such outsourced processes are defined within the quality management system.

NOTE 1: Processes needed for the quality management system (referred to above) include processes for management activities, provision of resources, product realization, measurement, analysis and improvement.

NOTE 2: An “outsourced process” is a process that VDG needs for its quality management system and that the organization chooses to have performed by an external party.

NOTE 3: Ensuring control over the outsourced process does not absolve VDG of conformity to all customer statutory and regulatory requirements. The type and extent of control to be applied to the outsourced process can be influenced by factors such as:

- 1) The potential impact of the outsourced process on VDG’s capability to provide product that conforms to requirements.
- 2) The degree to which the controls for the process is shared.
- 3) The capability of achieving the necessary processes, through the application of 7.4.

#### 4.1.1 General Requirements – Supplemental

Ensuring control over outsourced processes does not absolve VDG of the responsibility of conformity to all customer requirements.

NOTE: See also 7.4.1 and 7.4.1.3

### 4.2 Documentation requirements

#### 4.2.1 General

The quality management system documentation includes:

- 1) Documented statements of a quality policy and quality objectives.
- 2) A quality manual.
- 3) Documented procedures and records required by Technical Specification
- 4) Documents, including records determined by VDG as necessary to ensure the effective planning, operation and control of its processes.



## Quality Manual Section 4.0 Quality Management System

### 4.2.1 Documentation requirements, General (continued)

NOTE 1 Where the term “documented procedure” appears within this manual this means that the procedure is established, documented, implemented and maintained. A single document may address the requirements for one or more procedures. A requirement for a documented procedure may be covered by more than one document.

NOTE 2 The extent of the quality management system documentation can differ from one organization to another, due to:

- 1) The size of organization and type of activities.
- 2) The complexity of processes and their interactions.
- 3) The competence of personnel.

NOTE 3 Documentation may be in any form or type of medium.

### 4.2.2 Quality manual

VDG has established and maintains this quality manual to include:

- 1) The scope of the quality management system, including details of, and justification for, any exclusions.
- 2) References to the documented procedures established for the quality management system.
- 3) 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. Records are a special type of document and are controlled according to the requirements given in 4.2.4.

VDG procedure, **QP 1.0 Control of Documents**, defines the controls needed:

- 1) To approve documents for adequacy prior to issue;
- 2) To review and update as necessary and re-approve documents;
- 3) To ensure that changes and the current revision status of documents are identified;
- 4) To ensure that relevant versions of applicable documents are available at points of use;
- 5) To ensure that documents remain legible and readily identifiable;
- 6) To ensure that documents of external origin, determined by the organization to be necessary for the planning and operation of the quality management system, are identified and their distribution controlled;
- 7) To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

#### 4.2.3.1 Engineering specifications

VDG has a process to assure the timely review, distribution and implementation of all customer engineering standards/specifications and changes based on customer-required schedule. Timely review will be as soon as possible, and does not exceed two working weeks.

#### PM-Staff Meetings

VDG maintains a record of the date on which each change is implemented in production. Implementation includes updated documents.



## Quality Manual Section 4.0 Quality Management System

### PM Book or PPAP Book

NOTE A change in these standards/specifications requires an updated record of customer production part approval when these specifications are referenced on the design record, or if they affect documents of the production part approval process, such as control plan, FMEAs, etc.

#### 4.2.4 Control of records

Records are established to provide evidence of conformity to requirements, and if the effective operation of the quality management system is controlled. **Procedure QP 2.0 Control of Records** has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records. Records remain legible, readily identifiable and retrievable.

NOTE 1 "Disposition" includes disposal.

NOTE 2 "Records" also include customer-specified records.

##### 4.2.4.1 Records Retention

The control of records satisfies statutory, regulatory and customer requirements.

#### References

QM Appendix B- Process Matrix & Maps

QP 1.0 Control of Documents-Procedure

QP 2.0 Control of Records-Procedure



## Quality Manual Section 5.0 Management Responsibility

### 5.0 Management responsibility

#### 5.1 Management commitment

The top management of Vivid Design Group provides evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by:

- 1) Communicating to the organization, the importance of meeting customer as well as statutory and regulatory requirements;
- 2) Establishing the quality policy;
- 3) Ensuring that quality objectives are established;
- 4) Conducting management reviews;
- 5) Ensuring the availability of resources.

##### 5.1.1 Process Efficiency

Top management reviews the product realization processes and the support processes, to assure their effectiveness and efficiency.

### 5.2 Customer Focus

Top management ensures that customer requirements are determined and are met with the aim of enhancing customer satisfaction (see 7.2.1 and 8.2.1).

### 5.3 Quality policy

Top management ensures that the quality policy:

- 1) Is appropriate to the purpose of Vivid Design Group;
- 2) Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system;
- 3) Provides a framework for establishing and reviewing quality objectives;
- 4) Is communicated and understood within the Vivid Design Group;
- 5) Is reviewed for continuing suitability.

Located in section 2.0 of this manual

### 5.4 Planning

#### 5.4.1 Quality objectives

Top management ensures that quality objectives, including those needed to meet requirements for product [see 7.1 a)] are established at relevant functions and levels within Vivid Design Group. The quality objectives are measurable and consistent with the quality policy.

##### 5.4.1.1 Quality objectives – Supplemental

Top management defines quality objectives and measurements that are included in the corporate business plan and are used to deploy the quality policy.

NOTE: Quality objectives address customer expectations and are achievable within a defined time period.



## Quality Manual Section 5.0 Management Responsibility

### 5.4.2 Quality management system planning

Top management ensures that:

- 1) The planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives.
- 2) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

## 5.5 Responsibility, authority and communication

### 5.5.1 Responsibility and authority

Top management ensures that the responsibilities and authorities are defined and communicated within Vivid Design Group.

#### 5.5.1.1 Responsibility for quality

Managers with responsibility and authority for corrective action are promptly informed of products or processes which do not conform to requirements.

Personnel responsible for conformity to product requirements have the authority to stop production to correct quality problems.

Production operations across all shifts are staffed with personnel in charge of, or delegated responsibility for, ensuring conformity to product requirements.

### 5.5.2 Management representative

Top management has appointed a member of Vivid Design Group's management who, irrespective of other responsibilities, has responsibility and authority that includes:

- 1) Ensuring that processes needed for the quality management system are established, implemented and maintained;
- 2) Reporting to top management on the performance of the quality management system and any need for improvement;
- 3) Ensuring the promotion of awareness of customer requirements throughout Vivid Design Group.

NOTE the responsibility of a management representative includes liaison with external parties on matters relating to the quality management system.

#### 5.5.2.1 Customer Representative

Top management designates personnel with responsibility and authority to ensure that customer requirements are addressed. This includes selection of special characteristics, setting quality objectives and related training, corrective and preventive actions, product design and development.

### 5.5.3 Internal communication

Top management ensures that appropriate communication processes are established within Vivid Design Group and that communication takes place regarding the effectiveness of the quality management system.



## Quality Manual Section 5.0 Management Responsibility

### 5.6 Management review

#### 5.6.1 General

Top management reviews Vivid Design Group's quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives. Records from management reviews are maintained (see 4.2.4).

##### 5.6.1.1 Quality management system performance

These reviews include all requirements of the quality management system and its performance trends as an essential part of the continual improvement process.

Part of the management review is the monitoring of quality objectives, and the regular reporting and evaluation of the cost of poor quality. (See 8.4.1 and 8.5.1)

These results are recorded to provide, as a minimum, evidence of the achievement of

- 1) The quality objectives specified in the corporate business plan.
- 2) Customer satisfaction with the product supplied.

#### 5.6.2 Review input

The input to management review includes information on:

- 1) Results of audits;
- 2) Customer feedback;
- 3) Process performance and product conformity;
- 4) Status of preventive and corrective actions;
- 5) Follow-up actions from previous management reviews;
- 6) Changes that could affect the quality management system;
- 7) Recommendations for improvement.

##### 5.6.2.1 Review input – Supplemental

Input to management review includes an analysis of actual and potential field-failures and their impact on quality, safety or the environment.

#### 5.6.3 Review output

The output from the management review includes any decisions and actions related to:

- 1) Improvement of the effectiveness of the quality management system and its processes;
- 2) Improvement of product relating to customer requirements;
- 3) Resource needs.

### References

QM 2.0 Quality Policy, Goals & Objectives  
QM Appendix A-Org. Chart



## Quality Manual Section 5.0 Management Responsibility

Job Descriptions  
Management Reviews



## Quality Manual Section 6.0 Resource Management

### 6.1 Provision of resources

Vivid Design Group determines and provides the resources needed:

- 1) To implement and maintain the quality management system and continually improve its effectiveness;
- 2) To enhance customer satisfaction by meeting customer requirements.

### 6.2 Human resources

#### 6.2.1 General

Personnel performing work affecting conformity to product requirements, are competent on the basis of appropriate education, training, skills and experience.

NOTE: Conformity to product requirements can be affected directly or indirectly by personnel performing any task within the quality management system.

#### 6.2.2 Competence, training and awareness

Vivid Design Group:

- 1) Determines the necessary competence for personnel performing work affecting conformity to product requirements;
- 2) Where applicable, provides training or takes other actions, to achieve the necessary competence;
- 3) Evaluates the effectiveness of the actions taken;
- 4) Ensures that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives;
- 5) Maintains appropriate records of education, training, skills and experience. (see 4.2.4)

##### 6.2.2.1 Product design skills

Vivid Design Group is product design responsible and ensures that personnel with product design responsibility are competent to achieve design requirements and are skilled in applicable tools and techniques.

Applicable tools and techniques are identified by VDG in Job Descriptions.

##### 6.2.2.2 Training

Vivid Design Group establishes and maintains documented procedures for identifying training needs and achieving competence of all personnel performing activities affecting conformity to product requirements. Personnel performing specific assigned tasks are qualified, as required, with particular attention to the satisfaction of customer requirements.

#### QP 7.0 Training

NOTE 1 This applies to all employees having an effect on quality at all levels of Vivid Design Group

NOTE 2 An example of the customer-specific requirements is the application of digitized mathematically based data.

##### 6.2.2.3 Training on the job

Vivid Design Group provides on-the-job training for personnel in any new or modified job, affecting conformity to product requirements, inclusive of contract or agency personnel. Personnel whose work can affect quality are informed about the consequences to the customer of nonconformity to quality requirements.





## Quality Manual Section 6.0 Resource Management

### 6.2.2.4 Employee motivation and empowerment

Vivid Design Group has a process to motivate employees to achieve quality objectives, to make continual improvements, and to create an environment to promote innovation. The process includes the promotion of quality and technological awareness throughout the whole organization.

#### PD 7 Internal Communication / Employee Motivation

Vivid Design Group has a process to measure the extent to which its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives (see 6.2.2 d) **through interviews during Audits, Training & Communication.**

## 6.3 Infrastructure

Vivid Design Group determines, provides and maintains the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable:

- 1) Buildings, workspace and associated utilities;
- 2) Process equipment (both hardware and software);
- 3) Supporting services (such as transport, communication or information systems).

### 6.3.1 Plant, facility and equipment planning

Vivid Design Group uses a multidisciplinary approach (see 7.3.1.1) for developing plant, facility and equipment plans. Plant layouts optimize material travel, handling and value-added use of floor space, and facilitate synchronous material flow. Methods are developed and implemented to evaluate and monitor the effectiveness of existing operations (during Program Management & PPAP).

NOTE These requirements focus on lean manufacturing principles and the link to the effectiveness of the quality management system.

### 6.3.2 Contingency plans

Vivid Design Group prepares contingency plans to satisfy customer requirements in the event of an emergency such as utility interruptions, labor shortages, key equipment failure and field returns.

## 6.4 Work environment

Vivid Design Group determines and manages the work environment needed to achieve conformity to product requirements.

NOTE: The term “work environment” refers to those conditions under which work is performed including physical, environmental and other factors (such as noise, temperature, humidity, lighting or weather).

### 6.4.1 Personnel safety to achieve conformity to product requirements

Product safety and the means to minimize potential risks to employees is addressed by VDG, especially in the design and development process, and in manufacturing process activities.



## Quality Manual Section 6.0 Resource Management

### 6.4.2 Cleanliness of premises

Vivid Design Group maintains its premises in a state of order, cleanliness and repair, consistent with the product and manufacturing process needs.

### References

QM Appendix A-Job Description  
QM Appendix B Process Descriptions  
P & L  
Training Matrix  
Sales Meetings  
Operations Meetings  
Staff Meetings  
Safety Policy



## Quality Manual Section 7.0 Product Realization

### 7 Product realization

#### 7.1 Planning of product realization

Vivid Design Group plans and develops the processes needed for product realization as outlined in APQP. Planning of product realization is consistent with the requirements of the other processes of the quality management system (see 4.1).

In planning product realization, Vivid Design Group determines the following, as appropriate:

- 1) Quality objectives and requirements for the product;
- 2) The need to establish processes and documents and to provide resources specific to the product;
- 3) Required verification, validation, monitoring, measurement, inspection and test activities, specific to the product and the criteria for product acceptance;
- 4) Records needed to provide evidence that the realization processes and resulting product meet requirements (see 4.2.4);
- 5) The output of this planning is in a form suitable for our organization's method of operations.

NOTE 1 A document specifying the processes of the quality management system (including the product realization processes) and the resources to be applied to a specific product, project or contract, can be referred to as a quality plan.

NOTE 2 Vivid Design Group also applies the requirements given in 7.3 to the development of product realization processes when design responsible for a product.

NOTE 3 Some customers refer to project management or advanced product quality planning as a means to achieve product realization. Advanced product quality planning embodies the concepts of error prevention and continual improvement as contrasted with error detection, and is based on a multidisciplinary approach.

##### 7.1.1 Planning of product realization – Supplemental

Customer requirements and references to its technical specifications are included in the planning of product realization, as a component of the quality plan.

##### 7.1.2 Acceptance criteria

Acceptance criteria is defined by Vivid Design Group and, where required, approved by the customer. For attribute data sampling, the acceptance level is zero defects (see 8.2.3.1).

##### 7.1.3 Confidentiality

Vivid Design Group ensures the confidentiality of customer-contracted products and projects under development, and related product information.

##### 7.1.4 Change control

Vivid Design Group has a process to control and react to changes that impact product realization. The effects of any change, including those changes caused by any supplier, are assessed, and verification and validation activities are defined, to ensure compliance with customer requirements. Changes are validated before implementation.

#### Program Management and PPAP

For proprietary designs, impact on form, fit and function (including performance and/or durability) are reviewed with the customer, so that all effects can be properly evaluated.



## Quality Manual Section 7.0 Product Realization

When required by the customer, additional verification/identification requirements, such as those required for new product introduction, are met.

NOTE 1 Any product realization change affecting customer requirements requires notification to, and agreement from, the customer.

NOTE 2 The above requirement applies to product and manufacturing process changes.

### 7.2 Customer-related processes

#### 7.2.1 Determination of requirements related to the product

Vivid Design Group determines:

- 1) Requirements specified by the customer, including the requirements for delivery and post-delivery activities;
- 2) Requirements not stated by the customer but necessary for specified or intended use, where known;
- 3) Statutory and regulatory requirements applicable to the product;
- 4) Any additional requirements considered necessary by the organization.

NOTE 1 Post-delivery activities may include actions under warranty provisions, contractual obligations such as maintenance services and supplementary services such as recycling or final disposal.

NOTE 2 Post-delivery activities include any after-sales product service provided as part of the customer contract or purchase order.

NOTE 3 This requirement includes recycling, environmental impact and characteristics identified as a result of the organization's knowledge of the product and manufacturing processes (see 7.3.2.3),

NOTE 4 Compliance to (item 3) includes all applicable government, safety and environmental regulations, applied to acquisition, storage, handling, recycling, elimination or disposal of materials.

##### 7.2.1.1 Customer-designated special characteristics

Vivid Design Group demonstrates conformity to customer requirements for designation, documentation and control of special characteristics.

#### 7.2.2 Review of requirements related to the product

Vivid Design Group reviews the requirements applicable to the product as outlined in APQP. This review is conducted prior to our commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and ensures that:

- 1) Product requirements are defined;
- 2) Contract or order requirements differing from those previously expressed are resolved;
- 3) Vivid Design Group has the ability to meet the defined requirements.

#### 7.2.2 Review of requirements related to the product (cont.)

Records of the results of the review and actions arising from the review are maintained (see 4.2.4). Where the customer provides no documented statement of requirement, the customer requirements are confirmed by Vivid Design Group before acceptance.

Where product requirements are changed, Vivid Design Group ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements.



## Quality Manual Section 7.0 Product Realization

NOTE In some situations, a formal review is impractical for each order. Instead the review can cover relevant product information such as catalogues or advertising material.

### 7.2.2.1 Review of requirements related to the product – Supplemental

Waiving the requirement stated in 7.2.2 for formal review (see note) requires customer authorization.

