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# QUALITY ASSURANCE MANUAL

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## Introduction

Precision Plate Ltd. has developed and implemented a Quality Management System in order to document the company's best business practices, to better satisfy the requirements and expectations of its customers, and improve the overall management of the company.

The Quality Management System of Precision Plate Ltd. meets the requirements of the international standard AS 9100D. This system addresses the management, production, processing, and service aspects of the company's products.

The manual is divided into 10 sections that correspond to the Quality Management System sections of the ISO 9001:2015 format and AS 9100D. Each section begins with a statement expressing Precision Plate Ltd.'s obligation to implement the basic requirements of the referenced Quality Management System section. Each policy statement is followed by specific information pertaining to the procedures that describe the methods used to implement the necessary requirements.

In addition, this manual describes the Quality Management System, identifies interdepartmental relationships and responsibilities of the personnel responsible for performing the system requirements, and utilizes the Process Approach to control the interaction of processes and manage continual improvement. The manual also provides procedures or references for all activities used within the Quality Management System to ensure compliance to the necessary requirements of the standard.

This manual is used both internally to guide the employees of Precision Plate Ltd. through the various requirements of the AS9100 standard and externally to familiarize or customers with our Quality System practices and controls.

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### Company History

Precision Plate Ltd. was established in 1975 to supply high-end metal finishes to Military electronics manufacturers.

Our customer base now includes Automotive, Commercial, Nuclear and Aerospace industries.

We operate in a 16,000 square foot owned facility.

Precision Plate Ltd. has continued to enhance our qualifications and certification and is recognized as a world Class supplier of precious metal electroplating.

Our many strengths include a highly skilled and seasoned production team, hands-on owner/manager involvement in the daily operations and a passion to service the customer needs.

As a small manufacturer Precision Plate Ltd. is able to respond quickly to changing customer needs, while not sacrificing the personal attention required to ensure that our rigorous quality standards are always met.

**Web site** - [www.precisionplateltd.com](http://www.precisionplateltd.com)

### Precision Plate Ltd. Environmental Policy

We take our responsibility as a company towards protecting, nurturing, and improving our natural environment very seriously. To this end, we are committed to:

- Reduce our waste stream by all means possible including finding recycling methods for all unused materials possible,
- Replace ozone depleting chemicals, other environmentally-harmful products, and potentially human-harmful chemicals from our processes and operations,
- Monitor our processes and operations to verify that we are in full compliance with the spirit, intent, and letter of all laws dealing with the protection of the environment.

### RoHs and End-Of Vehicle (ELV) Compliance

Precision Plate Ltd. is committed to supplying superior quality products and meeting the ever-changing global environmental regulations. We are able to provide products and services that comply with the requirements of the EU Directive 2002/95/EC (RoHs) and the European Union's 2000/53/EC (ELV), as well as those relevant to China, Japan and Korea.

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## Section 1: Scope

### 1.1 General

Precision Plate Ltd. has developed and implemented the Quality Management System (QMS) described in this manual to help our organization operate with increased effectiveness, consistency and customer satisfaction.

Our QMS utilizes the process approach and quality management principles contained in the international standards AS9100D and ISO 9001:2015.

The PLAN-DO-CHECK-ACT diagram in Appendix B highlights the process based approach utilized by management to understand the interaction of processes in the organization and to achieve intended results. Risk analysis and risk-based thinking are employed to drive continual improvement, eliminate potential nonconformances and increase the overall effectiveness of the QMS.

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**Section 2: Normative Reference**

**2.0 Quality Management System References**

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

- Society of Automotive Engineers SAE AS9100D - Quality Management Systems – Requirements
- International Standard ISO9001:2015 - Quality Management Systems – Requirements

**Section 3: Definitions**

**3.0 Quality Management System Definitions**

Our QMS uses the same internationally recognized terms, vocabulary and definitions given in both the ISO: 9000:2015 and AS9100D Standards.

**3.1 Person or People**

For example, Top Management is defined as “person or group of people who directs and controls as organization at the highest level.”

**3.2 Organization**

For example, Interested Party (Stakeholder) is defined as “person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity.”

**3.3 Activity**

For example, Improvement is defined as “activity to enhance performance.”

**3.4 Process**

For example, Outsource is defined as “make an arrangement where an external organization performs part of an organization’s function or process.”

**3.5 System**

For example, Infrastructure is defined as “system of facilities, equipment, and services needed for the operation of an organization.”

**3.6 Requirement**

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For example, Quality is defined as “degree to which a set of inherent characteristics of an object fulfils requirements.”

### 3.7 Result

For example, Risk is defined as “effect of uncertainty.”

### 3.8 Data, Information, and Document

For example, Objective Evidence is defined as “data supporting the existence or verity of something.

### 3.9 Customer

For example, Customer Satisfaction is defined as “customer’s perception of the degree to which the customer’s expectations have been fulfilled.”

### 3.10 Characteristic

For example, Competence is defined as “ability to apply knowledge and skills to achieve intended results.”

### 3.11 Determination

For example, Monitoring is defined as “determining the status of a system, a process, a product, a service, or an activity.”

### 3.12 Action

For example, Corrective Action is defined as “action to eliminate the cause of a nonconformity and to prevent recurrence.”

### 3.13 Audit

For example, Audit Scope is defined as “extent and boundaries of an audit.”

### 3.14 Counterfeit Part

An unauthorized copy, imitation, substitute, or modified part (e.g., material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.

NOTE: Examples of a counterfeit part can include, but are not limited to, the false identification of marking or labeling, grade, serial number, date code, documentation, or performance characteristics.

### 3.15 Critical Items

Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the provision and use of the products and services; including safety, performance, form, fit, function, producibility, service life, etc.; that require specific actions to ensure they are adequately managed.

Examples of critical items include safety critical items, fracture critical items, mission critical items, key characteristics, etc.

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3.16 Key Characteristic

An attribute or feature whose variation has a significant effect on product fit, form, function, performance, service life, or producibility, that requires specific actions for the purpose of controlling variation.

3.17 Product Safety

The state in which a product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property.

3.18 Special Requirements

Those requirements identified by the customer, or determined by the organization, which have high risks of not being met, thus requiring their inclusion in the operational risk management process. Factors used in the determination of special requirements include product or process complexity, past experience, and product or process maturity.

Examples of special requirements include performance requirements imposed by the customer that are at the limit of the industry’s capability, or requirements determined by the organization to be at the limit of its technical or process capabilities.

3.19 Acronyms

QMS - Quality Management System



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## Section 4 Context of the Organization

### 4.1 General

Precision Plate Ltd. has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of AS9100. The system is maintained and continually improved through the use of the quality policy, quality objectives, audit results, analysis of data, corrective action, continual improvement and management review.

To implement the QMS Precision Plate Ltd. has:

- Identified the processes needed for the QMS and their application throughout the organization and documented them on Process Flow Diagrams included in this Quality Manual
- Determined the sequence and interaction of these processes
- Determined criteria and methods needed to ensure that the operation and control of processes are effective including routers and work instructions, inspection plans etc.
- Ensured the continuing availability of resources and information necessary to achieve planned results and continuous improvement of these processes
- Established systems to monitor, measure and analyze these processes
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes

### 4.2 Interested Parties

Precision Plate Ltd. strives to understand the needs and expectations of Interested Parties due to their effect or potential effect on the organization's ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements. This includes the major Aerospace, Nuclear and Environmental bodies with continually changing standards and requirements.

### 4.3 Scope of the QMS

**The Quality Management System covers the provision of electro-plating and metal finishing in gold, silver, copper, nickel, tin, zinc, electroless nickel and passivation for aviation, nuclear and commercial applications at 104 Dufferin Avenue, Trenton Ontario K8V 5R2, CA**

Precision Plate Ltd. has considered the applicability of all requirements of AS9100D and determined that design is strictly a customer responsibility and that any product design changes would flow down if they resulted in a change of processing requirements for the services we provide. The processes we adhere to are governed by specifications developed by higher tier bodies (AMS, ASTM etc.) and Precision Plate Ltd. would not be considered the cognizant engineering organization. Therefore, all requirements of AS9100D section 8.3 Design and Development of Products and Services is not applicable to the Quality Management System. This

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will not affect our ability or responsibility to ensure the conformity of services offered and will not have a negative impact on customer satisfaction.

#### 4.4 Quality Management System and Its Processes

##### 4.4.1 QMS Documentation

The quality management system (QMS) documentation includes the following:

- (a) documented statements of a quality policy and quality objectives,
- (b) a quality manual,
- (c) documented procedures and records required by AS9100D,
- (d) documents, including records, determined by our organization to be necessary to ensure the effective planning, operation and control of our processes.

##### 4.4.2 Documentation Requirements

Precision Plate Ltd. will maintain documented information to support the operation of its processes and retain documented information to have confidence that the processes are being carried out as planned. The control of documentation is determined according to section 7.5 of this manual.

Support documentation includes:

- Documented Procedures and work instructions
- Documents identified as needed for the effective planning, operation and control of our processes
- Quality Records
- Records required by regulatory authorities
- External Documents or Specifications pertinent to the processes
- Flow charts to define and provide a description of the interaction between the processes and functions of the QMS system.

Where practical, the relationship between the AS 9100D standard and documented procedure has been indicated by use of a numbering system that correlates to the AS 9100D standard.

Documented procedures require that quality records remain legible, readily identifiable and retrievable. Records are available for review by customers and regulatory authorities in accordance with contract or regulatory requirements.