### 7.2.2.2 Organization manufacturing feasibility

Vivid Design Group will investigate, confirm and document the manufacturing feasibility of the proposed products in the contract review process, including risk analysis.

### 7.2.3 Customer communication

Vivid Design Group determines and implements effective arrangements for communicating with customers in relation to:

- 1) Product information;
- 2) Inquiries, contracts or order handling, including amendments;
- 3) Customer feedback, including customer complaints.

#### 7.2.3.1 Customer communication – Supplemental

Vivid Design Group has the ability to communicate necessary information, including data, in a customer-specified language and format (e.g., computer-aided design data, electronic data exchange).

## 7.3 Design and development

### Vivid Design Group is product design responsible on a project to project basis

#### 7.3.1.1 Multidisciplinary approach

Vivid Design Group uses a multidisciplinary approach to prepare for product realization, including:

- 1) Developmental/finalization and monitoring of special characteristics;
- 2) Development and review of FMEAs, including actions to reduce potential risks;
- 3) Development and review of control plans.

NOTE A multidisciplinary approach typically includes VDG's design, manufacturing, engineering, quality, production and other appropriate personnel.

#### 7.3.2 Design and development inputs

Inputs relating to product requirements are determined and records maintained (see 4.2.4) by the Program Manager. These inputs include:

- 1) Functional and performance requirements;
- 2) Applicable statutory and regulatory requirements;
- 3) Where applicable, information derived from previous similar designs;
- 4) Other requirements essential for design and development.

The inputs are reviewed for adequacy. Determination is made that requirements are complete, unambiguous and not in conflict with each other.

NOTE Special characteristics (see 7.2.1.1) are included in this requirement.



## Quality Manual Section 7.0 Product Realization

### 7.3.2.1 Product design input

Design Responsible Function identifies, documents and reviews the product design input requirements, including the following:

- 1) Customer requirements (contract review) such as special characteristics (see 7.3.2.3), identification, traceability and packaging;
- 2) Use of information: Design Responsible Function has a process to deploy information gained from previous design projects, competitor analysis, supplier feedback, internal input, field data, and other relevant sources, for current and future projects of similar nature;
- 3) Targets for conformity to product requirements, life, reliability, durability, maintainability, timing and cost.

### 7.3.2.2 Manufacturing process design input

Vivid Design Group identifies, documents and reviews the manufacturing process design input requirements, including:

- 1) Product design output data;
- 2) Targets for productivity, process capability and cost;
- 3) Customer's requirements, if any;
- 4) Experience from previous developments.

#### Through Program Management, APQP & PPAP processes

NOTE The manufacturing process design includes the use of error-proofing methods to a degree appropriate to the magnitude of the problems and commensurate with the risks encountered.

#### 1) Special characteristics

Vivid Design Group identifies special characteristics [see 7.3.3 d)] and includes all special characteristics in the control plan, complies with customer-specified definitions and symbols, and identifies process control documents including drawings, FMEAs, control plans, operator instructions with the customer's special characteristic symbol or the CMA's equivalent symbol or notation to include those process setups that affect special characteristics.

NOTE: Special characteristics can include product characteristics and process parameters.

### 7.3.3 Design and development outputs

The outputs of design and development are in a form suitable for verification against the design and development input, and are approved prior to release. Design and development outputs:

- 1) Meet the input requirements for design and development;
- 2) Provide appropriate information for purchasing, production and for service provision;
- 3) Contain or reference product acceptance criteria;
- 4) Specify the characteristics of the product that are essential for its safe and proper use.

NOTE Information for production and service provisions can include details for the preservation of product.

#### 7.3.3.1 Product design outputs – Supplemental

Design Responsible Function insures the product design output is expressed in terms that can be verified and validated against product design input requirements. The product design output includes:



## Quality Manual Section 7.0 Product Realization

- 1) Design FMEA, reliability results;
- 2) Product special characteristics and specifications;
- 3) Product error-proofing, as appropriate;
- 4) Product definition including drawings or math-based data;
- 5) Product design reviews results;
- 6) Diagnostic guidelines, where applicable.

### 7.3.3.2 Manufacturing process design output

The manufacturing process design output is expressed in terms that can be verified against manufacturing process design input requirements and validated. The manufacturing process design output includes:

- 1) Specifications and drawings;
- 2) Manufacturing process flow chart/layout;
- 3) Manufacturing process FMEA's;
- 4) Control plan (see 7.5.1.1);
- 5) Work instructions;
- 6) Process approval acceptance criteria;
- 7) Data for quality, reliability, maintainability and measurability;
- 8) Results of error-proofing activities, as appropriate;
- 9) Methods of rapid detection and feedback of product/manufacturing process nonconformities.

### 7.3.4 Design and development review

At suitable stages, systematic reviews of design and development are performed in accordance with planned arrangements (see 7.3.1)

- 1) To evaluate the ability of the results of design and development to meet requirements;
- 2) To identify any problems and propose necessary actions.

Participants in such reviews include representatives of functions concerned with the design and development stage(s) being reviewed. Records of the results of the reviews and any necessary actions are maintained (see 4.2.4).

NOTE These reviews are normally coordinated with the design phases and include manufacturing process design and development.

#### 7.3.4.1 Monitoring

Measurements at specified stages of design and development are defined, analyzed and reported with summary results as an input to management review.

NOTE These measurements include quality risks, costs, lead-times, critical paths and others, as appropriate.

### 7.3.5 Design and development verification

Verification is performed in accordance with planned arrangements (see 7.3.1) to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions are maintained (see 4.2.4).



## Quality Manual Section 7.0 Product Realization

### 7.3.6 Design and development validation

Design and development validation is performed in accordance with planned arrangements (see 7.3.1), to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known. Wherever practicable, validation is completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions are maintained (see 4.2.4).

NOTE 1 The validation process normally includes an analysis of field reports for similar products.

NOTE 2 The requirements of 7.3.5 and 7.3.6 above apply to both product and manufacturing processes.

#### 7.3.6.1 Design and development validation – Supplemental

Design and development validation is performed in accordance with customer requirements, including program timing.

#### 7.3.6.2 Prototype program

When required by the customer, Vivid Design Group has a prototype program and control plan. Vivid Design Group uses, wherever possible, the same suppliers, tooling and manufacturing processes as will be used in production.

All performance-testing activities are monitored for timely completion and conformity to requirements.

While services may be outsourced, Vivid Design Group is responsible for the outsourced services, including technical leadership.

#### 1) Product approval process

Vivid Design Group conforms to a product and manufacturing process approval procedure recognized by the customer.

NOTE Product approval is subsequent to the verification of the manufacturing process.

The product and manufacturing process approval procedure also applies to suppliers.

### 7.3.7 Control of design and development change

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The review of design and development changes includes evaluation of the effect of the changes on constituent parts and product already delivered. Records of the results of the review of changes and any necessary actions are maintained (see 4.2.4).

NOTE Design and development changes include all changes during the product program life (see 7.1.4).

## 7.4 Purchasing

### 7.4.1 Purchasing process

Vivid Design Group ensures that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product is dependent upon the effect of the purchased product on subsequent product realization, or the final product.

Vivid Design Group evaluates and selects suppliers based on their ability to supply products in accordance with the Vivid Design Group's requirements. Criteria for selection, evaluation, and re-evaluation are established.





## Quality Manual Section 7.0 Product Realization

Records of the results of evaluations and any necessary actions arising from the evaluation are maintained (see 4.2.4)

NOTE 1 Purchased products above include all products and services that affect customer requirements such as sub-assembly, sequencing, sorting, rework and calibration services.

NOTE 2 When there are mergers, acquisitions or affiliations associated with suppliers, the organization should verify the continuity of the supplier's quality management system and its effectiveness.

### 7.4.1.1 Statutory and regulatory conformity

All purchased products or materials used in product conform to applicable statutory and regulatory requirements.

### 7.4.1.2 Supplier quality management system development

Vivid Design Group performs supplier quality management system development with the goal of supplier conformity with this Technical Specification. Conformity with ISO is the first step in achieving this goal.

NOTE The prioritization of suppliers for development depends upon, for example, the supplier's quality performance and the importance of the product supplied.

Unless otherwise specified by the customer, suppliers to Vivid Design Group shall be third party, registered to ISO by an accredited third-party certification body.

### 7.4.1.3 Customer-approved sources

Where specified by the contract (e.g. customer engineering drawing, specification), Vivid Design Group purchases products, materials or services from approved sources.

The use of customer-designated sources, including tool/gauge suppliers, does not relieve Vivid Design Group of the responsibility for ensuring the quality of purchased products.

## 7.4.2 Purchasing information

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

- 1) Requirements for approval of product, procedures, processes and equipment;
- 2) Requirements for qualification of personnel;
- 3) Quality management system requirements.

Vivid Design Group ensures the adequacy of specified purchase requirements prior to their communication to the supplier.

## 7.4.3 Verification of purchased product

Vivid Design Group establishes and implements the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements. Where VDG or its customer intends to perform verification at the supplier's premises, VDG states the intended verification arrangements and method of product release in the purchasing information.



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### 7.4.3.1 Incoming product conformity to requirements

Vivid Design Group has a process to assure the quality of purchased product (see 7.4.3) utilizing one or more of the following methods:

- 1) Receipt of, and evaluation of, statistical data by Vivid Design Group;
- 2) Receiving inspection and/or testing, such as sampling based on performance;
- 3) Second- or third-party assessments or audits of supplier sites, when coupled with records of acceptable delivered product conformity to requirements;
- 4) Part evaluation by a designated laboratory;
- 5) Another method agreed with the customer.

### 7.4.3.2 Supplier monitoring

Supplier performance is monitored through the following indicators:

- 1) Delivered product conformity to requirements;
- 2) Customer disruptions, including field returns;
- 3) Delivery schedule performance (including incidents of premium freight);
- 4) Special status customer notifications related to quality or delivery issues.

VGD promotes supplier monitoring of the performance of their manufacturing processes.

## 7.5 Production and service provision

### 7.5.1 Control of production and service provision

Vivid Design Group plans and carries out production and service provisions under controlled conditions. Controlled conditions include, as applicable:

- 1) Availability of information that describes the characteristics of the product;
- 2) Availability of work instructions, as necessary;
- 3) Use of suitable equipment;
- 4) Availability and use of monitoring and measuring equipment;
- 5) Implementation of monitoring and measurement;
- 6) Implementation of product releases, delivery and post-delivery activities.

#### 7.5.1.1 Control plan

Vivid Design Group:

- 1) Develops control plans (per Annex A in ISO) at the system, subsystem, component and/or material level for the product supplied, including those for processes producing bulk materials as well as parts;
- 2) Has a control plan for pre-launch and production that takes into account the design FMEA and manufacturing process FMEA outputs.

The control plan:

- 1) Lists the controls used for the manufacturing process control;
- 2) Includes methods for monitoring of control exercised over special characteristics (see 7.3.2.3), defined by both the customer and the organization;
- 3) Includes the customer-required information, if any;



## Quality Manual Section 7.0 Product Realization

- 4) Initiates the specified reaction plan (see 8.2.3.1) when the process becomes unstable or not statistically capable.

Control plans are reviewed and updated when any change occurs affecting product, manufacturing process, measurement, logistics, supply sources or FMEA (see 7.1.4).

NOTE Customer approval may be required after review or update of the control plan.

### 7.5.1.2 Work instructions

Vivid Design Group prepares documented work instructions for all employees having responsibilities for the operation of processes that impact conformity to product requirements. These instructions are accessible for use at the work station.

These instructions are derived from sources such as the quality plan, the control plan and the product realization process.

### 7.5.1.3 Verification of job set-ups

Job set-ups are verified whenever performed, such as an initial run of a job, material changeover or job change.

Work instructions are available for set-up personnel. VDG uses statistical methods of verification, where applicable.

NOTE Last-off part comparisons are recommended.

### 7.5.1.4 Preventive and predictive maintenance

Vivid Design Group identifies key process equipment and provides resources for machine/equipment maintenance and develops an effective planned total preventive maintenance system. As a minimum, this system includes the following:

- 1) Planned maintenance activities;
- 2) Packaging and preservation of equipment, tooling and gauging;
- 3) Availability of replacement parts for key manufacturing equipment;
- 4) Documenting, evaluating and improving maintenance objectives.

Vivid Design Group utilizes predictive maintenance methods to continually improve the effectiveness and the efficiency of production equipment.

### 7.5.1.5 Management of production tooling

Vivid Design Group provides resources for tool and gauge design, fabrication and verification activities.

VDG establishes and implements a system for production tooling management including:

- 1) Maintenance and repair facilities and personnel;
- 2) Storage and recovery;
- 3) Set-up;
- 4) Tool-change programs for perishable tools;
- 5) Tool design modification documentation, including engineering change level;
- 6) Tool modification and revision to documentation;
- 7) Tool identification, defining the status, such as production, repair or disposal.

Vivid Design Group implements a system to monitor these activities, if any work is outsourced, at **Program Management-Staff Meetings**.



## Quality Manual Section 7.0 Product Realization

NOTE This requirement also applies to the availability of tools for vehicle service parts.

### 7.5.1.6 Production scheduling

Production is scheduled in order to meet customer requirements, such as just-in-time supported by an information system that permits access to production information at key stages of the process, and is order driven.

### 7.5.1.7 Feedback of information from service

A process for communication of information on service concerns to manufacturing, engineering and design activities is established and maintained: **Lessons Learned**

NOTE The intent of the addition of “service concerns” to this sub clause is to ensure that Vivid Design Group is aware of nonconformities that occur outside of VDG.

### 7.5.1.8 Service agreement with customer

When there is a service agreement with the customer, Vivid Design Group verifies the effectiveness of:

- 1) Any organization service centers;
- 2) Any special-purpose tools or measurement equipment;
- 3) The training of service personnel.

## 7.5.2 Validation of processes for production and service provision

Vivid Design Group validates any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement, and as a consequence, deficiencies become apparent only after the product is in use or the service has been delivered. Validation demonstrates the ability of these processes to achieve planned results. Vivid Design Group establishes arrangements for these processes including, as applicable:

- 1) Defined criteria for review and approval of the processes;
- 2) Approval of equipment and qualification of personnel;
- 3) Use of specific methods and procedures;
- 4) Requirements for records (see 4.2.4);
- 5) Revalidation.

### 7.5.2.1 Validation of processes for production and service provision- Supplemental

The requirements of 7.5.2 apply to all processes for production and service provision.

## 7.5.3 Identification and traceability

Vivid Design Group identifies the product by suitable means throughout product realization. VDG identifies the product status with respect to monitoring and measurement requirements throughout product realization. Where traceability is a requirement, Vivid Design Group controls the unique identification of the product and maintains records. (See 4.2.4).

NOTE Configuration management may be the means by which identification and traceability are maintained.

NOTE Inspection and test status is not indicated by the location of product in the production flow unless inherently obvious, such as material in an automated production transfer process. Alternatives are permitted, if the status is clearly identified, documented and achieves the designated purpose.



## Quality Manual Section 7.0 Product Realization

### 7.5.3.1 Identification and traceability-Supplemental

The words “Where appropriate” have been removed from 7.5.3

### 7.5.4 Customer property

Vivid Design Group exercises care with customer property while it is under the company’s control or being used by the company. Vivid Design Group identifies, verifies, protects and safeguards customer property provided for use or incorporation into the product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, Vivid Design Group will report this to the customer and maintain records. (see 4.2.4).

NOTE Customer property can include intellectual property and personal data.

NOTE Customer-owned returnable packaging is included in this sub clause.

#### 7.5.4.1 Customer-owned production tooling

Customer-owned tools, manufacturing, test, inspection tooling and equipment is permanently marked so that the ownership of each item is visible, and can be determined.

### 7.5.5 Preservation of product

Vivid Design Group preserves the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable, preservation includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

#### 7.5.5.1 Storage and inventory

In order to detect deterioration, the condition of product in stock is assessed at appropriate planned intervals.

Vivid Design Group uses an inventory management system to optimize inventory turnover time and assure stock rotation, such as “first-in, first-out” (FIFO). Obsolete product is controlled in a similar manner to nonconforming product.

## 7.6 Control of monitoring and measuring equipment

Vivid Design Group determines the monitoring and measurement to be undertaken and the monitoring and measuring equipment needed to provide evidence of conformity of product to determined requirements.

Vivid Design Group has established Process Control **SOP 01** of monitoring and measuring devices, to ensure that monitoring and measurement can be carried out, and are carried out in a manner that is consistent with the monitoring and measurement requirements.

### 7.6 Control of monitoring and measuring equipment (Continued)

Where necessary to ensure valid results, measuring equipment is:

- 1) Calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded (see 4.2.4);
- 2) Adjusted or re-adjusted as necessary;
- 3) Identified in order to determine its calibration status;
- 4) Safeguarded from adjustments that would invalidate the measurement result;
- 5) Protected from damage and deterioration during handling, maintenance and storage.



## Quality Manual Section 7.0 Product Realization

In addition, Vivid Design Group assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements.

Vivid Design Group takes appropriate action on the equipment and any product affected.

Records of the results of calibration and verification are maintained (see 4.2.4). When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This is undertaken prior to initial use and reconfirmed as necessary.

NOTE Conformation of the availability of computer software to satisfy the intended application would typically include its verification and configuration management to maintain its suitability for use.

NOTE A number or other identifier traceable to the device calibration record meets the intent of requirement 3) above.

### 7.6.1 Measurement system analysis

Statistical studies are conducted to analyze the variation present in the results of each type of measuring and test equipment system. This requirement applies to measurement systems referenced in the control plan. The analytical methods and acceptance criteria used conforms to those in customer reference manuals on measurement systems analysis. Other analytical methods and acceptance criteria may be used, if approved by the customer.

### 7.6.2 Calibration/verification records

Records of the calibration/verification activity for all gauges, measuring and test equipment, needed to provide evidence of conformity of product to determined requirements, including employee and customer-owned equipment, includes:

- 1) Equipment identification, including the measurement standard against which the equipment is calibrated;
- 2) Revisions following engineering changes;
- 3) Any out-of-specification readings as received for calibration/verification;
- 4) An assessment of the impact of out-of-specification condition;
- 5) Statements of conformity to specification after calibration/verification;
- 6) Notification to the customer if suspect product or material has been shipped.

### 7.6.3 Laboratory requirements

#### 7.6.3.1 Internal laboratory

An organization's internal laboratory facility shall have a defined scope that includes its capability to perform the required inspection, test or calibration services. This laboratory scope shall be included in the quality management system documentation. The laboratory shall specify and implement, as a minimum, technical requirements for:

- 1) Adequacy of the laboratory procedures;
- 2) Competency of the laboratory personnel;
- 3) Testing of the product;
- 4) Capability to perform these services correctly, traceable to the relevant process standard (such as ASTM, EN, etc.);
- 5) Review of the related records.



## Quality Manual Section 7.0 Product Realization

NOTE Accreditation to ISO/IEC 17025 may be used to demonstrate the organization's in-house laboratory conformity to this requirement but is not mandatory.

### 7.6.3.2 External laboratory

External/commercial/independent laboratory facilities used for inspection, test or calibration services by Vivid Design Group have a defined laboratory scope that includes the capability to perform the required inspection, test or calibration, and either:

- 1) there is evidence that the external laboratory is acceptable to the customer;
- 2) The laboratory is accredited to ISO/IEC 17025 or national equivalent.

NOTE 1 Such evidence may be demonstrated by customer assessment, or by customer-approved second-party assessment that the laboratory meets the intent of ISO/IEC 17025 or national equivalent.

NOTE 2 When a qualified laboratory is not available for a given piece of equipment, calibration services may be performed by the equipment manufacturer. In such cases, Vivid Design Group should ensure that the requirements listed in 7.6.3.1 have been met.

### References

PD SOP 1.0 Control of monitoring and measuring devices-Process Description  
APQP  
Supplier Selection/Evaluation  
Material Certificates  
Lessons Learned  
PD 2 Purchasing Process  
QP 8.0 Purchasing Procedure



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

### 8.1 General

Vivid Design Group plans and implements the monitoring, measurement, analysis and improvement processes needed to:

- 1) Demonstrate conformity of product requirements;
- 2) Ensure conformity of the quality management system;
- 3) Continually improve the effectiveness of the quality management system.

This includes determination of applicable methods, including statistical techniques, and the extent of their use.

#### 8.1.1 Identification of statistical tools

Appropriate statistical tools for each process are determined during advance quality planning and included in the control plan.

#### 8.1.2 Knowledge of basic statistical concepts

Basic statistical concepts, such as variation, control (stability), process capability and over-adjustment are understood and utilized throughout VDG.

### 8.2 Monitoring and measurement

#### 8.2.1 Customer satisfaction

As one of the measurements of the performance of the quality management system, Vivid Design Group monitors information relating to customer perception as to whether the organization has met customer requirements. The methods for obtaining and using this information are through direct customer contact, score cards and customer satisfaction surveys.

NOTE Monitoring customer perception can include obtaining input from sources such as customer satisfaction surveys, customer data on delivered product quality, user opinion surveys, lost business analysis, compliments, warranty claims and dealer reports.

NOTE Consideration should be given to both internal and external customers.

##### 8.2.1.1 Customer satisfaction – Supplemental

Customer satisfaction with Vivid Design Group is monitored through continual evaluation of performance of the realization processes. Performance indicators are based on objective data and include, but not be limited to:

- 1) Delivered part quality performance;
- 2) Customer disruptions, including field returns;
- 3) Delivery schedule performance (including incidents of premium freight);
- 4) Customer notifications related to quality or delivery issues.

Vivid Design Group monitors their performance of manufacturing processes to demonstrate compliance with customer requirements for product quality and efficiency of the process.

#### 8.2.2 Internal audit

Vivid Design Group conducts internal audits at planned intervals to determine whether the quality management system:





## Quality Manual Section 8.0 Measurement, Analysis & Improvement

- 1) Conforms to the planned arrangements (see 7.1), to the requirements of this International Standard and to the quality management system requirements established by the organization;
- 2) Is effectively implemented and maintained.

An audit program is planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. The selection of auditors and conduct of audits ensure objectivity and impartiality of the audit process. Auditors do not audit their own work.

### 8.2.2 Internal audit (Continued)

The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records (see 4.2.4) are defined in [QP 3.0 Internal Audits](#).

The management responsible for the area being audited ensures that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results (see 8.5.2).

NOTE See ISO 19011 for guidance.

#### 8.2.2.1 Quality management system audit

Vivid Design Group audits its quality management system to verify compliance with this Technical Specification, and any additional quality management system requirements.

#### 8.2.2.2 Manufacturing process audit

Vivid Design Group audits each manufacturing process to determine its effectiveness.

#### 8.2.2.3 Product audit

Vivid Design Group audits products at appropriate stages of production and delivery to verify conformity to all specified requirements, such as product dimensions, functionality, packaging and labeling, at a defined frequency.

#### 8.2.2.4 Internal audit plans

Internal audits cover all quality management related processes, activities and shifts, and are scheduled according to an annual plan.

When internal/external nonconformities or customer complaints occur, the audit frequency is appropriately increased.

NOTE Specific checklists are used for each audit.

#### 8.2.2.5 Internal auditor qualification

Vivid Design Group has internal auditors who are qualified to audit the requirements of this Technical Specification (see 6.2.2.2). See [Internal Auditor Qualifications - Appendix A](#)



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

### 8.2.3 Monitoring and measurement of processes

Vivid Design Group applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes using Measurable on [Process Maps - Appendix B](#). These methods demonstrate the

ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action are taken, as appropriate.

NOTE When determining suitable methods, it is advisable that Vivid Design Group consider the type and extent of monitoring or measurement appropriate to each of its processes in relation to their impact on the conformity to product requirements and on the effectiveness of the quality management system.

#### 8.2.3.1 Monitoring and measurement of manufacturing processes

Vivid Design Group performs process studies on all new manufacturing (including assembly or sequencing) processes to verify process capability and to provide additional input for process control. The results of process studies are documented with specifications, where applicable, for means of production, measurement and test, and maintenance instruction. These documents include objectives for manufacturing process capability, reliability, maintainability and availability, as well as acceptance criteria. [Run at Rates, Control Plans and PPAP documentation](#).

#### 8.2.3.1 Monitoring and measurement of manufacturing processes (Continued)

Vivid Design Group maintains manufacturing process capability or performance, as specified by the customer part approval process requirements. VDG ensures that the control plan and process flow diagram are implemented, including adherence to the specified:

- 1) Measurement techniques;
- 2) Sampling plans;
- 3) Acceptance criteria;
- 4) Reaction plans where acceptance criteria are not met.

Significant process events, such as tool change or machine repair, are recorded.

Vivid Design Group initiates a reaction plan from the control plan for characteristics that are either not statistically capable or are unstable. These reaction plans include containment of product and 100% inspection, as appropriate. A corrective action plan will then be completed by VDG, indicating specific timing and assigned responsibilities to assure that the process becomes stable and capable. The plan is reviewed with, and approved by, the customer when so required.

Vivid Design Group maintains records of effective dates of process changes.

### 8.2.4 Monitoring and measurement of product

Vivid Design Group monitors and measures the characteristics of the product to verify that product requirements have been met. This is carried out at appropriate stages of the product realization process in accordance with the planned arrangements (see 7.1). Evidence of conformity with the acceptance criteria is maintained.

Records indicate the person(s) authorizing release of product for delivery to the customer (see 4.2.4).

The release of product and delivery of service to the customer, does not proceed until all the planned arrangements (see 7.1) have been satisfactorily completed, unless otherwise approved by a relevant authority, and where applicable by the customer.



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

NOTE When selecting product parameters to monitor compliance to specified internal and external requirements, the organization determines the types of product characteristics, leading to:

- The types of measurement;
- Suitable measurement means;
- The capability and skills required.

### 8.2.4.1 Layout inspection and functional testing

A layout inspection and a functional verification to applicable customer engineering material and performance standards is performed for each product, as specified in the control plan. Results are available for customer review.

NOTE Layout inspection is the complete measurement of all product dimensions shown on the design records.

### 8.2.4.2 Appearance items

If Vivid Design Group manufactures parts designated by the customer as “appearance items”, Vivid Design Group provides:

- 1) Appropriate resources, including lighting, for evaluation;
- 2) Masters for color, grain, gloss, metallic brilliance, texture distinctness of image (DOI), as appropriate;
- 3) Maintenance and control of appearance masters and evaluation equipment;
- 4) Verification that personnel making appearance evaluations are competent and qualified to do so.

## 8.3 Control of nonconforming product

### 8.3 Control of nonconforming product

Where applicable, Vivid Design Group ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery.

Vivid Design Group deals with nonconforming product by one or more of the following ways:

- 1) Taking action to eliminate the detected nonconformity;
- 2) Authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
- 3) Taking action to preclude its original intended use or application.

### 8.3 Control of nonconforming product (continued)

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained (see 4.2.4). When nonconforming product is corrected, it is subject to re-verification to demonstrate conformity to the requirements.

When nonconforming product is detected after delivery or use has started, Vivid Design Group takes action appropriate to the effects, or potential effects, of the nonconformity.

### 8.3.1 Control of nonconforming product – Supplemental

Product with unidentified or suspect status is classified as nonconforming product (see 7.5.3).



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

### 8.3.2 Control of reworked product

Instructions for rework, including re-inspection requirements, are accessible to and utilized by the appropriate personnel.

### 8.3.3 Customer information

Customers are informed promptly in the event that nonconforming product has been shipped.

### 8.3.4 Customer waiver

Vivid Design Group obtains a customer concession or deviation permit prior to further processing whenever the product or manufacturing process is different from that which is currently approved.

Vivid Design Group maintains a record of the expiration date or quantity authorized. Vivid Design Group also ensures compliance with the original or superseding specifications and requirements when the authorization expires. Material shipped on an authorization is properly identified on each shipping container.

This applies equally to purchased product. Vivid Design Group approves any requests from suppliers before submission to the customer.

## 8.4 Analysis of data

Vivid Design Group determines, collects and analyses appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. This includes data generated as a result of monitoring and measurement, and from other relevant sources.

The analysis of data provides information relating to:

- 1) Customer satisfaction (see 8.2.1);
- 2) Conformity to product requirements (see 7.2.1);
- 3) Characteristics and trends of processes and products including opportunities for preventive action, and suppliers.

### 8.4.1 Analysis and use of data

Trends in quality and operational performance are compared with progress toward objectives and lead to action to support the following:

- 1) Development of priorities for prompt solutions to customer-related problems;
- 2) Determination of key customer-related trends and correlation for status review, decision-making and longer term planning;
- 3) An information system for the timely reporting of product information arising for use.

NOTE Data should be compared with those of competitors and/or appropriate benchmarks.



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

### 8.5 Improvement

#### 8.5.1 Continual improvement

Vivid Design Group continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

##### 8.5.1.1 Continual improvement of the organization

Vivid Design Group defines the process for continual improvement. [PD 6 Continuous Improvement](#)

##### 8.5.1.2 Manufacturing process improvement

Manufacturing process improvement continually focuses upon control and reduction of variation in product characteristics and manufacturing process parameters.

NOTE 1 Controlled characteristics are documented in the control plan.

NOTE 2 Continual improvement is implemented once manufacturing processes are capable and stable, or product characteristics are predictable and meet customer requirements.

#### 8.5.2 Corrective action

Vivid Design Group takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered.

[Procedure QP 5.0 Corrective Action](#) has been established to define requirements for:

- 1) Reviewing nonconformities (including customer complaints);
- 2) Determining the causes of nonconformities;
- 3) Evaluating the need for action to ensure that nonconformities do not recur;
- 4) Determining and implementing action needed;
- 5) Records of the results of action taken (see 4.2.4);
- 6) Reviewing corrective action taken.

##### 8.5.2.1 Problem solving

Vivid Design Group has a defined process for problem solving [8-D or Team Problem Solving](#) leading to root cause identification and elimination.

If a customer-prescribed problem-solving format exists, Vivid Design Group uses the prescribed format.

##### 8.5.2.2 Error-proofing

Vivid Design Group uses error-proofing methods in their corrective action process.

##### 8.5.2.3 Corrective action impact

Vivid Design Group applies to other similar processes and products, the corrective action and controls implemented, in order to eliminate the cause of non-conformity.



## Quality Manual Section 8.0 Measurement, Analysis & Improvement

### 8.5.2.4 Rejected product test/analysis

Vivid Design Group analyses parts rejected by the customer's manufacturing plants, engineering facilities and dealerships. Vivid Design Group minimizes the cycle time of this process. Records of these analyses are kept and made available upon request. Vivid Design Group performs analysis and initiates corrective actions to prevent recurrence.

NOTE Cycle time related to rejected product analysis should be consistent with the determination of root cause, corrective action and monitoring the effectiveness of implementation.

### 8.5.3 Preventive action

Vivid Design Group determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

**Procedure QP 6.0 Preventive Action** defines requirements for:

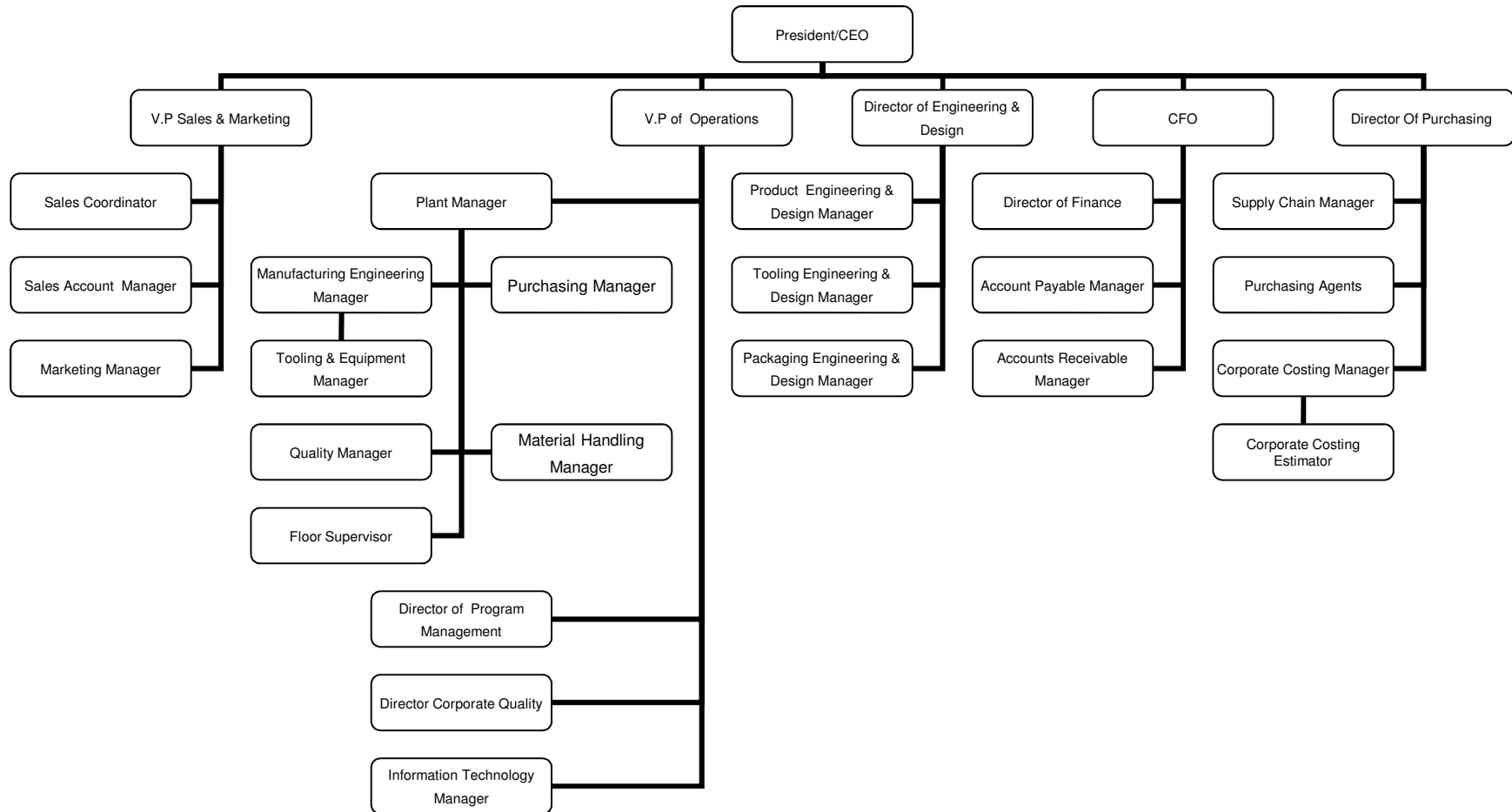
- 1) Determining potential nonconformities and their causes;
- 2) Evaluating the need for action to prevent occurrence of nonconformities;
- 3) Determining and implementing action needed;
- 4) Records of results of action taken (see 4.2.4);
- 5) Reviewing preventive action.