Documented procedures define the controls needed for identification, storage, protection, retrieval, retention time and disposition of quality records. Records are made available to customers / regulatory agencies when required by contract or regulatory requirements.

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## **Section 5 Leadership**

### **5.1 Leadership and Commitment**

#### **5.1.1 Senior Management**

Senior management is actively involved in implementing the QMS. It has provided the vision and strategic direction for the growth of the company and QMS, and established quality objectives and the quality policy. The interaction of processes and responsibilities can be seen in the Company Organizational Chart (APPENDIX A)

To continue to provide leadership and show commitment to the improvement of the QMS, management will perform the following as required:

- Communicate the importance of meeting customer, statutory, and regulatory requirements.
- Establish quality objectives
- Establish the quality policy.
- Conduct annual management reviews.
- Ensure the availability of resources.
- Promote and support continuous improvement throughout the organization.

#### **5.1.2 Customer Focus**

Precision Plate Ltd. strives to identify current and future customer needs and to meet customer requirements and expectations.

Management ensures that customer requirements are understood and met, by requiring compliance with documented customer communication procedures. Customer requirements are determined, converted into internal requirements, and communicated to the appropriate people in our organization.

### **5.2 Quality policy**

**5.2.1** The Quality Policy (see APPENDIX E) adopted by Precision Plate Ltd. reflects the commitment to supply superior quality products and services to our customers that will meet their requirements both real and perceived recognizing that every employee must share in the responsibility achieving quality goals.

**5.2.2** Senior management ensures that the quality policy is communicated to all employees by:

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- including Quality Policy awareness in new employee training and training on the QMS.
- posting the Policy in prominent places throughout the facility

Management reviews the quality policy at management review meetings to determine the policy’s suitability for our organization.

**5.3 Organization Roles, Responsibilities, and Authorities**

**5.3.1** Specific roles, responsibilities and authorities are defined in the attached Organization Chart (APPENDIX A)

**5.3.2** Management has appointed the QA Manager as the Management Representative. The management representative has freedom and unrestricted access to top management with duties to include:

- a. ensuring that the quality management system conforms to the requirements AS9100D
- b. ensuring that the QMS processes are delivering their intended outputs;
- c. reporting on the performance of the QMS and on opportunities for improvement.
- d. ensuring the promotion of customer focus at Precision Plate Ltd;
- e. ensuring that the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

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## Section 6 Planning

### 6. PLANNING

#### 6.1 Top management ensure that:

(a) The planning of the quality management system is carried out in order to meet the requirements of section 4.1 and 4.2, as well as the quality objectives. Planning activities include process mapping and the creation of flow charts to determine the processes required for the Quality Management System.

(b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented. During the management review process, any changes to the quality management system are controlled, reviewed and approved before implementation.

The QMS is planned and its implementation monitored to ensure:

- that the QMS can achieve its intended results
- continual improvement of the System
- that action is taken to address risk and promote opportunity for improvement. These actions are evaluated for effectiveness

#### 6.1.2 Continual Improvement of the Quality System

Precision Plate Ltd. 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.

Continual Improvement in quality, service, cost, and technology is carried out within Precision Plate Ltd. Opportunities for quality and productivity improvement are identified and implemented using the quality graphs and action plans, preventive and corrective actions, and our business plans.

Information for these projects is gained by using the following list of techniques as appropriate:

- on time delivery results
- customer complaints
- parts per million (PPM)
- internal audit trends
- customer satisfaction feedback
- efficiencies/productivity
- cost of poor quality trends

#### **Manufacturing process improvement**

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Manufacturing process improvement is focused 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 have been deemed capable and stable, or once the product characteristics are predictable and meet requirements.

## 6.2 Quality Objectives

**6.2.1** Management is responsible to establish quality objectives at relevant functions, levels, and processes needed for the quality management system.

Top management ensures that quality objectives, including those needed to meet requirements for Products, are established for relevant functions and levels within the organization.

The quality objectives are measurable and consistent with the quality policy. Measures include, but are not limited to, the following:

- Customer PPM
- Internal PPM
- Supplier Performance
- Cost of Poor Quality
- Customer Satisfaction
- On-time delivery

These objectives are included in the Key Performance Measures List.

Managers and supervisors ensure that quality objectives, including those needed to meet product requirements, are established in Manufacturing Orders and work instructions.

## 6.3 Planning of Changes

Top management ensure that:

- (a) Changes to the quality management system is implemented taking into consideration risk, potential outcomes, integrity of the Quality Management System, availability of resources and assignment of roles and responsibilities.
- (b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented. Changes are

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reviewed and approved by the appropriate authorities before implementation, including the customer as required. Impact of changes and planning takes place primarily during the Management Review Process.

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## Section 7 Support

### 7.1 Resources

#### 7.1.1 General

The implementation of AS9100D was achieved with management’s commitment to provide sufficient resources to meet the QMS requirements. To effectively maintain and continually improve the system, management assesses the performance of the QMS to determine and provide the ongoing necessary resources.

The Management Team is responsible for:

- (a) providing support (policy) and determining the necessary resources required to effectively operate the company including trained personnel for inspection and test activities.
- (b) enhancing our Customer’s satisfaction by meeting customer requirements as evidenced by on-time delivery reports, customer satisfaction surveys, and customer returns/complaints.
- (c) for review of quality related information and for initiating, approving and implementing improvement programs.

These requirements are determined during the annual Management review meetings.

#### 7.1.2 People

To ensure competence of our personnel, job descriptions have been prepared identifying the qualifications required for each position that affects product quality. Qualifications include requirements for education, skills and experience. Appropriate qualifications, along with required training, provide the competence required for each position.

Training and evaluation are conducted as required. All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

All employees are trained in respect to their job requirements, and shall be qualified on the basis of their appropriate education, training and/or experience, which includes familiarisation with the Quality System.

New Employees receive initial orientation training. This training includes process, safety,



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environmental and quality elements. This training is documented on the "Employee Orientation Checklist" and is kept in their training file.

Training is conducted on a continual basis at Precision Plate Ltd. allowing personnel to keep abreast of new technologies and techniques.

Training needs are identified by using the Training Matrix. Each employee's job requirements are examined against the actual training level achieved. Areas identified as a deficiency are addressed by conducting the required training and obtaining evidence of training completion.

The Management Team will conduct training requirement reviews on an annual basis through the Management Review process.

Training Programs may be initiated at the departmental level. All Training Programs are approved by the President/General Manager in accordance with department budgets and company policy.

### 7.1.3 Infrastructure

To meet quality objectives and product requirements Precision Plate Ltd. has determined the infrastructure needed.

Suitable facilities and work environment are provided as required to assure product quality. This includes planning, provision, and maintenance of buildings, employee facilities, workspaces, equipment, software, and associated and supporting services.

A multidisciplinary approach is used when developing plant, facility and equipment plans. Plant layouts optimize material travel, handling and value-added use of floor space, and shall facilitate synchronous material flow. Planning for new and/or modification of existing facilities is normally conducted with capacity or work force expansions and product or process changes. Facilities may also be expanded or modified to improve productivity, quality, and the work environment.

Maintenance of equipment, buildings, and facilities is performed by the Maintenance Function or external contractors. This includes regularly scheduled maintenance of production equipment, lighting systems, air conditioning and heating systems, landscaping, and cleaning. Repairs of buildings and other such facilities are contracted as needed.

Purchasing is responsible for coordinating and managing maintenance contracts.

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In house maintenance is performed per **GP09-27** and is recorded on the Equipment Maintenance Logs. The accuracy and performance of the equipment is monitored. Special attention is given to equipment features that contribute to key product quality characteristics.

Conformity to these requirements is reviewed by Management. These requirements are also Reviewed during internal and third party audits (such as Health and Safety Audits, internal audits).

**7.1.4 Work Environment**

A work environment suitable for achieving product conformance is maintained. A suitable environment can be a combination of human and physical factors.

The General Manager is responsible for managing the human and physical factors of the work environment that are necessary for achieving conforming product. This includes human as well as physical factors which include but are not limited to:

- (a) safety and ergonomics;
- (b) light;
- (c) cleanliness
- (d) heat and humidity;
- (e) space, and
- (f) communication

**7.1.5 Monitoring and Measuring Resources**

**7.1.5.1 General**

Precision Plate Ltd. has determined the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements.

**7.1.5.2 Measurement Traceability**

The management team determines the monitoring and measuring to be undertaken as well as the equipment needed to provide evidence of product conformity to determined requirements.

Monitoring and measuring requirements are detailed on control plans, work instructions, and inspection forms and personnel are trained to ensure they are carried out in a manner that is consistent with the monitoring and measuring requirements.

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The Quality Assurance Manager is responsible to calibrate or verify measuring equipment to ensure valid results. This is performed according to the **General Calibration Procedure # CP11-10** and related equipment specific calibration procedures. During this process equipment is :

- (a) calibrated or verified, or both, at specified intervals in accordance with the Equipment Calibration Index, written procedures, or prior to use, against calibrated measurement standards traceable to international or national measurement standards. Where no such standards exist, the basis used for calibration or verification is recorded in the calibration procedures.
- (b) adjusted or re-adjusted as necessary;
- (c) identified with a unique number and where practical a calibration status decal in order to determine its calibration status. In cases where a decal cannot be fixed to the equipment, a decal is placed on the equipment box.
- (d) safeguarded from adjustments that would invalidate the measurement result by sealing adjustment devices with wax or labels as appropriate;
- (e) protected from damage and deterioration during handling, maintenance, and storage

Precision Plate Ltd. assesses and records (on nonconformance reports) the validity of the previous measuring results when the equipment is found not to conform to requirements. Appropriate action on the equipment and any product affected is determined, recorded on the Nonconformance Report, and implemented.