### References

QM Appendix B Process Matrix & Descriptions  
PD 1.0 Customer Communication  
QP 3.0 Internal Audits  
QP 4.0 Control of Nonconforming Product  
QP 5.0 Corrective Action  
QP 6.0 Preventive Action  
Management Review  
Customer Feedback, Surveys-Performance Reports (Score Cards)



# Vivid Design Group Organization Chart Quality Manual – Appendix A





## Quality Manual Appendix A Internal Auditor Qualifications

**REPORTS TO:** Management Representative

**MINIMUM QUALIFICATIONS:**

- Attendance of AIAG ISO Internal Quality Auditing training (IARC or RABQSA Lead Auditor Certification is acceptable)
- High School or GED
- Ability to communicate
- Understanding of VDG Processes
- Independent of area/activity being audited

**RESPONSIBILITIES:**

Objectively and impartially participate in internal audits to determine conformance to ISO.

Observe and participate in Internal Audit Activities.

Audit per Internal Audit Procedures.

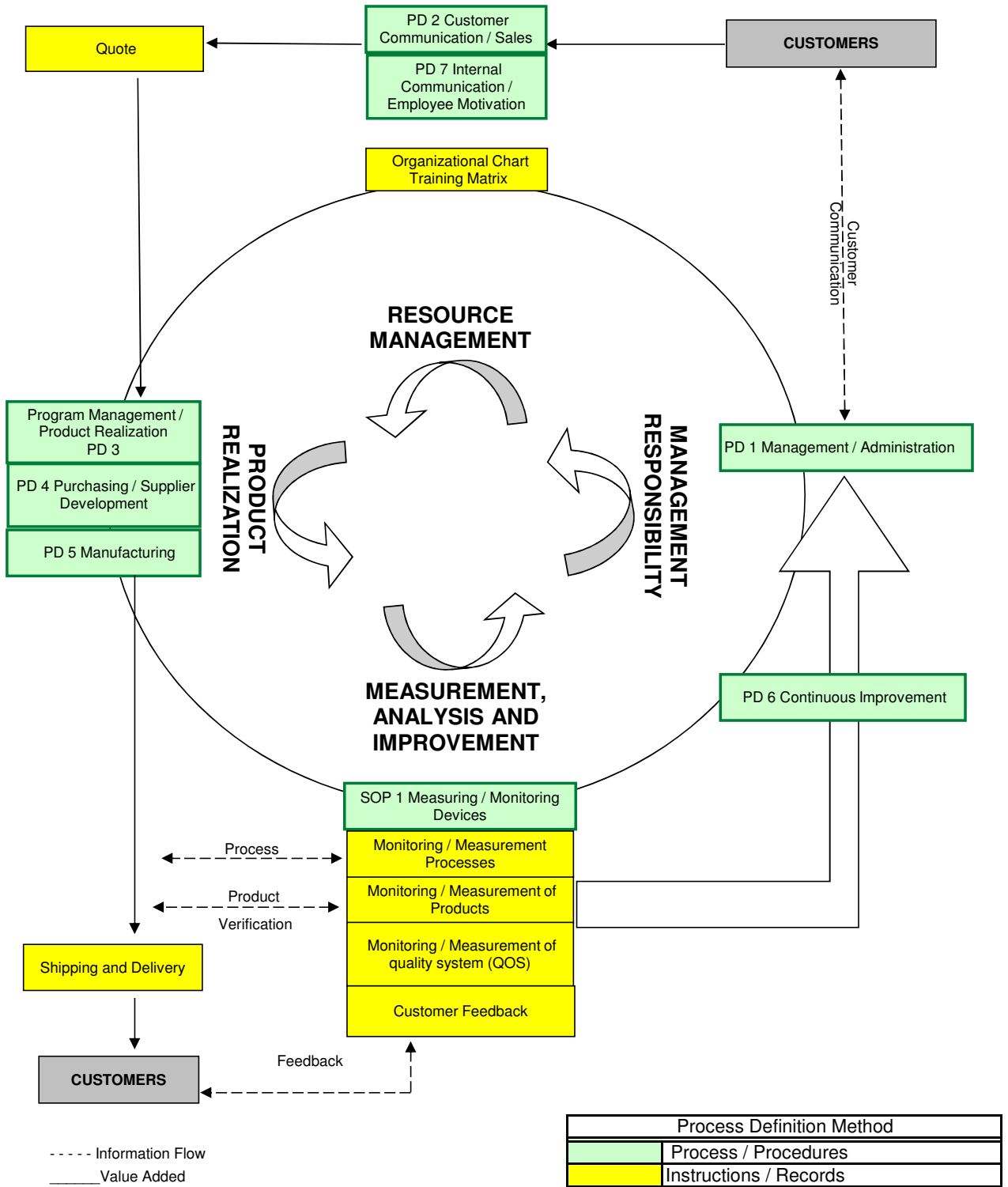
Gather and examine evidence from which conclusions about the quality system may be drawn.

Report audit findings.

Confirm the effectiveness of corrective actions (if required).

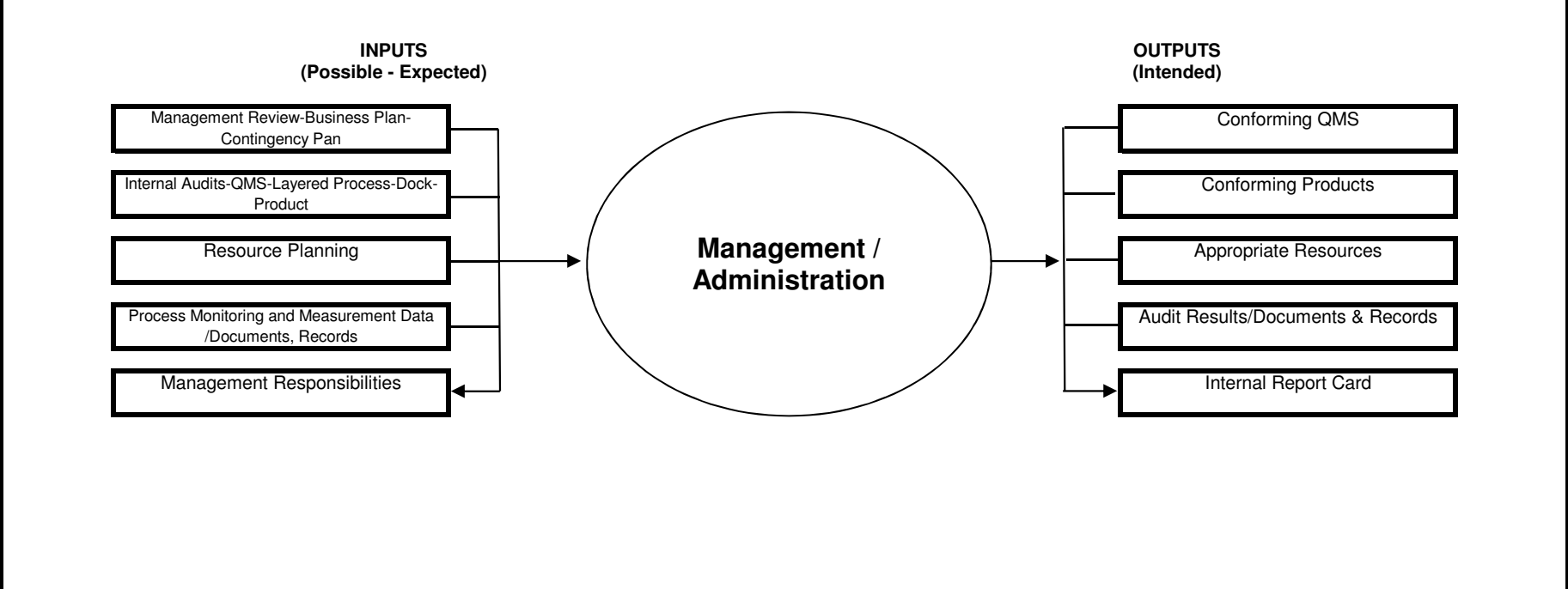


# VDG Process Interactions Overview



**Quality Management System - Process Description**

<b>Process:</b> Management Administration <b>Type:</b> OPERATING      SUPPORT <b>MANAGEMENT</b>	<b>DOC ID</b>  <b>PD 1</b>
<b>Process Owner:</b> Executives/ Management Representative	<b>Revised:</b> _____ <b>Release Date:</b> 9/2/2014



**Support Processes & Procedures:**

Continuous Improvement Management Review QP 1.0 Control of Documents	QP 2.0 Control of Records QP 3.0 Internal Audits	<b>Applicable Clauses:</b> 4.1, 4.2.3, 4.2.4, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.1, 6.3.2, 8.2.2, 8.4
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**Items to Measure or Monitor the Process**

Monitor P & L Statement
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## Quality Management System - Process Description

**Process:** Customer Communication / Sales

**DOC ID**

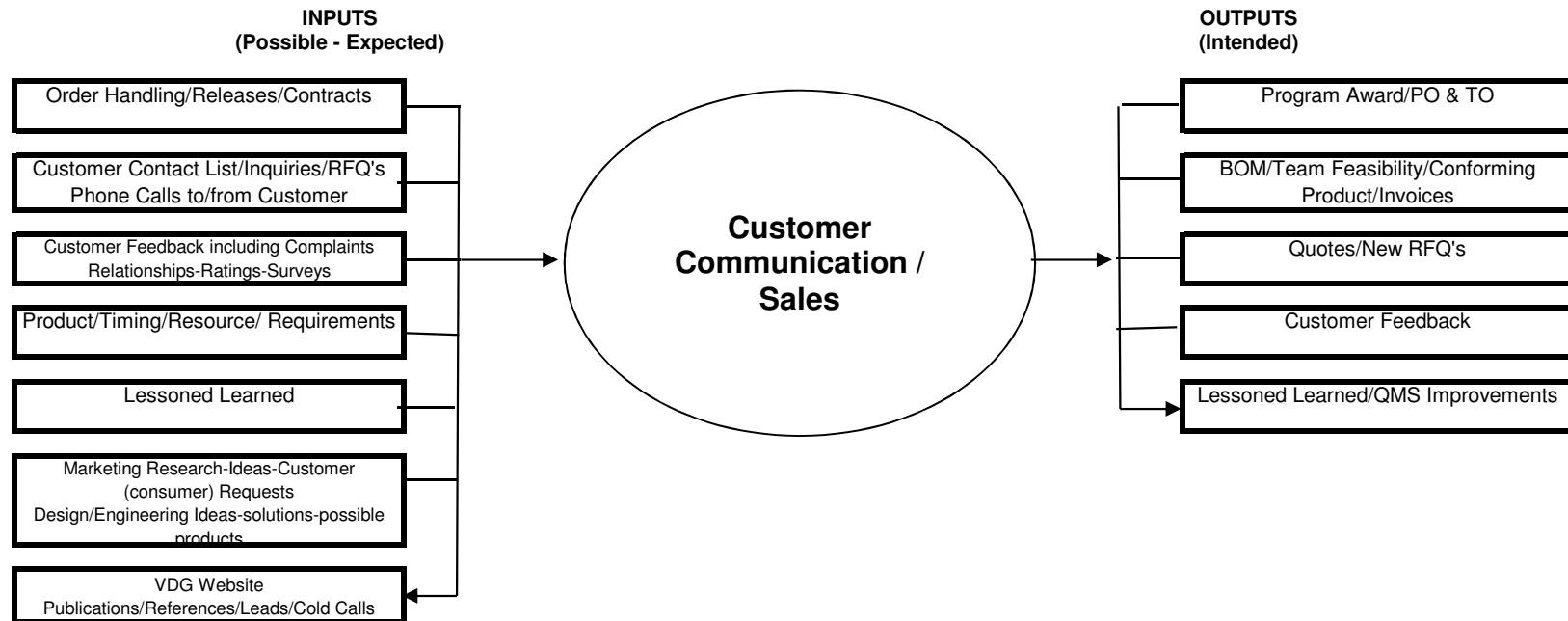
**Type:** OPERATING      SUPPORT      MANAGEMENT

**PD 2**

**Process Owner:** Executive V.P.

**Revised:**

**Release Date:** 9/2/2014



### Support Processes & Procedures:

APQP-AIAG	Continuous Improvement	QP CQ 01
Document Control	Internal Audit	QP PM 01
Records	Management Review	

Applicable Clauses:

7.1, 7.2, 8.3

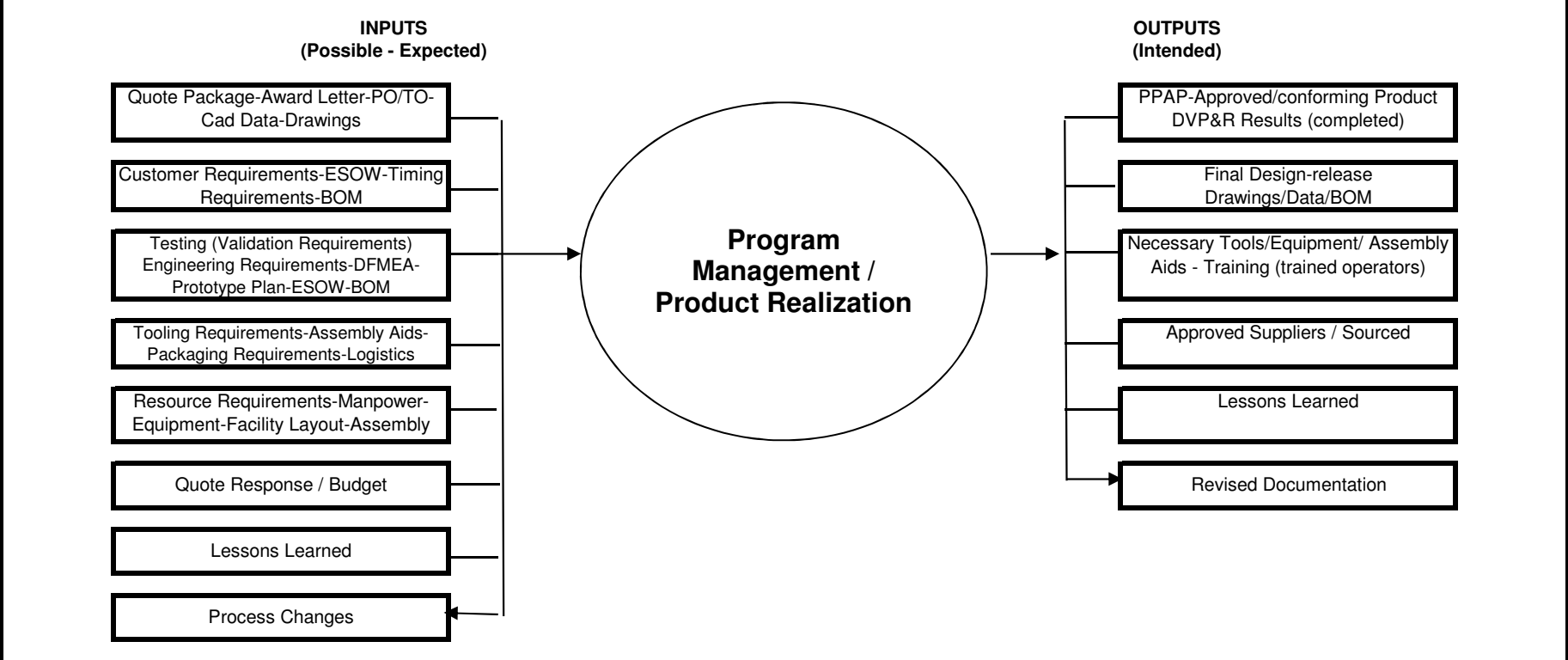
### Items to Measure or Monitor the Process

Monitor: Customer Ranking, P/L Statement, RFQ Log and % of Booked Business

Measure: 3% growth in sales      5% increase of responses to Customer Survey

**Quality Management System - Process Description**

<b>Process:</b> Program Management / Product Realization <b>Type:</b> OPERATING      SUPPORT <b>MANAGEMENT</b>		<b>DOC ID</b>  <b>PD 3</b>
<b>Process Owner:</b> President/Program Management Manager		<b>Revised:</b> _____ <b>Release Date:</b> 9/2/2014



<b>Support Processes &amp; Procedures:</b> QP PM 01 Program Management QP CQ 01 Costing Quoting APQP-PPAP		<b>Applicable Clauses:</b>  7.2, 7.3, 7.3.7
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**Items to Measure or Monitor the Process**

Monitor: Program to plan timing

## Quality Management System - Process Description

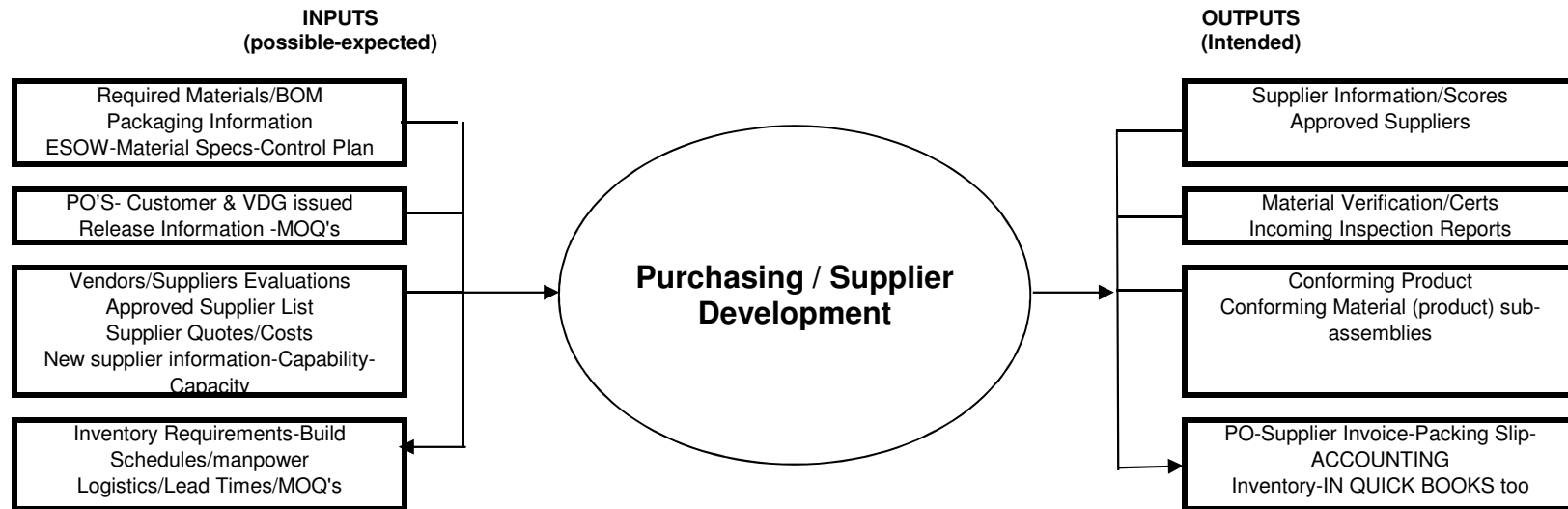
Process: Purchasing/Supplier Development  
 Type: OPERATING      SUPPORT      MANAGEMENT

DOC ID  
**PD 4**

Process Owner: Purchasing Manager

Revised:

Release Date: 9/2/2014



### Support Processes & Procedures:

QP 8.0 Purchasing  
 QP CQ 01 Costing Quoting  
 Supplier Surveys

Applicable Clauses:

7.4, 4.1

### Items to Measure or Monitor the Process

Monitor: On Time Delivery of Product, Supplier Evaluations

Measure: Increase Overall Supplier Score Averages

**Quality Management System - Process Description**

Process: Manufacturing

Type: OPERATING

SUPPORT

MANAGEMENT

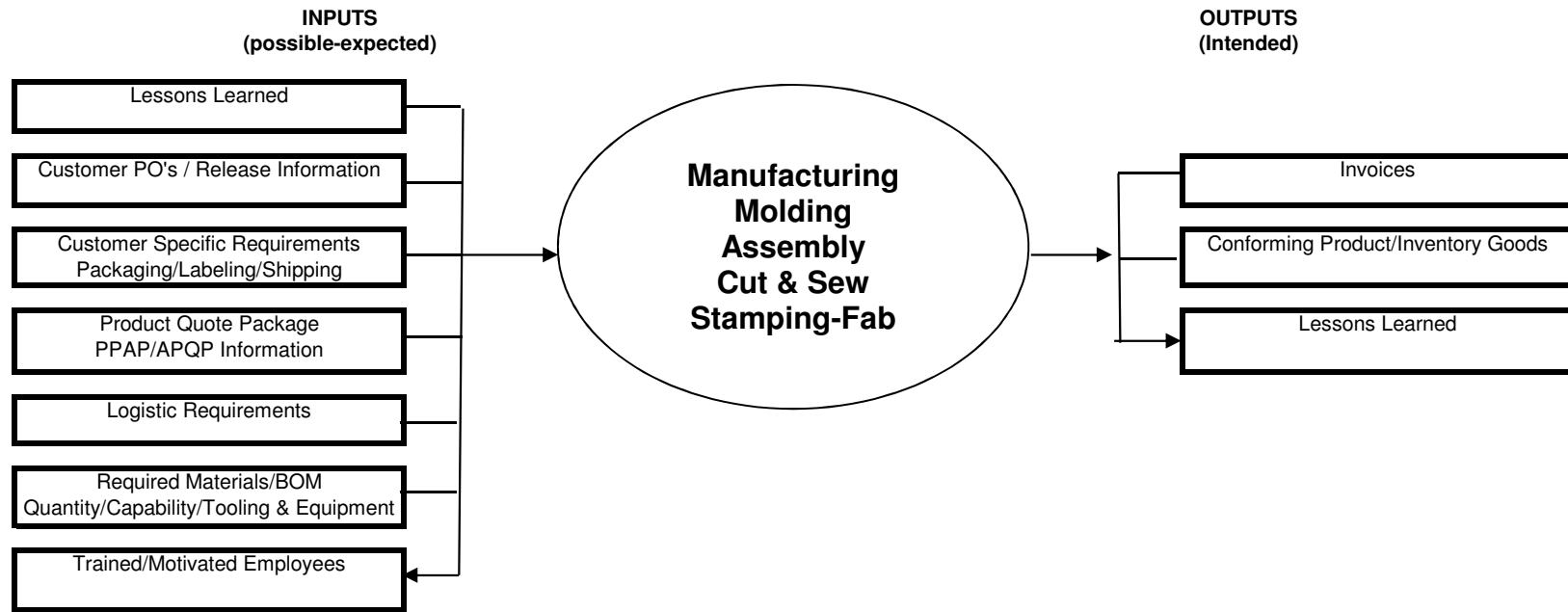
DOC ID

**PD 5**

Process Owner: President

Revised:

Release Date: 9/2/2014



**Support Processes & Procedures:**

QP PM 01 Program Management  
 QP CQ 01 Costing Quoting  
 APQP-PPAP

Monitoring & Measurement  
 QP 4.0 Control of Nonconforming Product  
 Continuous Improvement

Applicable Clauses:  
 6.3, 6.4, 7.5,  
 7.5.1.4, 7.5.1.5, 8.2.4, 8.3

**Items to Measure or Monitor the Process**

Monitor: Customer Feedback, P & L Statement, On Time Delivery, GM-CCA Weekly Ship Performance

## Quality Management System - Process Description

Process: Continuous Improvement

Type: OPERATING      SUPPORT

MANAGEMENT

DOC ID

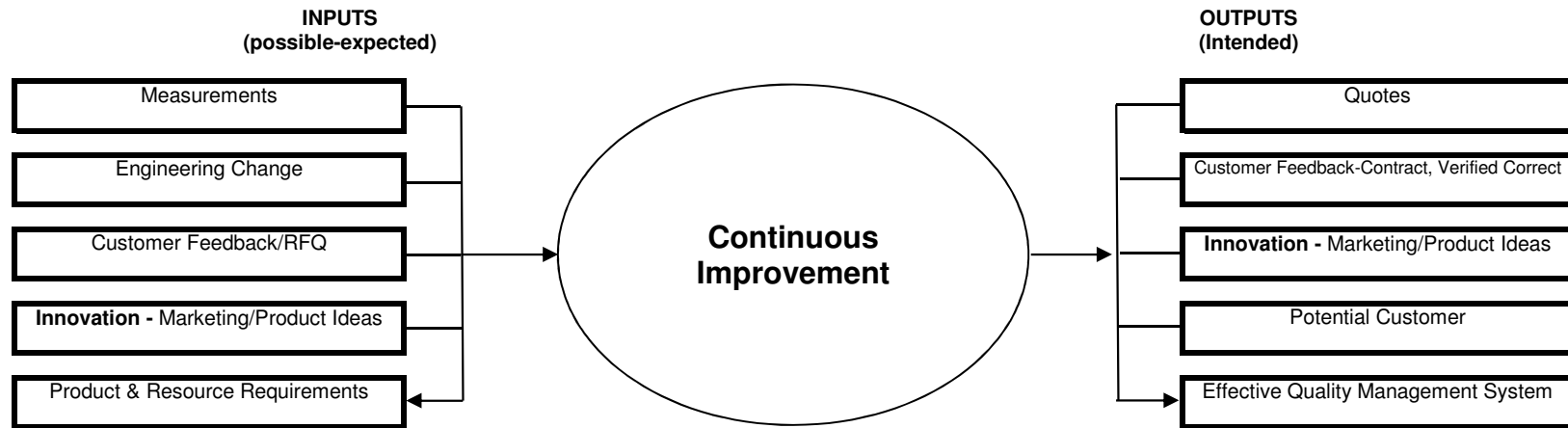
**PD 6**

Process Owner: President & Executive V.P

Revised:

Release Date:

9/2/2014



### Support Processes & Procedures:

Entire QMS

Applicable Clauses:

8.1, 8.2, 8.3, 8.4,  
8.2.1, 8.5.2, 8.5.3

### Items to Measure or Monitor the Process

Monitor: QMS / # of NC's    Customer Satisfaction/Complaints

Measure: Decrease Customer Problem Reports

## Quality Management System - Process Description

Process: Communication

Type: OPERATING

SUPPORT

MANAGEMENT

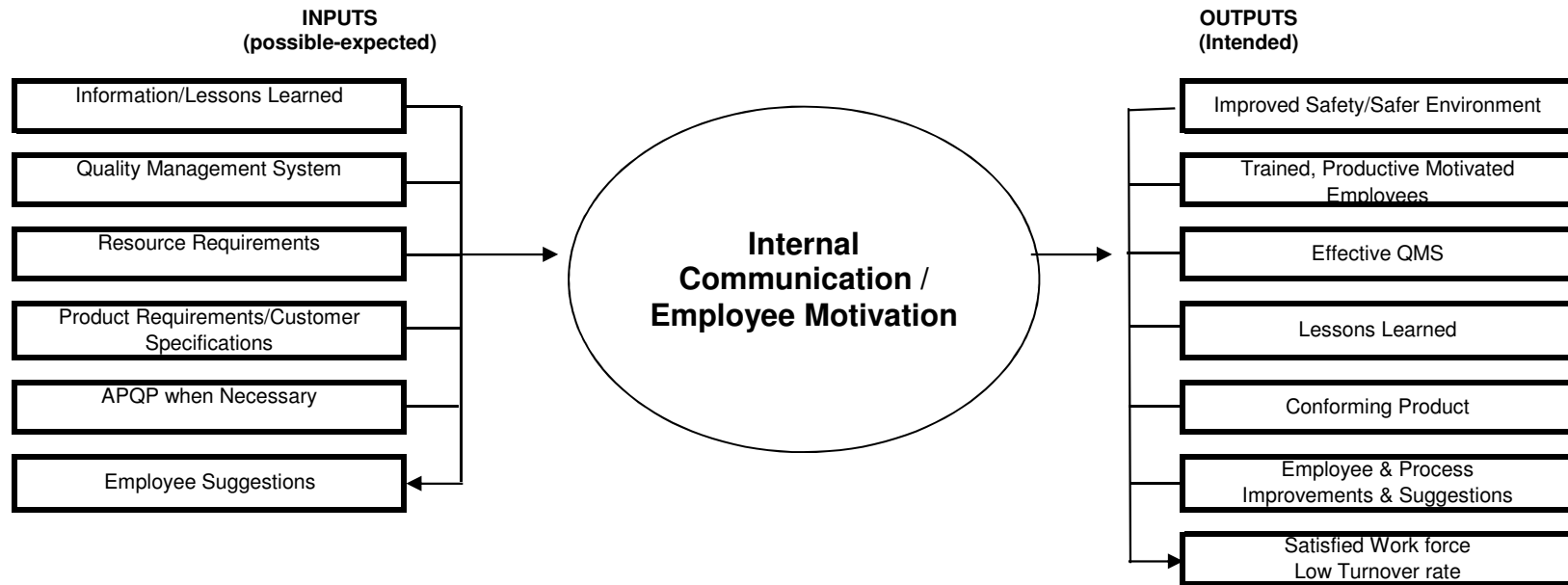
DOC ID

**PD 7**

Process Owner: President/ HR Manager

Revised:

Release Date: 9/2/2014



### Supporting Processes & Procedures:

Continuous Improvement  
QP 7.0 Training

Applicable Clauses:

5.2, 5.5, 6.2, 6.4

### Items to Measure or Monitor the Process

Monitor: Conforming Product, Management System Conformance

Measure: Improve Survey results by 2%      5 % Reduction in Employee Turnover

### Motivational Tools

Gift Cards  
Awards/Recognition  
Merit Increases

Verbal Praise  
Sponsoring off site activities



**Quality Management System - Process Description**

Process: Monitoring & Measuring Devices  
 Type: OPERATING  SUPPORT  MANAGEMENT

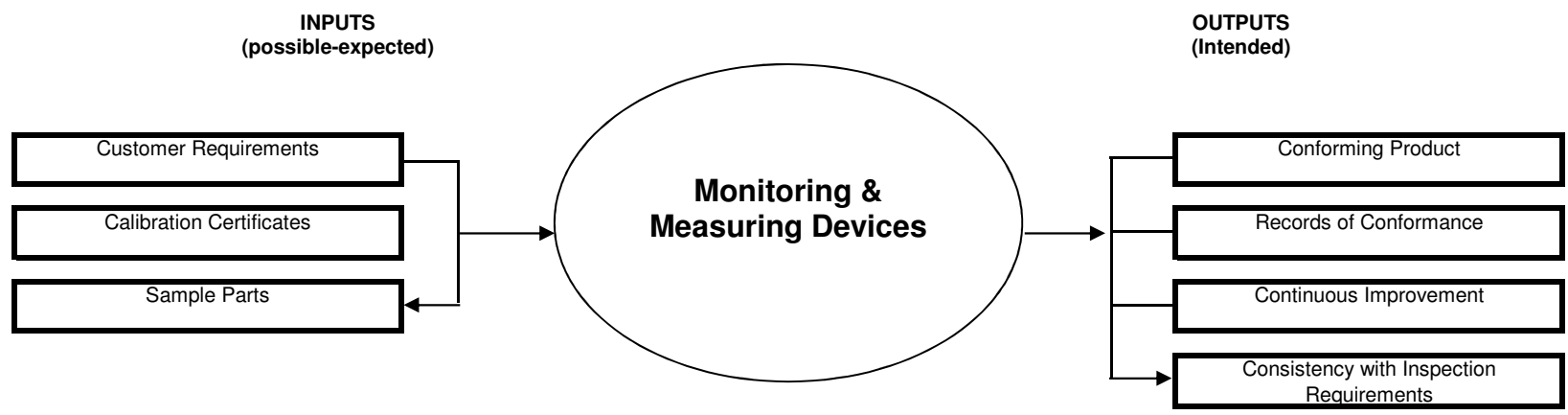
DOC ID

**SOP 01**

Process Owner: Quality Manager

Revised:

Release Date: 9/2/2014



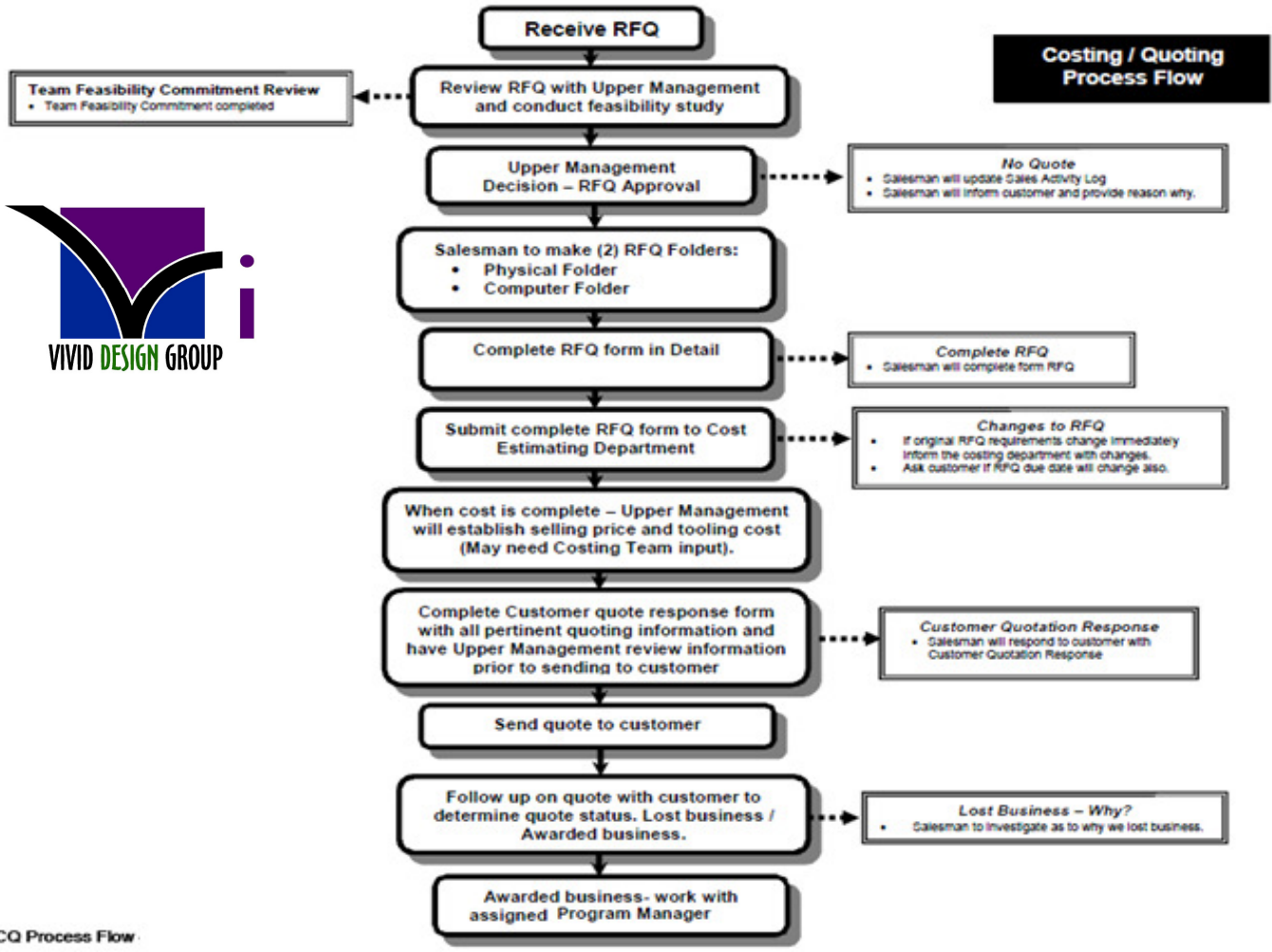
**Support Processes & Procedures:**

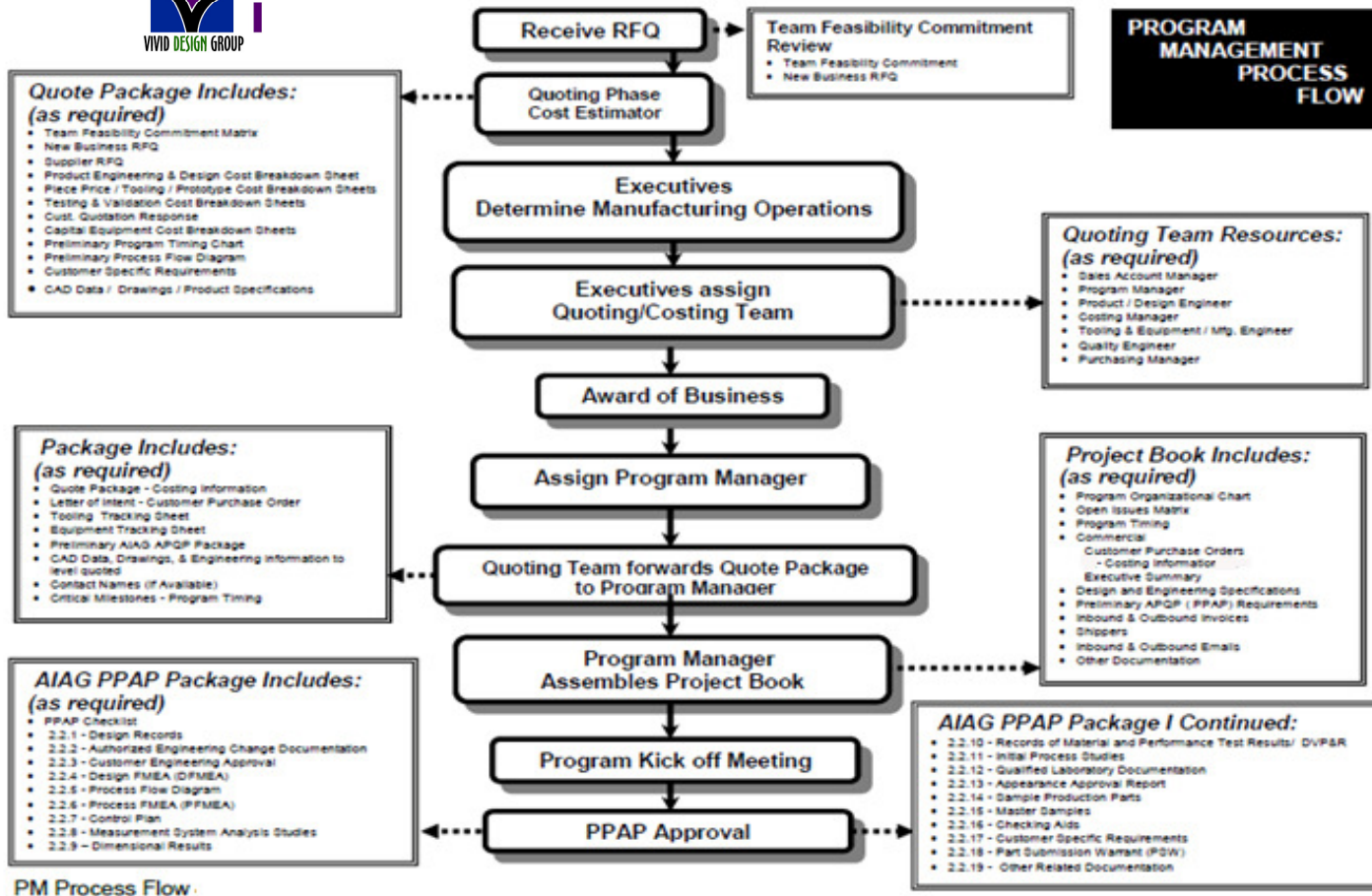
Purchasing	Continuous Improvement	PAPP
Customer Communication	Manufacturing	
Internal Communication	QP 2.0 Control of Records	

Applicable Clauses:  
7.6

**Items to Measure or Monitor the Process**

Monitor Conforming Product & Verification Records







## QP 1.0 Section 4.2.3 Control of Documents Procedure

### 4.2.3 Control of documents

Documents required by the quality management system are controlled. Records are a special type of document and are controlled according to the requirements given in 4.2.4.

Procedure, QP 1.0 Control of Documents, defines the controls needed.

Documents and data can be in the form of any type of media, such as hard copy or electronic media.

Documents required by the QMS are identified by title, section or document number, revision level and/or date. Newly created or amended documents are reviewed by the Management Representative or other responsible functions.

Additional Documentation and drawings are identified by the following as appropriate:

- Name;
- Title or Part Name;
- Part Number;
- Original Date;
- Drawing or Document Number;
- Revision Number; and/or
- Revision Date.

#### **a) to approve documents for adequacy prior to issue,**

The VDG Quality System documents) are uniquely identified, including date of issue, issuing authority, page numbering and total number of pages in each section.

Documents and data are reviewed and approved for adequacy by authorized personnel prior to issue. A Revision Log is located in Appendix D of the Quality Manual, which identifies the status of the document.

#### **b) to review and update as necessary and re-approve documents,**

Changes to documents and data are reviewed and approved by the same functions/organizations that performed the original review and approval, unless specifically designated otherwise. The designated personnel have access to pertinent background information upon which to base their review and approval.



## QP 1.0 Section 4.2.3 Control of Documents Procedure

Updates of VDG Quality Documents are based on management requests or changes to the ISO Specification. Changes in policy, client feedback, auditing activities and continuous improvement efforts also drive changes to documentation. All VDG employees are empowered to make suggestions for amendments to documents or may request the implementation of new documents, where required.

Changes to Drawings, Engineering Specifications and QMS documents are communicated to affected functions during staff meetings, operation meetings or retraining activities, and replaced in program files to ensure the latest versions of documents are used.

The President or designee authorizes changes to the VDG Quality System. Internal Audits, QP 3.0 and Management Reviews, assure the periodic review and continued suitability of the policies, methods and procedures. They ensure the integrity of the VDG Quality System is maintained, and that the requirements of ISO continue to be met.

**c) to ensure that changes and the current revision status of documents are identified,**

Where reasonable to do so, the new or altered text will be identified in the document, the revision section or in an appropriate attachment.

The Revision Log, Appendix D of the Quality Manual, identifies the status of the documents so as to preclude the use of invalid and/or obsolete documents. Revision levels and dates identify current documents used

**Changes made in documents are identified by revision level on the hard copy document if necessary.**

**d) to ensure that relevant versions of applicable documents are available at points of use,**

Appropriate Current Authorized documents are available at locations where operations essential to the effective functioning of quality activities and manufacturing is performed.

**e) to ensure that documents remain legible and readily identifiable,**



## QP 1.0 Section 4.2.3 Control of Documents Procedure

Quality documents and records are legible, stored and retained in such a way that they are readily retrievable in a facility that provides a suitable environment to prevent damage or deterioration and to prevent loss.

They are stored in an office environment and filed by customer or date.

**f) to ensure that documents of external origin are identified and their distribution controlled, and**

The Program Manager or Quality Department is responsible for the control of external documents (including drawings, calibration certificates, engineering standards and specifications). Distribution of these documents is controlled by the Program Manager or Quality Department.

**g) to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.**

Invalid or obsolete documents are promptly removed from all points of issue or use and replaced with the current documents by the VDG Program Manager or Quality Department or a designee.

Any obsolete documents retained for legal and/or knowledge-preservation purposes, are identified by a note and dated and signed by the person retaining them. Once removed from circulation, obsolete documents are destroyed.

### 4.2.3.1 Engineering Specifications

The Program Management and PPAP processes assure the timely review, distribution and implementation of all customer engineering standards/specifications and changes based on customer-required schedule;

Review is as soon as possible, at weekly program management and Staff meetings, it does not exceed two working weeks.

VDG maintains a record of the date on which each change is implemented in production. Implementations includes updated documents which are located in Program Management Project Books or PPAP Books.



## QP 2.0 Section 4.2.4 Control of Records Procedure

### Control of Records

Records are established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Records remain legible, readily identifiable and retrievable. Procedure QP 2.0 Control of Records has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

#### Identification

Records are identified individually and are collected as necessary.

#### Storage

Records are stored in an office type environment to prevent deterioration or damage.

#### Protection

Quality records are legible, stored and retained in such a way that they are readily retrievable in a facility that provides a suitable environment to prevent damage or deterioration and to prevent loss.

Records are held secure and in confidence. Filing Cabinets and office areas are locked when unattended.

Computer data is stored on the secured network system and backed up monthly or more frequently if required by the systems administrator or designee.

#### Retrieval

Records are indexed and filed in a way that allows them to be located and retrieved by VDG personnel. Manufacturing records are filed by Customer or Job.

Internal Audit Reports and Management Reviews are filed by date.

#### Retention time

Quality records have established retention times, which are twenty (20) years, unless otherwise specified. Record retention times satisfy statutory, regulatory and customer requirements.

#### Disposition of records

The methods for disposal of records are dependent on the nature of their confidentiality.

Documents are placed in trash receptacles, recycled, or shredded.

Quality records are made available for evaluation by the customer and/or any regulatory authorities upon request.

### Records Required by this Standard

#### 5.6.1 Management Review

Records of Management Review are stored in the VDG Management Representative's office for twenty (20) years and then disposed of.

#### 5.6.1.1 Quality Management System Performance

Issued by Quality Team Approved by J. D. Harrison	Revision Level & Date Rev a-9/02/2014	Page 1 of 4
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## QP 2.0 Section 4.2.4 Control of Records Procedure

Records Quality Management System Performance are stored in the Executive's Management Representative's or QSC's office for twenty (20) years and then disposed of.

### **6.2.2e) Competence, awareness and training**

Records of education, training, skills, experience, and effectiveness are kept in training files, on the Job Training Matrix and on set up sheets.

### **7.1d) Product realization and product meet requirements**

APQP & PAPP package are maintained for manufacturing life of the product plus twenty (20) years and then disposed of.

### **7.2.2 Review of requirements related to the product**

Records of contract review and pertinent discussion are recorded on Team Feasibility Commitments, RFQ's Quotes, e-mails, memos, written notes and maintained in Sales files and Program Management Project Books

### **7.3 Design and development process** *applies for manufacturing process design and development*

#### **7.3.2 Inputs relating to product requirements**

Records of contract review and pertinent discussion are recorded on Feasibility Reviews, Quotes, e-mails, memos, written notes and maintained in job files and Program Management Project Books.

#### **7.3.4 Design and development review**

Program Management Project Books - with PPAP or APQP

#### **7.3.5 Design and development verification**

Program Management Project Books - with PPAP or APQP

#### **7.3.6 Design and development validation**

Program Management Project Books - with PPAP or APQP

#### **7.3.7 Control of design and development changes**

Program Management Project Books - with PPAP or APQP

### **7.4.1 Purchasing process supplier selection, evaluation and re-evaluation**

Records of supplier evaluations are located in the VDG Supply Chain Office  
Records that purchased services and supplies comply with specified requirements are located in accounting on PO's and on Material Certificates.

### **7.5.2 Validation of processes for production and service provision**





## QP 2.0 Section 4.2.4 Control of Records Procedure

Records of process parameters are maintained in Program Management, PPAP or Job Books.

### 7.5.3 Identification and traceability

Lot Numbers are maintained in Quickbooks for the life of the program plus (5) years after then disposed of.

### 7.5.4 Customer Property

Tooling and PPAP Documents are maintained for ten (10) years after the life of the program then disposed of.

### 7.6 Control of monitoring and measuring devices records of calibration and verification

Records are maintained for each piece of VDG equipment.

Hard copy calibration and verification records are stored in the VDG Quality office or on the server.

### 8.2.2 Internal Audits

Quality system audit records will be maintained in the VDG office for a period of twenty (20) years then disposed of. They are filed by date.

#### 8.2.3.1 Monitoring and measuring of manufacturing processes.

PPAP and Audit Documents are maintained for ten (10) years after the life of the program then disposed of.

### 8.2.4 Monitoring and measuring of product

Inspection Sheets are maintained for ten (10) years then disposed of.

### 8.3 Control of nonconforming product

Scrap Records and tool repair records are maintained for (5) years after the life of the tool then disposed of.

### 8.3.4 Waivers and Deviations

PPAP Documents are maintained for (10) years after the life of the program then disposed of.

### 8.5.2 Corrective action

Audit reports, manufacturing process changes, Corrective Action Reports are maintained in the VDG office for a period of twenty (20) years then disposed of.

#### 8.5.2.4 Rejected product test / analysis

Corrective Action Reports are maintained in the VDG office for a period of twenty (20) years then disposed of.



## QP 2.0 Section 4.2.4 Control of Records Procedure

### 8.5.3 Preventive action

Records of preventive actions are maintained with corrective actions



## QP 3.0 Section 8.2.2 Internal Audit Procedure

### INTERNAL AUDITS

Each year the Management Representative or designee will issue an annual Internal Audit Schedule. Internal audits are conducted for compliance of the VDG Quality system to ISO Audits will be conducted a minimum of twice per year with each section and process to be audited at least one time per calendar year. Audits may be conducted according to schedule or more frequently, as required, based on the status and importance of areas being audited.

Prior to the scheduled date of the audit, the Management Representative or designee notifies employees of the areas to be audited.