Records of results of calibration and verification are maintained.

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

### 7.1.5.3 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, are recorded on the Calibration Record, and include:

- equipment identification, including the measurement standard against which the equipment is calibrated,
- any out-of-specification readings as received for calibration/verification.
- an assessment of the impact of the out-of specification condition,
- statements of conformity to the specification after calibration/verification, and

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- notification to the customer if suspect product or material has been shipped.

#### 7.1.5.4 Internal Laboratory

The Internal Laboratory located within Precision Plate Ltd. has a defined, documented scope. This scope includes the laboratory’s capability to perform the required inspection, test, or calibration services. The laboratory has specified and implemented, as a minimum, technical requirements for

- adequacy of the laboratory procedures.
- competency of the laboratory personnel as detailed in the individual lab procedures and training requirements
- testing of the product as detailed in the test requests and individual lab procedures.
- capability to perform these services correctly, traceable to the relevant process standard (such as ASTM, AMS, etc.) as detailed in the individual lab procedures.
- review of the related records as detailed in the individual lab procedures.

#### 7.1.5.5 External laboratory

External/commercial/independent laboratory facilities used for inspection, test, and/or calibration services have defined laboratory scopes, which include the capability to perform the required inspection, test, or calibration, are approved suppliers, and are included in the Approved Suppliers List (ASL). Approval is noted in the approved supplier list.

External laboratories used by Precision Plate Ltd. are either accredited to ISO 9001, ISO/IEC17025, or have been deemed acceptable by the customer (Such evidence may be demonstrated by customer assessment, or by customer-approved second-party assessment that the laboratory meets the intent of ISO/IEC17025 or national equivalent).

When a qualified laboratory is not available for a given piece of equipment, the equipment manufacturer may perform calibration services. In such cases, Precision Plate Ltd. ensures that the requirements listed in 7.1.5.2 have been met.

#### 7.1.6 Organizational Knowledge

Pertinent knowledge gathered by the organization is documented in the form of process and part specific work instructions.

Precision Plate is made up of long-standing and experienced operators. Training is provided on new or revised procedures as part of the Document Revision Process to ensure affected parties are constantly aware of changes.

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Technical data sheets from suppliers of plating supplies are catalogued to assist management in keeping current with industry changes.

## 7.2 Competence

Precision Plate has:

- a. determined the necessary competence of person(s) doing work under that affects the performance and effectiveness of the quality management system;
- b. ensured that these persons are competent on the basis of education, training, or experience;
- c. taken actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken;
- d. retained appropriate documented information as evidence of competency
- e. performed the periodic review of the necessary competence.
- f. provided mentoring, or the re-assignment of currently employed persons; or the hiring or contracting of competent persons.

Training programs are the responsibility of the General Manager and Quality Manager and are in accordance with **Procedure GP18-10 Training and Performance Evaluation**.

All employees are trained in respect to their job requirements, and are qualified on the basis of their appropriate education, training and/or experience, which includes familiarisation with the Quality System.

New Employees receive initial orientation training. This training includes process, safety, environmental and quality elements. This training is documented on the "Employee Orientation Checklist" and is kept in their training file.

Training is conducted on a continual basis at Precision Plate Ltd. allowing personnel to keep abreast of new technologies and techniques.

Training needs are identified by using the Training Matrix. Each employee's job requirements are examined against the actual training level achieved. Areas identified as a deficiency are addressed by conducting the required training and obtaining evidence of training completion.

The Management Team will conduct training requirement reviews on an annual basis through the Management Review process.

Training Programs may be initiated at the departmental level. All Training Programs are approved by the President/General Manager in accordance with department budgets and company policy.

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It is the responsibility of each Manager or Lead Hand within Precision Plate Ltd. to:

- (a) determine the necessary competence for personnel performing work affecting conformity to product requirements. The requirements for training are detailed in training records and other applicable documents (such as job descriptions, performance reviews).
- (b) where required, provide training or take other actions to achieve the necessary competence. Training is then conducted based on the requirements of the training record and other applicable documents.
- (c) evaluate the effectiveness of the actions taken. Effectiveness may be reviewed using appraisals of performance, audits, or by other applicable methods.
- (d) ensure that their personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives. This is achieved through the quality system feed back and training on specific work instructions.
- (e) maintain appropriate records of education, training, skills, and experience. Records of new or modified job training are maintained. These records may consist of sign-offs of updated work instructions, and/or signed off memos, and/or updated training records and matrices.

**7.3 Awareness**

Quality objectives are communicated throughout Precision Plate Ltd. through the quality system. This information is posted on plant information boards, discussed during communication meetings, management review meetings and is also incorporated into our business plans.

The quality policy and quality system graphs are posted in the facility to allow the employees to measure performance and affect changes to better achieve the objectives.

Employee’s understanding of the quality objectives for the area in which they work are evaluated during the internal quality audits.

The importance of product safety and ethical behavior is communicated to all personnel in the organization and is supported by training as well as the “Product Safety and Ethical Behaviour Policy” of the company.

**7.4 Communication**

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Precision Plate has determined the internal and external communications relevant to the quality management System.

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

Precision Plate Ltd. utilizes various processes to communicate the effectiveness of the quality management system. Examples are as follows:

- (a) quality system information board – Updated monthly by the Quality Management Representative
- (b) internal audit reports – Circulated to management by the Quality Management Representative according to the frequency of the Internal Audit Matrix
- (c) management review meetings conducted annually
- (d) monthly employee communication meetings performed by Management to review Key Performance results, results of internal audits, Non Conformance issues, Safety concerns and upcoming production requirements. Employees have access to present questions and concerns to management for resolution. The meetings are documented in the form of minutes.

Customer communication is performed primarily by the General Manager for sales and technical matters and the Quality Management Representative for quality related matters. This communication is in the form of phone conversations or email.

## 7.5 Documented Information

### 7.5.1 General

The quality management system (QMS) documentation includes the following:

- (a) documented statements of a quality policy and quality objectives,
- (b) a quality manual,
- (c) documented procedures and records required by AS9100,
- (d) documents, including records, determined by our organization to be necessary to ensure the effective planning, operation and control of our processes

### 7.5.2 Creating and Updating

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### 7.5.2.1 Creation and Approvals

The Quality Management Representative is responsible for the control, maintenance and storage of the master documents.

The creation of new documents can result from customer requests, procedural changes, corrective action activities, audit findings etc.

The originator of the document (including customers) will send the draft procedure to the Quality Management Representative.

The Quality Management Representative will assign the appropriate number and revision and send a review copy to the originator.

**Formatting:**

**Quality Assurance Manual** is identified by name.

**General Procedures** are identified by **GP, QAP** ref. number, and a two digit number. (e.g. GP07-20, GP14-10, etc.).

**Calibration Procedures** are identified by **CP, QAP** ref. number, and a two digit number. (e.g. CP11-10, CP11-20, CP11-30, etc).

**General Plating Procedures** are identified by the finish code - process equipment abbreviation - unique 3 digit number - post plate treatment (if required). (e.g. ZN-B-000 denotes zinc-barrel-000).

**Part Plating Procedures** are identified by the customer code - finish code – Customer part number. (e.g. ST-CR-12345)..

**Solution Control sheets** are identified by the finish and tank number. (e.g. Silver Strike #11).

**Solution Control Analytical Sheets** are identified by **SPC** and a numerical consecutive number (e.g. SCP01.0, SCP02.0, SCP03.0).

**Office Procedures** are identified by **OP.** and a two-digit number. (e.g. OP.01).

**Forms** are identified by title and the date is used as the revision number. They may also reference a specific procedure.

**Appendices** are supplementary information. Tabular information or examples may be carried as an appendix. Once an identification number has been issued it will never be duplicated even though the original procedure may become obsolete.

The originator will review the procedure, make any changes or corrections necessary and return it to the Quality Management Representative.

When all changes and corrections have been incorporated the Quality Management Representative will send the procedure for review and approval according to the following table.

Documents required by the quality management system are controlled by means of the Master Index.



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Master indexes and directories are maintained by the Quality Assurance Manager to ensure the latest revision of all electronic documents are available at points of use as read only.

Documents are reviewed on a periodic basis. All documents are updated and re-approved as required. The person responsible for creating the document is responsible for reviewing the document. Responsibility for the documents is indicated on the Master Index

These documents are shared throughout the organization electronically.