The Management Representative elects the Lead Assessor who organizes the Audit Team, prepares the Audit Plan, and executes audit with the team to identify any nonconformances.

The Audit Plan includes the following:

- Identification of the area of activity to be audited.
- Audit scope and objective.
- Identification of auditee personnel.
- Audit Report distribution information

The Lead Auditor is also responsible for:

- Checklist
- Opening Meeting
- Audit Findings
- Results / Reports
- Closing Meeting
- Corrective Action Timing Requirements

Internal Quality System Audits are conducted for compliance of VDG to ISO 9001, addressing each of the sections and processes using appropriate Checklists / Plans / Schedules / Forms to verify compliance. The purpose of these audits is to review all areas of the VDG quality system for consistency with original objectives and procedures.

Nonconformances will be reported on an Internal Audit Report. Where applicable, management and/or VDG personnel may consider operational changes to improve effectiveness. The Quality system will be updated to reflect these changes. Records will be maintained per procedure QP2.0 Control of Quality Records.

#### Personnel:

Auditing activities will be carried out by trained and qualified personnel. They will be independent of activity being audited.

Reference Appendix A, Qualifications-Internal Auditor

#### Reporting:

It is Management Representative or Lead Auditor's responsibility to ascertain the scope or necessity of corrective action activities.

The area of activity audited, the audit findings and any corrective actions taken will be reported and recorded on an Internal Audit Report.

Follow-up audit activities are documented on the Internal Audit Report. The report also contains verification of implementation and effectiveness of the corrective action activities.



## QP 3.0 Section 8.2.2 Internal Audit Procedure

The auditor(s) familiarize themselves with the following in preparation for the audit:

Any standards or requirements to which VDG subscribes;  
Results of previous audits;  
Corrective actions related to the activities being audited; and  
Pertinent policies, procedures and records.

The audit begins with an opening meeting, held to define the scope of the audit, ensure the availability of resources and clarify any concerns. The auditor(s) document audit evidence on a Process Based Internal Audit Forms and Checklists

While conducting the audit, the auditor(s) seek objective evidence to ensure that operations conform to documented procedures, and that the procedures satisfy the requirements of ISO 9001. Audit evidence may be derived from review of any of the following areas as determined:

Documented procedures;  
Quality records;  
Interviews with personnel; and/or  
Observation of work in progress.

Nonconformities are brought to the attention of the Management Representative or designee.

A closing meeting is held to discuss audit results and communicate any findings to affected functions, as appropriate.

A summary of Audit results are documented on Internal Audit Corrective Action Plan and distributed to the Management Representative and any affected personnel who are responsible for addressing concerns documented during the course of the audit.

The Management Representative or designee maintains internal audit records

### ***Auditing Processes:***

During Process audits the auditor will review the following:

- The process was appropriately flow-charted and all contributors and participants were properly identified (everything was documented as appropriate);
- The process's inputs, outputs, managers, suppliers, and customers have been identified and documented as appropriate;
- There are well-defined performance metrics, internal controls, and procedures helping to state customer-oriented metrics to be derived from loosely described requirements;
- Personnel who currently operate the process's workflow match the competent positions identified on the matrix - Appendix A and are completely aware of and accountable for their individual functions;
- Process performers can name the process they execute and identify the key metrics of its performance (or at least they are aware of their individual tasks and objectives);
- Necessary training has been provided, working and safety instructions are properly understood by the process personnel



## **QP 4.0 Section 8.3 Control of Nonconforming Product Procedure**

### **Control of Nonconforming Product**

The controls and related responsibilities and authorities for dealing with nonconforming product are defined in the following documented procedure.

VDG ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery.

Nonconforming product is tagged or labeled to provide information related to the nonconformity and is segregated in the containment area

### **Nonconforming Supplied Product**

Nonconforming product received from suppliers is recorded on the Packing Slip and any other documents necessary for detailing the nature of the nonconformity.

The Quality or Materials Department contacts the supplier of nonconforming product to determine disposition and to ensure corrective action is taken if necessary, when product is determined to be nonconforming.

Nonconforming product may affect the supplier score results.

Nonconforming product is documented on shippers, CAR's, Scrap Reports or other records as necessary.

### **Identification of Suspect Product detected In-process during assembly.**

Suspect product is segregated in Red Suspect Bins or Tagged immediately when detected. The Quality or Materials Department is notified of suspect product by the Team Captain so a determination of disposition can be made.

### **Returned Product**

Information related to returned product is documented in customer files retained by the Quality or Materials Department. Corrective Action Reports are generated, as necessary, for product returned from customers.

An evaluation of returned product is made, through inspection and testing to determine the problem and cause, if possible.

The Quality or Materials Department documents validate customer complaints on Corrective Action Reports or customer provided documentation, as applicable.



## QP 4.0 Section 8.3 Control of Nonconforming Product Procedure

The Quality or Materials Department documents information related to customer complaints or nonconforming product with details of any conclusions and/or actions taken.

The Quality or Materials Department is responsible for nonconforming product.

If product is found to be nonconforming, the team problem solving process or customer prescribed format may be initialized to address the nonconformity.

VDG deals with nonconforming product by one or more of the following ways:

- a) **by taking action to eliminate the detected nonconformity;**
  - Process Parameter Adjustments
  - Production process revisions i.e. Work Instructions, Control Plans, Inspection Sheets.
- b) **by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;**
  - Identifying Product as defined by the customer if necessary
  - Inspect Stock & Rework if possible
- c) **by taking action to preclude its original intended use or application.**
  - Inspect Stock
  - Quarantine and Label
  - Rework or Scrap as necessary
- d) **By taking actions appropriate to the effects, or potential effects, of the nonconformity when the nonconforming product is detected after delivery or use has started**
  - Prompt Customer Notification
  - Sort on site if required

VDG takes action appropriate to the effects, or potential effects, of the nonconformity. The customer is notified and the resolution is decided then agreed upon.

If repair is required, Rework Instructions will be developed and implemented including re-inspection requirements, Traceability of reworked product will be maintained. This includes re-verification to demonstrate conformity to requirements

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained on CAR's, Scrap Report's or in customer prescribed format.

Records of waivers or deviation are also maintained

Records are maintained per procedure QP2.0 Control of Records



## QP 5.0 Section 8.5.2 Corrective Action Procedure

The Quality Department or Management Representative is responsible for corrective action activities.

VDG takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered.

Procedure QP 5.0 Corrective Action, defines steps taken for:

- a) reviewing nonconformities (including customer complaints),
- b) determining the causes of nonconformities,
- c) evaluating the need for action to ensure that nonconformities do not recur,
- d) determining and implementing action needed,
- e) records of the results of action taken (see 4.2.4), and
- f) reviewing corrective action taken.

### Corrective Action

Corrective actions are initiated to correct identified nonconformities and implement actions to prevent their recurrence. VDG employees are empowered to report nonconformities to their Team Leader, the Management Representative, Quality or Materials Departments.

Appropriate resources are provided and root causes of nonconformities are determined by team problem solving when required. Details of nonconformities and any actions taken are documented on Corrective Action Reports.

The Management Representative, Quality or Materials Departments monitor the effectiveness of corrective actions and report results during Management Review Meetings.

Any product and/or process related concerns identified internally may be documented on Corrective Action Reports as determined or as necessary

Customer complaints are reviewed by Management Representative, Program Manager, Quality or Materials Departments, the President and/or the Executive Vice President, and their validity is assessed. Where customer complaints are determined to be valid, appropriate actions for the complaint are determined and documented on Corrective Action Reports or in a customer prescribed format.

The corrective actions process employs Error-proofing methods and include as necessary:

- Reviewing nonconformities;
- Determining the causes of nonconformities;
- Evaluating the need for action to ensure that nonconformities do not recur;
- Determining and implementing action needed;



## QP 5.0 Section 8.5.2 Corrective Action Procedure

Records of the results of actions taken; and  
Reviewing corrective actions taken.

The Quality Department maintains a Corrective and Preventive Action Log to track the status of corrective actions related to product and ensure they are closed out in a timely manner.

This includes:

- Any item that affects customer issued Supplier Score Cards
- Any instance that lowers weekly shipping performance scores
- PRR's
- Shipping Discrepancies
- Customer complaints or concerns
- RMA requests from customers
- Scrap Notification
- Warranty issues

The Corrective and Preventive Action Log may also be used for determining if nonconformities recur, when evaluating the effectiveness of any actions taken. Where nonconformities do recur alternate actions may be taken based on the results of root cause analysis.

The Management Representative maintains Quality System related corrective action records. Internal Audits may be conducted to assess variables that may have contributed to any identified nonconformities continual improvement activities and preventive actions may be initiated to further enhance the integrity of any areas where potential deficiencies are identified.

Determination of potential nonconformities may result in the creation of a Preventive Action Report.

The Quality Department periodically reviews the Corrective and Preventive Action Log to determine trends and repeat occurrences of nonconformities that result in the initiation of corrective actions. Trend analysis may identify opportunities for preventive actions or improvements to the QMS.

Any actions taken are appropriate for the potential problem. Results of the action taken are recorded on the CAR/PAR Log.

Team Problem Solving Process or customer prescribed format is employed when parts are found to be nonconforming. The items above are addressed during Problem Solving activities. Prevention (systemic review) is a discipline within this process to eliminate the cause of potential nonconformities and continuous improvement opportunities are also considered preventative.

Procedure QP4.0 Control of Nonconforming Product is followed when required.

Internal Auditing activities- Internal Audit Reports are used when corrective action is required pertaining to the Quality Management System.





## **QP 5.0 Section 8.5.2 Corrective Action Procedure**

Management Reviews, Internal Audits and follow up activities verify actions taken.

Records are maintained per procedure QP2.0 Control of Records.



## QP 6.0 Section 8.5.3 Preventive Action

### 8.5.3 Preventive action

VDG determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems.

The Quality Department or designee is responsible for Preventive Action activities.

Procedure QP 6.0 Preventive Action, defines requirements for

determining potential nonconformities and their causes,  
evaluating the need for action to prevent occurrence of nonconformities,  
determining and implementing action needed,  
records of results of action taken (see 4.2.4), and  
reviewing preventive action

Determination of potential nonconformities may result in the creation of a Preventive Action Report.

The Quality Department reviews the Corrective and Preventive Action Log to determine trends and repeat occurrences of nonconformities that result in the initiation of corrective actions. Trend analysis may identify opportunities for preventive actions or improvements to the QMS.

Preventive actions are documented on Preventive Action Reports. Responsibility for Preventive Actions activities is determined and assigned to relevant functions to evaluate potential deficiencies and take appropriate actions related to any identified concerns.

Any actions taken are appropriate for the potential problem. Results of the action taken are recorded on the CAR/PAR Log.

Preventive Action Report forms include information related to the potential nonconformity, evaluation of the need, action taken, results of the action, root cause analysis and review.

Once a preventive action is implemented, the initiator of the action assesses its effectiveness.

The Quality Department or Management Representative tracks preventive actions by referencing the Corrective and Preventive Action Log, Internal Audit Reports or Management Review Records

Team Problem Solving Process or customer prescribed format is employed when parts are found to be nonconforming. The Items above are addressed during Problem Solving activities. Prevention (systemic review) is a discipline within this process to eliminate the cause of potential nonconformities. Continuous improvement opportunities may also be considered preventative.

Auditing activities document opportunities for Quality Management System improvement.

Management Reviews, Internal Audits and follow up activities verify actions taken.

Records are maintained per procedure QP2.0 Control of Records



## QP 7.0 Section 6.2 Training Procedure

QP 7.0 addresses the requirements of ISO 9001, Elements 6.2. – Human Resources and 6.2.2 – Competence, Awareness and Training it describes training activities.

### Training

Personnel performing assignments are determined competent on the basis of appropriate education, training, skills and/or experience. Competency requirements are documented in Job Descriptions Individual training records may include records related to previous work experience, certificates and training forms. The Human Resource Manager maintains training records.

VDG may provide additional training, where required.

The effectiveness of training activities conducted at VDG is assessed through continuous evaluation and is documented as appropriate.

All employees working for or on behalf of VDG receive safety and quality training as determined including:

- ◆ Introduction to ISO 9001;
- ◆ Safety training; and
- ◆ VDG company policies.

Requirements for additional training activities are determined and implemented based on the following criteria:

- ◆ Level of competence for the activity or function performed;
- ◆ Changes to existing policies or procedures;
- ◆ Promotions or transfers to other areas or functions; and/or
- ◆ Amendments to functional requirements for activities performed.
- ◆ New equipment or process.

The Department Manager is responsible for ensuring employees perform only functions for which they have adequate training and whose competency has been assessed.

The competence and effectiveness of the VDG personnel who operate specific equipment, and who perform specific tasks, is ensured and verified through a variety of activities:

- Education
- Previous Experience/Resume
- Demonstrated Skills
- Personal Certifications
- Technical Observations
- Internal Audits
- External Training
- On the Job Training



## QP 7.0 Section 6.2 Training Procedure

When staff is undergoing training, appropriate supervision is provided.

The Manager formulates training, educational and skill requirement goals for personnel, which are presented to the President and Executive Vice President during management reviews. The Manager identifies training needs through evaluations, observations and Quality Audits. Training is provided upon management approval. The training policy is relevant to present and anticipated tasks of VDG.

On The Job Training: The training of VDG personnel requires "hands on" training, actually operating the equipment under the supervision of the Team Captain and/or the Shop Supervisor. Familiarity with operation is required.

New Equipment: Training will be given by the President, Plant Manager and/or Department Manager, and when applicable, by the equipment manufacturer.

New Technology: When new technology is developed and is applicable to the VDG operations, training may be warranted. It is the responsibility of the Department Manager to gain approval from Executive Management for the required training.

Work Instructions: Work instructions are available for each piece of equipment (hand gauges). Lab personnel are required to read each work instruction prior to being trained on that piece of equipment. More complex equipment will require the use of the manufacture's users manual.

Management System: Each employee will be responsible to ensure that they are familiar with and using the latest revision of quality system documentation and standards as identified in the Quality Manual and supporting documentation

Training Effectiveness: Evaluated Effectiveness verified through observation, product conformity, productivity & demonstration of competence.

The evaluation of Training effectiveness is done through observation, conforming product, job performance and auditing activities. It may include

1. Reaction to the training provided is taken from the participants through the training feedback forms, which are completed after the training delivery.
2. Learning assessed by tests conducted by the trainer or by the concerned department to determine the learning level.
3. Completed Competence Forms  
Records of competence, educational and professional qualifications, training, skills and experience of personnel are maintained in training files and per procedure QP2.0 Control of Records



## QP 8.0 Section 7.4 Purchasing Procedure

QP8.0 outlines methods for Purchasing, Supplier Development and New Suppliers to VDG

### Supplier Evaluation

The Executives or Purchasing Manager approve new suppliers of raw material and ongoing production components. Spot buys or one time purchases may be exempt.

Upon determination of new product requirements, a Request for Quotation (RFQ) is issued to the potential supplier.

Requesters select suppliers based on availability of product, quality, price, delivery and/or customer suggested/directed/approved/specified sources. Suppliers of unique or specialized products may be required to submit a sample(s). Samples are routed to the Requester for more comprehensive evaluations.

Upon supplier's statement of their ability to meet specified requirements, a quote is issued by the potential supplier. If the Quote is obtained from a new supplier and the requester wants to use the new supplier, the Evaluation process must be followed by the requester.

A Supplier Evaluation is completed by requester or Purchasing Department to provide evidence of the supplier's ability to meet product or service requirements. The requester may initiate and record information accumulated from on-site visits, emails and phone calls to assess their ability to provide specified product or service in accordance with stated requirements.

The Supplier Evaluation is forwarded to the Supplier Coordinator to determine if a Supplier Performance Score Card will be generated. This is determined by the Executive VP of Sales and Marketing or designee. The Supplier Evaluation may be used to generate a Supplier Value which will be shown on the Approved Supplier List

Suppliers are identified on the Approved Suppliers List by name, status and the product or service provided and Rating or Value dependent on the degree of financial background information received.

Customer suggested/directed/approved/specified and non-automotive sources may be exempt from the Score Card Process but will be subject to the evaluation process.

Supplier performance is discussed at Staff Meetings, Operations Meetings and Management Reviews. The Quality Department, Purchasing Department, President or Executive VP of Sales and Marketing reserve the right to remove any supplier from the Approved Suppliers List at their discretion. Score Cards are reviewed annually by Committee and updated by the Supplier Coordinator.



## QP 8.0 Section 7.4 Purchasing Procedure

### Purchasing Process

After supplier quotations are received, reviewed and accepted, the requester fills out a Purchasing Requisition Form. Completed forms are routed to the Executive VP of Sales and Marketing or designee for approval. Confirmation of approval is evidenced by the approving authority's signature or initials. After authorization, purchasing documents are created to ensure order requirements are accurately communicated to suppliers. A Purchase Order is generated in Quickbooks.

#### Information on Purchase Orders includes the following:

- P.O. Number; Date; Date Required;
- Quantity; Description; Price;
- Supplier information;
- Shipping information;
- Terms; Authorized Signature;
- Statutory and regulatory requirements - Quality Management System Requirements

The PO and necessary documentation is forwarded to the supplier

Stock is monitored and inventory requirements are determined based on information maintained in an electronic database.

### Verification of Purchased Product

Receiving personnel are responsible for receiving incoming product.

Incoming product is segregated pending the completion of receiving inspection activities. Visual inspections are performed by receiving personnel to detect damage and confirm the accuracy of shipping information stated on the packing list. The packing list is dated and signed by recipient.

Specific receiving inspection work instructions are available for product and components requiring detailed inspection/verification activities. To provide evidence that order accuracy is confirmed and receiving inspection activities are complete the required information is entered in the database

Signed packing lists are forwarded to the Materials Department and verified against information on the Purchase Orders or release information. Shippers or packing lists are received in Quickbooks. Packing lists are forwarded to the Accounting Department for further payment and filing. Releases and Packing lists are compared to invoices and are maintained in files in the Accounting Department. After receiving inspection is complete, incoming product is placed in inventory or routed to any responsible functions.



## QP 8.0 Section 7.4 Purchasing Procedure

Received product is identified by Manufacturer with part numbers documented on tags, labels, bar codes or by other means. VDG part numbers are referenced, where required.

Adjustments are made to inventory based on product shipped and components used for manufacturing, assembly and distribution.

Nonconforming product is segregated and identified to prevent its unintended use or distribution. See QP 4.0 Nonconforming Product Procedure

### Associated Forms

- PU-001 Purchasing Requisition Form = PRF
- PU-002 Supplier Evaluation-New Supplier
- PU-003 Purchase Order
- PU-004 Supplier Request for Quotation
- PU-009 Supplier Score Card



## QP CQ 01 Quoting/Costing Procedure

### 1.1 Purpose

The purpose of this procedure is to outline the steps necessary for Vivid Design Group, Inc. referred to as VDG to plan, document and define the quoting/costing process.

### 1.2. Scope

This procedure applies to RFQ's submitted to Vivid Design Group, Inc.

### 1.3 Responsibility

VDG, Inc.'s Costing Team communicates with the customer regarding commercial issues and any items which need clarification or resolution during the quoting process.

## 2.0 Receive Request for Quotation (RFQ)

### Feasibility Commitment Review

Upon receipt of a Request for Quotation, the VDG, Inc. Sales Account Manager reviews the RFQ requirements and reviews the project's feasibility with the various functions and personnel within the organization. The results of this review are documented and approved by the VDG President and the Executive V.P. of Sales & Marketing on a Team Feasibility Commitment

The Sales Account Manager must obtain approval from the costing team members & President, or Executive V.P. of Sales and Marketing, before the quoting phase commences.

Programs that are determined to be not feasible are "No Quote" and the requesting party is advised in writing. Programs which deemed feasible are assigned to a VDG Cost Estimator Manager or a designee. The determination is based upon the type of product being quoted, the manufacturing process needed, and the nature of the RFQ. i.e. new business or change to an existing program, and complexity of the quotation

### RFQ

The VDG, Inc. V.P. or Director of Sales & Marketing is responsible for obtaining the RFQ number from the - Sales Activity Log which RFQ's are tracked through using the next consecutive number in the log, the Sales Account Manager can complete the RFQ with the customer information supplied or obtained. The Team Feasibility Commitment Matrix will accompany the RFQ form before the Quoting Phase can begin.





## QP CQ 01 Quoting/Costing Procedure

### 3.0 Quoting Phase

#### Quote Package

Upon receipt of the Request for Quotation (RFQ) package from the Sales Department, the assigned costing person will contact the various Vendor/Suppliers to obtain quotations (RFQ). Upon receipt of the Vendor or Internal supplier responses, the Assigned VDG / Cost Estimator will assemble the quotation. The quotation will be provided to the Sale Account Manager to respond back to the customer.

The quote may include the following, but is not limited to:

- Team Feasibility Commitment
- Design and Engineering Cost Sheet
- Piece Price, Prototype, Tooling, and Equipment Cost Breakdown Sheet
- Preliminary Program Organizational Chart
- Preliminary Program Timing Plan
- Testing & Validation Cost Breakdown Sheet
- Preliminary Process Flow Diagram
- Vendor/Supplier Request for Quotation (RFQ)
- Customer Quotation Response
- Customer specific Forms (Individual Customer Forms)
- Math Data / Drawings / Product Specifications

Quote packages assembled by the Costing Department and complete are then reviewed with the President and Executive V.P. of Sales and Marketing to insure that the customer's requirements have been met prior to submission to the customer. Upon approval, the quoting package is given to the Sales Account Manager to assemble the information on the Customer Quotation Response and delivered to the customer via e-mail, hand copy delivery, or any other means the customer has requested.

**Note:** Should the required quotation be of a large scale, a Costing Team, coordinated by VDG, Inc. department heads may be created to assemble the quote package.

#### Costing Team

The level of Costing Team to be assigned to each program is responsibility of the VDG, Inc. / Cost Estimating Manager or Designee as he feels is necessary to complete an assignment. The basis for his decision will take into account the following conditions:

- Complexity of the Program
- Volume of the Program
- Engineering & Design Responsibility
- Complexity of the Manufacturing Processes



## QP CQ 01 Quoting/Costing Procedure

- Resources available at the Manufacturing Operation
- Strategic Importance to the Company

The minimum Planning team to consider includes the following:

- Program Manager
- Tooling & Equipment Engineer
- Purchasing Engineer
- Cost Estimator
- Manufacturing & Process Engineer
- Product / Design Engineer
- Quality Engineer
- Supply Chain Coordinator

Assignments made at the time of quoting are preliminary. Upon Award of Business, the preliminary assignments are reviewed and adjustments are made as needed. Resources may change during the life of the program. Finalized resources and assignments are documented by the Program Manager on the Program Management Organizational Chart and distributed to the affected departments.

### 2.0 Award of Business

Upon the Award of Business to VDG the Costing Team will compile a package for the assigned Program Manager. The package will consist of the necessary information and may include:

#### Quote Package

- Letter of Intent / Customer Purchase Order
- Last Quotation / Customer Quotation Response
- Piece Price / Tooling / Cost Breakdown Information
- Design and Engineering Cost Breakdown Information
- Testing & Validation Cost Breakdown Information
- Production Tooling Description
- APQP Package (If available)
- Customer Contact Information
- Preliminary Program Timing Plan (Customer Milestones)
- Drawings and Engineering Specifications

#### Reference Documentation

##### Program Management

- PM-002 - Design And Engineering Cost Breakdown Sheet
- PM-003 - Piece Price, Prototype, Tooling, and Equipment Cost Breakdown Sheet

##### Sales & Marketing

- MKT-001 - Request for Quotation (RFQ)
- MKT-002 - Customer Quotation Response



## QP CQ 01 Quoting/Costing Procedure

- MKT-003 - Team Feasibility Commitment

### **Purchasing**

- PU-004 - Supplier Request for Quotation (RFQ)



## QP PM 01 Sections 7.0 Program Management Procedure

### 1.1 Purpose

The purpose of this procedure is to outline the steps necessary for Vivid Design Group, Inc., referred to as VDG, to plan, document, and Program Manage programs or projects for our customers.

### 1.2. Scope

This procedure applies to programs awarded to VDG

### 1.3 Responsibility

VDG's Product Costing Team communicates with the customer regarding commercial issues and any items which need clarification or resolution during the quoting process.

The VDG Program Manager is responsible for and has the authority for planning and scheduling project goals, milestones and deliverable while executing the necessary actions to insure the program completion and achieve customer satisfaction through production phase. Program Managers are given full latitude in managing projects under their direction including authorization for expenditures and acquiring the required resources to meet the customer's expectations and product approval.

## 2.0 Award of Business

Upon the Award of Business to VDG the Costing Team will compile a package for the assigned Program Manager. The package will consist of the necessary information and may include:

### Quote Package

- Letter of Intent / Customer Purchase Order
- Last Quotation / Customer Quotation Response
- Piece Price / Tooling / Cost Breakdown Information
- Design and Engineering Cost Breakdown Information
- Testing & Validation Cost Breakdown Information
- Production Tooling Description
- APQP Package (If available)
- Customer Contact Information
- Preliminary Program Timing Plan (Customer Milestones)
- Drawings and Engineering Specifications

The Program Team members are identified and documented by the VDG Program Manager on the Program Management Organizational Chart which is distributed to the Program Team Members and Customer.



## QP PM 01 Sections 7.0 Program Management Procedure

### 4.0 Project Book

The Program Manager is responsible for assembling the Project Book using the information provided from the Quote Package and additional information required to manage the Program. The Project book tracks the program from Award of Business through the life of the program. The Program Manager is responsible for scheduled updates of information and the distribution of the information to the Program Team Members and the customer. The Project book includes the following information as required:

- Program Organizational Chart
- Open Issues Matrix
- Program Timing Plan
- Commercial
  - Customer Purchase Orders – Tooling and Piece Price / Prototype
  - Supplier Request for Quotation
  - VDG - Purchase orders
  - VDG - Costing Information
- Design and Engineering Specifications
- APQP / PPAP Requirements and Information
- Inbound and Outbound Invoices – Customer and Suppliers
- VDG - Shippers
- Emails and correspondence
- Other pertinent Information relating to the Program

Project Books are kept in a central location and available to personnel requiring the information.

### 5.0 Kick-off Meetings (Internal and External Resources)

It is the responsibility of the Program Manager to schedule a kick-off meeting with the VDG Program Team and the VDG Suppliers sourced for the program and update the team. During this meeting the Team will perform a review of the program status, program documentation, and any open issues which are recorded on the Open Issues Matrix and maintained by the Program Manager. The Program Manager will assign responsibility and completion dates for open issues. The Program Manager will insure that VDG purchase orders are issued to the appropriate Suppliers and to inform the Suppliers if participation in program review meeting is required. The documentation that the Program Manager maintains as necessary:

- Program Organizational Chart
- Program Timing Plan
- Open Issues Matrix
- Customer Change Requests
- Customer Invoices
- VDG Costing information



## QP PM 01 Sections 7.0 Program Management Procedure

- Customer and VDG Purchase Orders

### 6.0 Program Status Updates

The Program Manager is responsible for revising the Program Status Updates on a weekly basis or as required by the customer. The Program Status Updates are located on the VDG server in the Project File. The Program Status Updates include the Open Issues Matrix, Program Timing Plan and any other information that the Program Manager or customer deems important. Updates are distributed to the Program Team

### 7.0 Program Organizational Chart

The VDG Program Organizational Chart will include the names associated with the program and their contact information. The information will include telephone numbers, email address, and job titles as appropriate.

### 8.0 Open Issues Matrix

The Open Issues Matrix is divided into categories. It includes the distribution list, program title, revision date, Item No., opened date, Concern / Issue, Action / Countermeasure or actions, owner, planned completion date, and actual completion date. The categories include as necessary, Program Management, Suppliers, Engineering, Design, Validation, Manufacturing, Quality, Commercial, and Sales & Marketing. Each category is representative of the activities required to manage a program. It is used as a tool for the Program Manager to communicate with the customer any concerns with the program.

### 9.0 Program Timing Plan

The Program Timing Plan is generated using Microsoft Project and is updated weekly or as required, with percentage of completion per task and distributed to the Program Team for input. The individual tasks are prioritized by the Program Manger according to importance.

### 10.0 Program Status Updates

It is the responsibly of the Program Manager to provide updates on the program status to the VDG President and/or Executive V.P. of Sales and Marketing. The updates may be made at staff or operations meetings and include as necessary:

- Updated Program timing Plan
- Updated Open Issues Matrix
- Updated Program Organizational Chart (If Required)



## QP PM 01 Sections 7.0 Program Management Procedure

Dependent of the status of the program, the frequency of reporting may be increased if requested by VDG Management.

### 11.0 Program Team Meeting

Program Team meetings are scheduled by the Program Manager on a weekly basis or as required by the customer. At the meetings program milestones, open issues, resources, and upcoming events are discussed and documented by the Program Manager. Upon updating the open issue to reflect the latest status the Program Manger distributes the information to the team members and the customer.

### 12.0 Manufacturing Design Phase (Pre-Production)

The pre-production phase encompasses activities scheduled from receipt of released engineering data or drawings (prints) through the initiation of validation testing and PPAP / PSW submission.

The VDG, Inc. Program Team meets weekly or as necessary and updates the program items outlined on the Program Timing Plan Chart. The Program Timing Plan Chart is updated to include Production Tooling requirements, Capital Equipment acquisition requirements, Supplier PPAP / Customer PSW Tracking. PPAP / PSW requests to VDG Suppliers are initiated. Plans for validation testing, CMM dimensional studies, preventative maintenance schedules, and test / calibration schedules are formulated as required. Production APQP documentation is initiated by the Program Manager and documented in a separate PPAP Book or the Project Book depending on the customer requirements.

### 13.0 Production Part Approval Book includes as necessary:



## QP PM 01 Sections 7.0 Program Management Procedure

Section 2.2.0	Checklist(s)
Section 2.2.1	Design Records
Section 2.2.2	Authorized Engineering Change Documents
Section 2.2.3,	Customer Engineering Approval
Section 2.2.4	Design FMEA
Section 2.2.5	Process Flow Diagram(s)
Section 2.2.6	Process FMEA
Section 2.2.7	Control Plan
Section 2.2.8	Measurement System Analysis Studies
Section 2.2.9	Dimensional Results
Section 2.2.10	Records of Material / Performance Test Results
Section 2.2.11	Initial Process Studies
Section 2.2.12	Qualified Laboratory Documentation
Section 2.2.13	Appearance Approval Report (AAR)
Section 2.2.14	Sample Production Parts
Section 2.2.15	Master Samples
Section 2.2.16	Checking Aids
Section 2.2.17	Customer-Specific Requirements
Section 2.2.18	Part Submission Warrant (PSW)
Section 2.2.19	Other Related Documentation - PO & TO

### 14.0 Validation

If validation is required, product testing is initiated per the Design Validation Plan & Report (DVP&R) which is created to facilitate tracking of testing progress. It is the responsibility of the Program Manager to coordinate testing activities. The Production requirements are established and when required, gages are certified and R& R's performed. Dimensional and capability studies are completed. Supplier PPAP's are reviewed and approved by VDG. Meetings at selected suppliers maybe scheduled by the Program Manager or Quality Department to witness production parts being manufactured and approved by VDG authorized signature

### 15.0 Production

PPAP documentation is maintained by the Quality Department.

It is the responsibility of the Program Manager to coordinate and communicate activities relating to creating and completing this information including necessary approvals by the customer. Copies of the PPAP documentation may be requested by the customer. It is the Program Manager's responsibility to ensure that the customer receives any requested information

Upon PPAP approval, the VDG Program Team meets to review lessons learned and to compile a list of opportunities for Continuous Improvement. This is often done at staff and operations meetings. Members from the Program Team may be required to stay on for assist during the start of production to insure a successful launch of the product.





## QP PM 01 Sections 7.0 Program Management Procedure

### 16.0 Engineering Change Documentation (Section 4.2.3.1 Engineering Specifications)

It is the responsibility of the VDG Program Manager to coordinate the successful implementation of Engineering Changes. The Program Management Procedure will be followed. The Program Manager will track progress and insure all elements of a change have been addressed by utilizing PPAP Sections 2.2.2, 2.2.3 or an Engineering Change Tracking Matrix if required.

The Program Management and PPAP processes assure the timely review, distribution and implementation of all customer engineering standards/specifications and changes based on customer-required schedule; Review is as soon as possible, at weekly program management and Staff meetings, it does not exceed two working weeks.

VDG maintains a record of the date on which each change is implemented in production. Implementation includes updated documents which are located in Project Books or PPAP Books.

### 17.0 Process Change Documentation

It is the responsibility of the VDG Program Manager to coordinate the successful implementation of Process Changes. The Program Management Procedure will be followed. The Program Manager will review documents, track progress and documentation revisions using the Quality tab of open issues matrix

#### Reference Documentation

- MKT-003 - Team Feasibility Commitment
- PM-002 - Design and Engineering Cost Breakdown
- PM-003 - Piece Price,-Prtyp, Tool & Equip Cost Brkdwn
- PM-005 - Open Issues Matrix
- PM-014 - Master Program Timing Plan
- PM-015 - Testing & Validation Cost Breakdown
- PM-016 – Design Validation Plan & Report (DVP&R)
- PM-018 - Production Tooling Checklist & Approval
- PM-019 - Injection Molding Cost Breakdown
- PM-020 - Engineering Change Tracking Matrix



## Quality Manual Appendix D Revision Log

ELEM.	REASON FOR REVISION	LEVEL	DATE
0.0		Release Rev	