Doc. Type	Document Title	Revised/ Reviewed By	Approved By	Change & Distribution	Review
QAM	Quality Assurance Manual	QA Mgr	Gen Mgr	Training	5 year
QSP	Quality System	Gen Mgr	QA Mgr	Training Record	5 year
GP	General	QA Mgr	Gen Mgr	Training Record	5 year
GPP	Gen Plating	QA Mgr	Gen Mgr	Training Record	5 year
PPP	Part Plating	QA Mgr	Gen Mgr	Training Record	5 year
SC	Solution Control	Gen Mgr	QA Mgr	Training Record	5 year
SCP	Solution Analytical	Gen Mgr	QA Mgr	Training Record	5 year
OP	Office	Office Mgr.	Gen Mgr	Training Record	5 year
Forms	Quality Forms	QA Mgr	QA Mgr	Training Record	5 year
SR	Supplier Required	QA Mgr	Gen Mgr	Training Record	5 year
CP	Calibration	Gen Mgr	QA Mgr	Training Record	5 year
CPM	Customer Manual	QA Mgr	Gen Mgr	Training Record	5 year
IP001	Inspection Manual	Gen Mgr	QA Mgr	Training Record	5 year
SP	Security	QA Mgr	Gen Mgr	Training Record	5 year
HSP	Health & Safety	QA Mgr or Safety Rep.	Gen Mgr	Training Record	5 year

### Documents of External Origin

Professional society standards, MIL specifications and customer specifications are controlled by

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the Quality Management Representative. Yearly the Quality Management Representative verifies the revision status with the appropriate agencies and updates the files where required.

When received by Quality Assurance, the specification is stamped. This stamp contains the date received. Once reviewed the reviewer initials and dates the document. This review must take place as soon as possible and not exceed two working weeks. The customers schedule shall take precedence. Until stamped "Obsolete", the date received stamp identifies the specification as the latest release. Customer specifications are filed and maintained with Quality Assurance.

A change in standards/specifications requires an updated record of customer production part approval when these specifications are referenced if they affect any documents of the Production Part Approval Process, such as control plan, FMEA's, etc.

The date that the change has been implemented in production is recorded on the appropriate document.

Forms are controlled documents and are identified by title and the date is used as the revision number. They may also reference a specific procedure. Master forms are maintained by Quality Assurance and controlled as per this procedure.

**7.5.2.2 Revisions**

Written notes and changes on the Quality Assurance Manual or Quality System Procedures are not acceptable. Revisions to these documents will be initiated on a "Not Controlled" copy and the appropriate review and approval obtained. The document will then be re-issued.

Hand written changes to a Manufacturing Order or related shop traveller document will be in pen and initialled and dated by the President/General Manager, Quality Assurance Manager, or the Lead Hand. These documents are analysed by Quality Assurance to determine if this should be a permanent change or if it was a one-time occurrence. Quality Assurance will analyse what effect the proposed change will have on other areas.

Revisions to a procedure may be made at any time as required and may occur from Corrective Actions, Audit observations, Management Review meetings, or request from effected personnel.

Customer approved procedures are considered "Frozen" and cannot be changed without Quality Assurance obtaining the appropriate customer approvals.

Changes to documents require the same approvals as the original and are prepared, reviewed and approved in accordance with section 7.5.2.1 above.

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The revision page shows the date and reason for the revision of the procedure. This page must also reflect the history of the procedure.

### 7.5.3 Control of documented information

#### 7.5.3.1 Distribution

New or revised procedures are available to all operators on the computer.

Where controlled hard-copies need to be issued, each page must be stamped, in red, with the word "CONTROLLED" and its controlled status noted on the master index.

Original procedures are not stamped "CONTROLLED" so that they may be used to generate a "CONTROLLED" copy.

Original procedures are kept in the Quality Assurance office and may only be removed when replaced by a new revision.

Photocopies, printed or saved data is considered not controlled.

A Document Revision Training record is issued to the appropriate areas concurrent with the release of the procedure.

This form indicates the following:

- (a) the document title and number
- (b) the revision number and date of the revision
- (c) the reason for the change
- (d) operators required to read the document and sign off
- (e) sign off by the distributor that the old revision was removed

All obsolete original procedures are stamped "OBSOLETE" in red and kept on file in the Precision Plate Ltd. office or suitable storage area for a minimum of 6 years or as requested by individual contract. Disposal is as per the Quality Records Index.

#### 7.5.3.2 Electronic Data

The President/General Manager and the Quality Assurance Manager are responsible for the control of the computer system, hardware, software and data.

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The computer system has restricted access to various files/data as set-up by the President/General Manager or the Quality Assurance Manager including individual password identification.

The backup and recovery of the computer system, hardware, software and data is as per procedure GP04-10.

**7.5.3.3 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.

Records can be in the form of hard copy or electronic media.

All quality records are listed on the Quality Record Index that details department, retention times, location and disposal and is maintained and controlled by Quality Assurance.

Quality records are collected by the Quality Assurance Manager, Administration and Lead hands or designate.

Electronic records are backed up and the backup copy of the current quality records are maintained off site.

Disposal of the records is conducted by the method stated on the Quality Records Index.

Supplier Quality Requirements and Purchase Order Terms and Conditions are defined and posted on the company website and a link is provided on each Purchase Order. These include requirements for control of records by suppliers.

**7.5.3.4 Record Retention**

Retention periods have been defined in the “Quality Record Index”. The control of records satisfies regulatory and customer requirements.

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## 8. OPERATION

### 8.1 Operational Planning and Control

Precision Plate plans, implements, and controls the processes needed to meet the requirements for the provision of products and services. The processes have been mapped from customer related processes to the delivery of the product. The process map has been approved by a cross functional team consisting of:

- Production
- Quality
- Purchasing

Planning of product realization is consistent with the requirements of the other processes of the quality management system.

During the planning of product realization, Precision Plate Ltd. determines the following, as appropriate:

- (a) quality objectives and requirements for the product.  
These are established during the contract review process.
- (b) the need to establish processes and documents, and to provide resources specific to the product.
- (c) required verification, validation, monitoring, measurement, inspection, and test activities specific to the product and the criteria for product acceptance
- (d) records needed to provide evidence that the realization processes and resulting product meet requirements.
- (e) configuration management appropriate to the product or process including controls for identification, storage, change and reporting of the current status products and process during the life of project.
- (f) resources to support the use and maintenance of products.

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### Control of Work Transfers

Requirements for work transfers will be determined during the Feasibility Commitment Stage of the planning process and reviewed as necessary if work is temporarily or permanently transferred between facilities or suppliers.

The control and monitoring of work transfers include determining the requirements for the operation, which supplier would be best, any special supplier instructions/tooling/source inspection requirements and eventual receipt and inspection in house, etc.

Work Transfer points will be identified on the Shop Traveler through the use of Bill of Material comment lines at either the Process Specification Level or the Product level as appropriate. Instructional notes or references to additional procedures are included as necessary to verify the conformity of the work to requirements.

### Project Management

Project Management activities include planning, implementation and updating of specific customer order requirements as they interact with the scheduling and concurrent processing of the entire production backlog across various plating processes.

(a) The process requires inputs from various departments and includes the following

- Sales forecasts and projections.
- Customer orders and change notices (**Processed per GP09-10-01**)
- New product launches and first article directives
  - o New Product, BOM and Routing creation (**GP03-10**)
  - o PPAP requirements
  - o First Article manufacturing order processing (**GP09-10-02**)
- Purchasing and raw material delivery schedules
  - o Chemistry and solution items
  - o Tooling and plating racks
  - o Packaging materials
  - o Customer supplied materials
- Human Resources and skills planning
  - o Skills and training matrix
  - o Work schedules and vacation requests
  - o Inspection resources

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- (b) A Data Warehouse is maintained in the manufacturing computer system and is accessible throughout the organization to provide real-time visibility on production status
- (c) The project scheduling is updated as a result of manufacturing and shop floor processing, inspection and packaging activities. Lead hands are responsible to arrange for pickup by customer or carrier.
- (d) Production is scheduled by the President/General Manager or Lead Hands in order to meet customer requirements.

### 8.1.1 Operational Risk Management

- (a) Risk is assessed at the Process and/or Product Family level to determine the likelihood, consequences and thresholds for risk based on:
  - Special requirements determined by the customer
  - Statutory, regulatory or other requirements
  - Critical items and key characteristics
  - Flow-down requirements to the supply chain
  - Ability of Product Realization activities to meet contractual quality and delivery demands
- (b) Risk assessment tools are incorporated into the Team Feasibility Commitment Form and are the responsibility of the team leader conducting the feasibility evaluation.
- (c) Identified risks are ranked and addressed if the level of risk requires:
  - special notification and communication on processing documentation
  - implementation of risk mitigation activities
  - appropriate controls and monitoring throughout the product realization process
  - additional risk assessment (FMEA's, Enhanced Control Plans, Statistical Studies, First Article projects, KPI tracking)

The Quality Assurance Manager is responsible to review Operational Risks and develop action plans as required to address unfavourable risks that are identified.

### 8.1.2 Configuration and Change Management

Precision Plate Ltd. reacts to changes that impact product realization. The effects of any change, including those changes caused by any supplier, are addressed, and verification and validation activities are defined to ensure compliance with customer requirements.

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Items falling under Configuration Management Control may include:

- Changes to customer prints or revision levels
- Changes of Plating Process specification on a product
- Solution and plating bath control sheet changes
- Changes to Written Procedures

When required by the customer, additional verification / identification requirements, such as those required for new product introductions, shall be met.

Any product realization change affecting customer requirements requires notification to, and agreement from, the customer. Changes are communicated to the customer by the Sales department and approvals are secured by appropriate personnel.

**8.1.3 Product Safety**

Product safety design considerations are solely the responsibility of the customer. Precision Plate determines and manages risk associated with processing customer product and related concerns around special process requirements.

The criticality of product safety is communicated during employee training along with the understanding of the Product Safety Reporting Policy that protects employees from negative repercussions from reporting product nonconformances.

**8.1.4 Prevention of Counterfeit Parts**

Precision Plate’s processing is limited to application of plating and surface finishing of customer supplied parts. Assembly or supplying of components is not generally required.

Special steps are taken to ensure that the constituents of plating baths and metals is controlled in order to ensure compliance to customer requirements or process parameters.

This is achieved through the use of solution control sheets which specify solution limitations and components. Purchasing documentation clearly defines the product, chemistry and makeup of solutions additives. The purity and chemical properties of metal anodes are also defined during the purchasing process.

Labelling of chemistry and recognition of product labels is part of operator and WHMIS training. Receiving procedures identify the responsibility of the receiver to match incoming product to purchase order requirement.



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## 8.2 Requirements for Products and Services

### 8.2.1 Customer Communication

Precision Plate Ltd. determines and implements effective arrangements for communicating with customers in relation to:

- (a) product information – General Manager or other technical liaison
- (b) enquires, contracts, including amendments – Customer Service
- (c) customer feedback, including customer complaints – Quality Manager  
- Customer complaints and returns are documented on a Non-Conformance Report.  
The NCR number is used as a Return Authorization Number should the customer request one.

Precision Plate Ltd. has the ability or will make every effort to accommodate communication in a customer-specified format (e.g. computer-aided data) or language as required.

Communication with customers shall include:

- (a) providing information relating to products and services;
- (b) handling enquiries, contracts, or orders, including changes;
- (c) obtaining customer feedback relating to products and services, including customer complaints;
- (d) handling or controlling customer property;
- (e) establishing specific requirements for contingency actions, when relevant.

### 8.2.2 Determining the Requirements for Products and Services

Precision Plate Ltd. determines the following during planning stages:

- (a) requirements specified by the customer, including the requirements for delivery and post delivery activities.
- (b) requirements not stated by the customer but necessary for specified or intended use, where known.
- (c) statutory and regulatory requirements applicable to the product.
- (d) any additional requirements considered necessary by Precision Plate Ltd.

The contract review process starts with the receipt of a RFQ by fax, mail, or e-mail. The RFQ is forwarded to the President/General Manager or designee. The President/General Manager or designee reviews the RFQ, defines the product when required, and documents it on a written quote.

### Established Processes

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When the product is adequately defined and where it follows an established process, and if the President/General Manager or designee determines that Precision Plate Ltd. has the capability (capacity) to process the product the quote will be marked “TFC NA” and initialed by the President/General Manager or designee.

**New Process Development**

If the product is new and requires a new process to be developed the President/General Manager assembles a Cross Functional Team consisting of, as a minimum, production, human resources/customer service and quality.

A team feasibility meeting is conducted and documented on the Team Feasibility Commitment form. If it is determined that the product is feasible, a quote is prepared by the President/General Manager.

The form is approved by the President/General Manager and personnel listed on the form. Any conflicts, discrepancies, or differences between the RFQ and the team feasibility form are resolved.

Customer requirements and references to technical specifications are included in the planning of product realization as a component of the quality system. These requirements are considered in the contract review process. The review is documented on the Team Feasibility Commitment Form where applicable.

Acceptance criteria is defined by a cross-functional team during the product planning process and, where required, is approved by the customer (during the PPAP process).

Customer specific requirements are considered during the contract review process (Team Feasibility Commitment Form). If an amendment is required after the acceptance of the quote, the contract review process is repeated. The President/General Manager or designee notify the affected personnel or customer of the change. This notification may be by email or fax.

The President/General Manager maintains the RFQ in the customer file.

Note 1: Post-delivery activities include any after-sales product service provided as part of the customer contract or purchase order.

Note 2: This requirement includes recycling, environmental impact, and characteristics identified as a result of the organization’s knowledge of the product and manufacturing processes.

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Note 3: Compliance includes all applicable government, safety, and environmental regulations, applied to acquisition, storage, handling, recycling, elimination of disposal of materials.

### 8.2.3 Review of requirements related to product and Services

Precision Plate Ltd. reviews the requirements related to the product. This review is conducted prior to the commitment to supply product to the customer. (e.g. acceptance of contracts or purchase orders, acceptance of changes to contracts or purchase orders) and shall ensure that:

- (a) product requirements are defined.
- (b) contract or order requirements differing from those previously expressed are resolved.
- (c) and Precision Plate Ltd. has the ability to meet the defined requirements.
- (d) special requirements of the product are determined
- (e) risks associated with the supply of product are addressed

When customer requirements are not clearly defined the President/General Manager or designate is responsible to contact the customer directly for clarification prior to acceptance. Written confirmation from the customer shall be obtained if possible.

Key characteristics are identified. Key characteristic can include product characteristics or process parameters. All process steps that affect the key characteristics will be identified on the Shop Traveler through the use of Bill of Material comment lines.

Instructional notes or references to additional procedures are included as necessary to verify the conformity of the work to requirements.

Where necessary, the key characteristics references are emphasized on the Shop Traveler through the use of highlighting, special symbol designation or other means.

The contract review process is complete when the President/General Manager completes a review of the RFQ and Purchase Order to ensure that they match. Approval of this process is indicated by generation and sign off of the Manufacturing Order. **(ref. GP09-10-01).**

Records of the results of the review and actions arising from the review are maintained

If the Purchase Order is for a repetitive order, the Manufacturing Order can be generated as per GP09-10-01 and notes identifying any risks or unusual requirements for that part are highlighted

### 8.2.4 Changes to Requirements for Products and Services

Where product requirements are changed, Precision Plate Ltd. ensures that a review of the Team Feasibility Commitment Form is performed, if necessary, and that relevant documents are amended.

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Relevant personnel are made aware of the changed requirements. Operators are made aware of changes to procedures or work instructions by sign off on a Document Revision Training Record.

### 8.3 Design and Development of Products and Services

Design is not a part of the scope of the Precision Plate Quality Management System

### 8.4 Control of Externally Provided Processes, Products, and Services

#### 8.4.1 General

All products and services purchased must conform to Precision Plate Ltd. contractual requirements. The selection of sources is dependent upon the supplier's demonstrated ability to supply product and perform services.

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

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.

The President/General Manager and the Quality Assurance Manager are responsible for developing and maintaining an overall supplier performance evaluation system.

Supplier Quality Requirements and Purchase Order Terms and Conditions are posted on the company website and a link is provided on each Purchase Order.

#### 8.4.1.1 Supplier Selection

Suppliers are evaluated and selected based on their ability to supply products in accordance with Precision's requirements.

Suppliers are selected and rated by percentage in four areas which include

1. **Quality** – the ability to provide conforming products or services.
2. **Delivery** – On-time delivery performance without need of expediting by purchasing.
3. **Price** – competitive pricing and demonstrated response to price reductions as necessary
4. **Service** – Overall level of service, handling non-conformances, documentation etc.

An overall rating of **70%** minimum must be achieved to maintain Approved status.

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Suppliers that are third party registered are still subject to the performance ratings.

New suppliers are approved by Purchasing and/or Quality Assurance through an initial survey utilizing the Supplier Self Audit form or evidence of third party registration and added to the ASL with a conditional status.

New suppliers that have demonstrated the capability to perform to minimum requirements for six months may be updated to Approved status.

Quality Assurance may elect to perform a Supplier Quality System Audit on active Precision Plate Ltd. suppliers that are not third party registered organizations.

When required by contract, or deemed necessary by Quality Assurance, surveillance or source inspection is carried out by Quality Assurance (and/or the Customer when required), at the supplier's facility.

A summary of discrepancies found during the Supplier Quality System Audit is recorded on the Supplier Quality Audit Report and is issued to the supplier with a request for corrective action.

The Approved Suppliers List specifies the category, company name and address, supplier code, approval date, quality program which includes ISO registration expiry dates, review date, and comments.

Approval status flags include:

- **(A)** Approved (supplier meets all the requirements of the supplier evaluation program)
- **(C)** Conditional (supplier is currently under 6 months review, NCR's are pending, initial evaluation is not completed etc.)
- **(N)** Not Approved (supplier does not meet the requirements of the supplier evaluation program)

#### 8.4.1.2 Supplier Corrective Action

Unacceptable quality ratings, or failure to pass a Supplier Quality System Audit or Supplier Self Audit, may result in a supplier being designated as a Conditional supplier by the Quality Assurance Manager.

Suppliers designated as Conditional will be issued an NCR report (**Ref GP14-10**) report by Quality Assurance outlining the performance issues and response deadline. The supplier will be requested to initiate immediate action, root cause analysis and corrective action as required and submit the completed NCR for Quality Assurance Review.

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Provided that the supplier provides a satisfactory corrective action plan, the supplier Approved status may be reinstated pending 6 months of demonstrated performance improvement and any follow-up/verification activities outlined on the NCR.

Suppliers failing to meet NCR response deadlines, or in excess of 10 working days in responding, or failing to provide satisfactory corrective action may be flagged as “Not Approved” on the Approved Supplier List. Quality Assurance is responsible to:

- (a) Identify all purchase orders for the supplier containing material or services that could affect product quality
- (b) Inform Purchasing to notify the supplier and determine if any open purchase orders for this supplier must be changed or cancelled, and to identify alternate suppliers for products or services.
- (c) Identify other possible nonconformance issues with similar suppliers or products.
- (d) Flag supplier records in the purchasing system as “Not Approved” to control the supplier usage.
- (e) Update the Approved Suppliers List and distribute as necessary

**8.4.2 Type and Extent of Control**

**Supplier monitoring**

Supplier performance is monitored through the following indicators:

- (a) delivered product quality;
- (b) customer complaints
- (c) delivery schedule performance (including incidents of premium freight);
- (d) notifications related to customer designated supplier quality or delivery issues are indicated on the Approved Supplier List comment field.

Precision Plate Ltd. promotes supplier monitoring of their manufacturing process performance. If the supplier is approved due to third party registration the supplier will monitor and analyze this data specified by the requirements of the quality system they are registered to.

Precision Plate Ltd. requires on-time delivery performance from all of their suppliers. This is communicated to our suppliers by the statement on our purchase order “If unable to meet order requirements, including ship date, notify sender immediately”. Appropriate planning information and purchase commitments are provided to suppliers to ensure this expectation is attained.

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Delivery performance is monitored monthly and documented in the Supplier On -Time Delivery Summary. Overall performance is monitored annually.

**Supplier Quality Management System Development**

Unless otherwise specified by the customer, Precision Plate Ltd.’s suppliers, whose products or services impact on the quality of the final product, are third party registered to by an accredited third-party certification body (AS9100 or ISO9001), are accredited to other appropriate standards defined by the customer by a third party accrediting body, or are an OEM.

In the event of a merger, acquisition, or an affiliation associated with a supplier, the Purchasing Manager verifies the continuity of the supplier’s quality management system and its effectiveness.

This is done by means of one or more of the following:

- (a) Onsite verification visit,
- (b) Receipt of QMS registration certificate with new customer name,
- (c) Monitoring of ongoing performance data,
- (d) Completion of new supplier data sheet.

**Regulatory compliance**

All purchased materials used in the manufacturing process must comply with governmental safety and environmental constraints on restricted, toxic and hazardous materials.

The purchase order states "Products and materials supplied shall conform to both specified and regulatory requirements". Evidence of compliance in the form of appropriate certificates, letters of compliance, or acknowledged terms and conditions are supplied when requested.

**Customer-approved sources**

Where specified by contract (e.g. customer engineering drawings, specification), Precision Plate Ltd. purchases products, materials, or services from approved sources.

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

**8.4.2.1 Verification of externally provided products and services**

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Precision Plate Ltd. has established and implemented inspection or other activities necessary for ensuring that product meets specified purchase requirements.

(Ref: GP10-20)

It is clearly stated on the P.O. that "The supplier shall afford Precision Plate Ltd., Precision Plate Ltd's customer or regulatory agency the right of entry at the suppliers' premises and the supplier's subcontractors premises to verify that purchased and subcontracted product conforms to the specified requirements."

Such verification shall be for the benefit of the company and specify the verification and release method. This clause provides for representatives of the company to visit suppliers and examine the physical condition of the material, the supplier processes and the effectiveness of their Quality System.

Where specified by contract, customers have the right to perform verification at our facility. Such customer verification may include our suppliers.

Customer verification is performed by the customer at their expense and for their benefit, but in no way relieves Precision Plate Ltd. of the responsibility to deliver products and services that fully satisfy the customer's contractual requirements.

### **Incoming product quality acceptance**

Precision Plate Ltd. assures the quality of purchased product by utilizing one or more of the following methods:

- (a) receipt of, and review of, statistical data, required documentation, test records
- (b) receiving inspection and/or testing such as sampling based on supplier performance;
- (c) part evaluation by a designated laboratory or third party
- (d) fit and function testing.
- (e) First Article or PPAP documentation
- (f) another method agreed with customer.

Incoming product is not used or processed until it has been inspected or otherwise verified as conforming to specified requirements. Precision Plate Ltd. does not use a Positive Recall system for by-passing verifications.

Verification of conformance to the specified requirements is in accordance with the control plan and/or documented procedures or work instructions.

In determining the amount and nature of receiving inspection, consideration is given to the amount of control exercised at our supplier's premises and the recorded evidence of conformance provided (such as C of A, C of C and/or statistical data).



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Certificates of Analysis or Certificates of Compliance are required for incoming metal anodes and chemical standards. The requirement for the certification is indicated on the Purchase Order. The certifications may include physical, mechanical, chemical, functional, dimensional and visual requirements of the drawing/specification requirements.

When deemed necessary by Quality Assurance or the customer, certifications will be verified by an outside source.

Any additional test/inspection data required from suppliers is detailed on the Purchase Order

**8.4.3 Information for External Providers**

All material and services purchased in support of deliverable products shall be procured by the use of a Purchase Order (PO). Purchase orders are created and signed by the originator, then reviewed for adequate definition by the President/General Manager and/or Quality Assurance. This review process ensures that specified purchase requirements have been adequately defined and must take place before the Purchase order is released to the supplier.

While process material and services may be ordered by phone or fax or computer transfer, all suppliers shall be in receipt of an approved PO prior to their shipment of material or provision of services. Each P.O. shall clearly indicate the subcontractor who is providing the material or services.

Purchasing will generate a Purchase Order on the computer system. **(see GP06-10, Procedure to Generate a Purchase Order).**

While multiple items may be ordered on one PO, each different type of material or service shall be a line item which, when applicable, shall specify:

- Part number
- Revision level
- Grade
- Type
- Quantity
- Pricing
- Expected delivery date
- Destination

The following information describes the product purchased and will be detailed on Purchase Orders or attachments where appropriate;

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- (a) requirements for approval of product, procedures, processes, and equipment,
- (b) requirements for qualification of personnel, and
- (c) quality management system requirements.
- (d) the identification and revision status of specifications, drawings, process requirements, inspection/verification instructions and other relevant technical data
- (e) requirements for design, test, inspection, verification (including production process verification) use of statistical techniques for product acceptance, and related instructions for acceptance by the organization, and as applicable critical items including key characteristics
- (f) requirements for test specimens (e.g., production method, number, storage conditions) for product approval, inspection/verification, investigation or auditing

The following information is stated on the Supplier Quality Systems Requirements on our website;

- (g) requirements regarding the need for the supplier to:
  - notify the organization of nonconforming material
  - obtain organizational approval for nonconforming product disposition
  - notify the organization of changes in product and/or process, changes of suppliers, changes of manufacturing facility location and, where required, obtain organization approval, and
  - flow down to the supply chain the applicable requirements including customer requirements
- (h) records retention requirements
- (i) right of access by the organization, and their customer and regulatory authorities, to the applicable areas of all facilities, at any level of the supply chain involved in the order and to perform source inspection if necessary.
- (j) prevention of the use of counterfeit parts or the substitution of alternative materials even though they may be generic to the items specified on the purchase order. The supplier will notify the purchaser regarding the use of substitute products and obtain the approval for their use.

## 8.5 Production and Service Provision

### 8.5.1 Control of Production and Service Provision

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Precision Plate Ltd. plans and carries out production and service provision under controlled conditions. Controlled conditions include, as applicable

- a) the availability of information that describes the characteristics of the product, (control plans, drawings, work instructions and specifications etc.). Product specific information is included with the shop traveler package.
- b) work instructions are available, as necessary, at the appropriate work areas and operators are trained.
- c) suitable equipment is selected during process planning
- d) monitoring and measuring equipment is available and is used in accordance with documented procedures or the control plan.
- e) implementation of monitoring and measurement is conducted in accordance with the control plan. Requirements for monitoring and measurement of products or process are determined during the process planning stage.
- f) release, delivery and post-delivery activities are implemented in accordance with the control plan and work instructions that are developed during process planning. Any product specific packaging or shipping requirements will be noted on the shop traveler.
- g) controls over batch and lot processing of product during production. Plating orders are divided into individual batches based on weight or piece count to optimize production flow and process quality. When necessary, orders may be split (to expedite partial rush deliveries, to maintain traceability etc.). In these instances a copy of the manufacturing order is generated and suffixed with a letter (A, B, C ...). All relevant certificates of compliance must reference the split manufacturing order. The splitting of individual plating batches across multiple shipments to the customer should be avoided whenever possible in order to maintain batch integrity.

Batches containing serialized product are identified to the individual part level and tracked accordingly at plating, baking, inspection and packing stages.

Reworked batches during the production stage are cross-referenced to the original processing information along with rework records for date and time, operator, plating tanks etc.

- h) Inspection and verification activities are noted and signed off on the shop traveler, batch labels or other appropriate tagging to indicate the inspection status of plating batches.

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- i) Processes are designed to avoid the contamination of product with foreign objects or the mixing of product at various stages of production. Plating barrels, spinners and dryers are checked during the transition from one product to another to identify orphaned product remaining from previous batches processed. Individual plating batches are identified as soon as possible after processing though plating baths.

Methods are established for control of work areas including:

- Housekeeping procedures.
- pre-kitting of plating batches into individual totes or racks
- scrap recovery containers for collection and recycling of test product, control samples and media.
- Isolated packaging areas remote from plating production zones.

- j) supplies related to product realization are monitored to control their effects on product conformity including:

- Rinse water supply quantity and quality. Where appropriate, rinse water is filtered, treated and recycled within the manufacturing process. Constant-flowing or counter-flow rinse tanks and the use of deionized water is utilized at critical points as determined by the process design.
- Electro-plating and cleaning tanks requiring a rectified electrical source are supplied using calibrated equipment as appropriate to the product requirements. Monitoring of power continuity is recorded when required.
- Monthly inventory counts of solution add components are performed to avoid stock-outs and shortages.

- k) criteria for workmanship are defined using written procedures, external specification (AMS or ASTM etc.) or Inspection Procedures Manual (Ref IP001).

### Product approval process

When required by the customer, Precision Plate Ltd. complies with product and process approval procedures (PPAP) recognized by the customer.

PPAP procedures shall be conducted as per the AIAG Production Part Approval Process Manual unless the customer specifies otherwise.

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Part approval shall be completed after the verification of manufacturing processes.

A master sample shall be retained for the same period as the production part approval records or until a new master sample is produced for the same customer part number for customer approval. The master sample shall be identified with the part number and current revision level, as well as the customer approval date.

When required by the customer, the product approval process is applicable to suppliers. Qualified suppliers will submit a PPAP, to be approved, on each component supplied.

Additional verification/identification requirements for product approval specified by the customer are met when required. This may include both destructive and non-destructive testing, porosity testing, purity tests, salt spray or heat testing etc.

**Control of Production Process Changes**

Production processes are considered “frozen” processes and may not be altered, revised, deviated from.

**8.5.1.1 Control of Production Equipment, Tools, and Software Programs**

Precision Plate Ltd. provides resources for tool and gauging, and verification activities. Tooling verification approval is the responsibility of the Quality Assurance Manager and is conducted during the initial process run. Precision Plate Ltd. has established and implemented a system for production tooling management including:

- maintenance and repair facilities and personnel
- storage and recovery (racks and tooling identification)
- change programs for consumable products are documented.
- process design modification documentation, including revision change level

President/General Manager monitors these activities when outsourced.

**8.5.1.2 Validation and Control of Special Processes**

Precision Plate Ltd. validates processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement.

Validation demonstrates the ability of these processes to achieve planned results.

The Quality Manager is responsible for the validation process.

This process is recorded on a Process Validation Document.

Precision Plate Ltd. has established arrangements for these processes including, as applicable,

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- (a) defined criteria for review and approval of the processes - Special processes are determined during the Feasibility Commitment stage and are considered when developing manufacturing processes
- (b) approval of equipment – once it has been determined that processing steps involving particular cleaning, plating, rinse or post-plating solutions will be used, the actual tank sequencing is defined in a written procedure. Bath make-up requirements, solution maintenance and testing criteria are also established and documented.  
Equipment approval also involves the selection of plating racks and barrels.
- (c) qualification of personnel – individual operators are trained and qualified to perform specific plating operations. All shifts are staffed with an experienced Lead Hand to oversee the manufacturing process, provide technical guidance and troubleshoot production issues.
- (d) use of specific methods and procedures in accordance with control plans and written procedures. The procedures include requirements for monitoring and control of steps in the process that may affect product conformity including:
  - a. pH and temperature checks of solutions during production
  - b. scheduled solution maintenance and line maintenance
  - c. periodic testing of solutions according to documented schedules, parameters, and analytical test procedures
  - d. third party testing of solutions as appropriate
  - e. oven logs and oven temperature recording
  - f. processing of representative samples or test coupons concurrent with actual plating batches for testing
- (e) requirements for records in accordance with control plans – records of batch processing, solution testing, solution maintenance, oven bake records and salt spray results are maintained.
- (f) Revalidation as required – resulting from changes to process documentation, solutions, product requirements etc.

### 8.5.1.3 Production Process Verification

#### Production Process Verification

Production processes are validated including product validation from first production runs to ensure that all requirements are met.

The process is repeated when changes occur that invalidate original results

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Precision Plate Ltd. develops control plans at the product, process or material level as appropriate.

Control plans are developed during process planning and are available for prototype, pre-launch and production that takes into account the manufacturing process FMEA outputs.

Control plans :

- list the controls used for the manufacturing process control,
- include methods for monitoring of control exercised over special characteristics defined by both customer and Precision Plate Ltd.
- include the customer-required information, if any, and
- initiate the specified reaction plan when the process becomes unstable or not statistically capable.

Control plans are reviewed and updated when any changes occur affecting product, manufacturing process measurement, logistics, supply sources, or FMEA results.

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

**First Article**

Precision Plate Ltd. utilizes a first article program for any new parts being processed on the initial production run. This program utilizes, wherever possible, the same suppliers, tooling and manufacturing processes to be used in subsequent production.

All performance-testing activities are monitored for timely completion and conformity to requirements by means of the First Article testing (ref. GP09-10-02). If contractually required by the customer, Precision Plate Ltd. will utilize the AS9102 FAI process.

If processes in the first article production are outsourced, Precision Plate Ltd. is responsible for the outsourced services, including technical leadership.

**8.5.2 Identification and Traceability**

Identification and traceability of product is maintained through all stages of storage, processing, inspection, packaging and shipping.

Similar customer supplied products identified by the customer as unique lots, are processed separately on separate Manufacturing Orders to maintain traceability.

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Upon receipt, customer supplied product is held in the receiving hold area and is identified by the customer part number and, if applicable, the purchase/contract order number and lot number.

A Manufacturing Order is required to release product from the receiving hold area. The Manufacturing Order includes all customer supplied identification numbers and is used to maintain traceability and identify the product through all stages beyond the receiving hold area.

When required, individual batches of a Manufacturing Order are assigned a batch number. A batch label listing Manufacturing Order identification numbers is used to identify these batches. This batch number is referenced on all documentation associated with the production process to maintain the links between the current production step and subsequent operations.

When product configuration differs in any way from the customer’s specified configuration this is noted on each individual batch label.

When portions of a Manufacturing Order are separated as a result of being at different stages in the process and the parts cannot be readily identified, then a label bearing the Manufacturing Order number, the date, and the processor's initials is put with the unmarked components.

Upon completion and acceptance of final inspection, a Packing Slip/Certificate of Compliance is generated. This document accompanies the shipment to the customer and references all Manufacturing Order and customer identification numbers.

**8.5.3 Property Belonging to Customers or External Providers**

Precision Plate Ltd. exercises care with customer’s property while it is under our control or being used by our organization. Precision Plate Ltd. 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, it is documented on a non-conformance form and reported to the customer. Records are maintained.

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

If customer-owned gauging is subject to a recalibration cycle the calibration status must be evident of the gauge (or gauge container). The recalibration cycle must be tracked in an appropriate manner to avoid use of out-of-calibration gauges/tooling and to allow notification of customer.

NOTE: A customer’s or external provider’s property can include materials, components, tools and equipment, premises, intellectual property, and personal data.



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#### 8.5.4 Preservation

Precision Plate Ltd. 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 and are detailed on the Manufacturing Order or in standard procedures and comply with customer requirements.

The Lead Hands and/or quality control personnel are responsible for ensuring packaging is adequate and for arranging deliveries in accordance with the Manufacturing Order and customer requirements. **(ref: GP15-30 Packaging and GP15-50 Shipping)**

#### Storage and inventory

Product in inventory is assessed during month end inventory counts to detect deterioration. The General Manager maintains inventory levels appropriate to the business.

Obsolete product is tagged and placed in quarantine per Control of nonconforming product.

Chemicals are identified using WHMIS and/or supplier labels.

#### 8.5.5 Post-Delivery Activities

Post-delivery support is extended to the customer in the form of technical liaison, responses to customer complaints and handling of field generated non-conformances.

Information with respect to service concerns or customer complaints are communicated to manufacturing, engineering and design personnel by means of the customer complaint system recorded on a Nonconforming Report (NCR). This allows for root cause analysis, corrective action, and follow-up verification to be performed.

No technical usage, repair, overhaul or service documentation is associated with products manufactured by Precision Plate Ltd.

Where sorting or rework is performed at the customer location, or in the field, the product acceptance criteria will be consistent with original manufacturing requirements unless agreed otherwise with the customer or end-user.

#### Service agreements with customers

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Precision Plate Ltd. does not enter into service agreements between Precision Plate Ltd. and the customer. Should this situation occur, Precision Plate Ltd. shall verify the effectiveness of any service centers, any special-purpose tools or measurement equipment, and the training of service personnel.

### 8.5.6 Control of Changes

Precision Plate controls changes for production or service provision, to ensure conformity with requirements. The General Manager and Quality Assurance Manger are authorized to approve production or service provision changes and to approve changes to documented procedures. Where necessary approval from the customer is obtained prior to implementing the change.

Documentation regarding changes are maintained in the form of Document training records, revised Team Feasibility Reviews, Change Notices, and FMEA reviews.

### 8.6 Release of Products and Services

Precision Plate Ltd. 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.

Sign-offs on the shop traveler indicate the person performing in-coming, in-process, packaging and authorization for final release of product for delivery to the customer.

The person releasing the product determines that all applicable operations and product verification has been performed at each stage.

When product is released for further processing prior to completion of a required inspection or testing stage, the product is identified using a “NOT INSPECTED” tag which clearly defines the pending inspection and person authorizing release.

The release of product and delivery of service to the customer shall not proceed until all the planned arrangements, measurements, inspection, testing and monitoring, **(see 8.2)** have been satisfactorily completed, unless otherwise approved by a relevant authority, and where applicable, by the customer.

Procedures for inspection and testing activities detailing the verification of specified requirements for products have been established and are maintained **(see GP10 -10, GP10-20, GP10-21, GP10-40 and IP001 Inspection Procedure Manual)**.

The required inspection and testing, and corresponding records are detailed in the control plan and/or documented procedures.

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When the organization uses sampling inspection as a means of product acceptance, the plan is statistically valid and appropriate for use. The plan precludes the acceptance of lots whose samples have known nonconformities. When required, the plan is submitted for customer approval.

Appropriate acceptance criteria for all other situations such as visual standards are documented. Evidence of compliance to the appropriate product acceptance criteria is recorded on the Packing Slip/Certificate of Compliance.

### 8.7 Control of Nonconforming Outputs

Product that does not conform to specified requirements is prevented from unintended use or installation. Nonconforming product is identified, documented, evaluated, segregated (when practical), dispositioned and all concerned functions and interested parties are notified.

Non-conforming products include those with any deviation from drawings, specifications, standards, and purchase contracts. This includes nonconforming product returned by a customer.

All Precision Plate Ltd. personnel are responsible for notifying their immediate supervisor and/or Quality Assurance of any non-conforming products and initiating a Non Conformance Report (**Ref: GP14-10**) detailing a description of the deviation, investigation of root cause, (if known), and the disposition.

Quality Assurance is responsible for controlling Non-Conformance Reports and monitoring activities resulting from the non-conformances.

Supporting process control documentation is annotated when appropriate. Quarantine areas are visually identified throughout Precision Plate Ltd.

Non-conforming product is dealt with in one or more of the following ways:

- (a) by taking action to eliminate the detected nonconformity
- (b) by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
- (c) by taking action to discontinue its original intended use or application.
- (d) by taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started

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(e) by taking actions necessary to contain the effect of the nonconformity on other process or products

All NCRs raised are logged by Quality Assurance.

NCRs are monitored to track timely corrective action responses, to pinpoint trends, for timely disposition and delivery of reworked product, and to establish preventive action programs.

Product, which does not conform to product requirements, is visually identified and controlled to prevent its unintended use or delivery. Identification of suspect parts and materials includes the use of Non-Conforming Reports (NCR), hold tags, reject tags and quarantine areas.

When a disposition approval cannot be satisfied or when additional input is required, the non-conformance disposition will be decided by the management team and/or the customer.

Customers are notified promptly by the Quality Representative or designate in the event that nonconforming product has been shipped. This information is communicated via e-mail or telephone with reference to the notification added to the NCR.

**Control of reworked product.**

Instructions for rework are accessible to the appropriate personnel in their work areas.

**(Ref.GP09-23.)** Reworked product is re-inspected in accordance with the control plan and applicable documented procedures prior to acceptance.

**Customer waivers**

A customer concession or deviation permit is obtained prior to further processing whenever the product or manufacturing process is different from that which is currently approved. Records of expiration dates and/or quantities authorized are maintained with the Manufacturing Order documentation.

Compliance with original or superseding specifications and requirements is resumed upon expiry of authorization or attainment of authorized quantities.

NOTE: The term “nonconforming outputs” includes nonconforming product or service generated internally, received from an external provider, or identified by a customer.

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**9. PERFORMANCE EVALUATION**

**9.1 Monitoring, Measurement, Analysis, and Evaluation**

**9.1.1 General**

Precision Plate Ltd. plans and implements monitoring, measurement, analysis and improvement processes needed to:

- a) demonstrate conformity to product requirements, through the use of control plans that are developed during Production Process Verification.
- b) ensure conformity of the quality management system through the implementation of the internal audit process as described in paragraph
- c) continually improve the effectiveness of the quality management system through the use of the continual improvement system (measures, targets, graphs, action plans, etc.)

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

Precision Plate Ltd. has applied suitable methods for monitoring and, where applicable, measurement of the quality management system processes.

Verification of the effectiveness and performance of the quality management system and its operation is carried out through the use of:

- internal quality audits ( the responsibility of the Quality Manager at planned intervals per the Internal Audit Matrix.),
- business plans, (by General Manager annually)
- customer satisfaction surveys (by Quality Manager annually)
- quality system measurable such as on time delivery, rework, internal and external PPM. These measurements are referred to as Key Performance Indicators (KPI’s) with frequency determined during management review. These are compiled and reviewed by the Quality Manager.

Results are recorded to provide, as a minimum, evidence of the achievement of:

- objectives specified in the quality policy
- objectives specified in the business plan
- customer satisfaction with product supplied

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These methods demonstrate the ability of each process to achieve a planned result. When planned results are not achieved, corrective action is taken, as appropriate.

### 9.1.2 Customer Satisfaction

Precision Plate Ltd. monitors customer satisfaction as one of the quality management system's Key Performance measurements. Performance indications are based on objective data and include, but are not limited to the following:

- delivered part quality performance (PPM),
- customer disruptions including field returns which are entered into the Nonconformance database.
- delivery schedule performance.

External Parts per Million are graphed in order to measure trends of customer dissatisfaction.

Customer complaints are recorded in the Nonconformance Report database.

Delivery schedule performance is monitored monthly by comparing customer requested delivery dates with actual delivery dates.

This information is graphed and reviewed at management review meetings and included in Key Performance Measures.

The customer perception as to whether all requirements have been met is determined through surveys sent to our customers and by customer issued Supplier Performance Reports. The customer is asked to rate our quality, delivery, cost and service against their other suppliers.

The Management Team analyze the feedback as per **GP08-10 Customer Satisfaction Survey Analysis**

### 9.1.3 Analysis and Evaluation

Precision Plate Ltd. collects and analyses data which has been deemed to demonstrate the suitability and effectiveness of the Quality Management System.

These measures enable an evaluation of where continual improvement of the effectiveness of the QMS can be made.

This includes data generated as a result of monitoring and measuring and from other relevant sources.

The analysis of data provides information relating to:

- customer satisfaction

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- conformity to product requirements
- characteristics and trends of processes and products including opportunities for preventive action
- supplier performance data

**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:

- development of priorities for prompt solutions to customer-related problems
- determination of key customer-related trends and correlation for status review, decision-making and long term planning,
- any information system for the timely reporting of product information arising from usage. (i.e. Customer complaints)

In order to determine the current and future expectations of the customer, an annual customer satisfaction survey is sent to the customer and the results analyzed

Company level data for key product features such as Nonconformance Reports, Customer Complaints, late delivery data and performance measurements against the quality objectives are used to document trends in quality, productivity, efficiency, effectiveness, and the cost of poor quality. When a problem area is identified, an action plan is established and implemented by the management team. Priority is given to customer related problems.

**9.2 Internal Audit**

The Quality Management Representative is responsible for ensuring that Precision Plate Ltd. conducts internal audits at planned intervals to determine whether the quality management system conforms to the planned arrangements and that the Quality System is effectively implemented and maintained

Planned arrangements include

- customer contractual requirements
- the requirements of AS9100
- quality system requirements established by Precision Plate Ltd.

The 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 and detailed in one or more of the following documents:

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- the audit plan
- the audit checklist
- the audit report

Internal audits cover all quality management related processes, activities, and shifts, and shall be scheduled according to an annual plan. An audit plan is created once per year (and updated as required).

Some elements detailed in the audit plan will have special emphasis placed on them and will be audited more frequently. These areas are as follows:

- elements which have had nonconformance's in the past.
- elements which protect the interests of our customers and interested parties
- the areas that are highlighted at Management Review (i.e. corrective/preventive actions, internal/external nonconformities and audit findings).

The Quality Management Representative is responsible for the selection of auditors, the conduct of audits, and to ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.

Qualified personnel, independent of the area being audited, carry out the audits. An auditor is considered qualified provided they have an understanding of the department and processes being audited and of generally accepted auditing techniques.

These requirements are extended to external auditors that conduct internal audits with a further understanding that they be included on the Approved Supplier List.

Preference is given to auditors who provide evidence of certified Internal Auditor or Lead Auditor training.

Audit findings are recorded on audit checklists during the audit process. The audit findings are then entered into the audit report which is maintained by the Quality Management Representative and made available during the Management Review Process.

NOTE: See ISO 19011 for guidance.

### **9.3 Management Review**

#### **9.3.1 General**

Top management reviews the quality management system annually at a minimum to ensure 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.



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A Key Performance Measures status review is issued to top management quarterly by the Quality Manager.

### Quality management system performance

Management 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 includes the monitoring of quality objectives, and the regular reporting and evaluation of the cost of poor quality.

These results are recorded in the form of Management Review minutes to provide, as a minimum, evidence of the achievement of:

- the quality objectives specified in the business plan, and
- customer satisfaction with product supplied.

#### 9.3.2 Management Review Inputs

The input to management review includes the following information:

- a. the status of actions from previous management reviews;
- b. changes in external and internal issues that are relevant to the quality management system;
- c. information on the performance and effectiveness of the quality management system, including trends in:
  1. customer satisfaction and feedback from relevant interested parties;
  2. the extent to which quality objectives have been met;
  3. process performance and conformity of products and services;
  4. nonconformities and corrective actions;
  5. monitoring and measurement results;
  6. audit results;
  7. the performance of external providers;
  8. on-time delivery performance;
- d. the adequacy of resources;
- e. the effectiveness of actions taken to address risks and opportunities (see 6.1);
- f. opportunities for improvement.
- g. follow-up actions from previous management reviews,
- h. changes that could affect the quality management system, and
- i. potential impacts pertaining to safety, or the environment.

#### 9.3.3 Management Review Outputs

The outputs of the management review include decisions and actions related to:

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- a. opportunities for improvement;
- b. any need for changes to the quality management system;
- c. resource needs;
- d. risks identified.

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## 10. Improvement

### 10.1 General

Precision Plate Ltd. 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.

### 10.2 Nonconformity and Corrective Action

#### Corrective Action

Action is taken to eliminate the causes of nonconformities in order to prevent recurrence. These actions are documented, monitored and reviewed per Procedure **GP14-11**.

Corrective action includes customer complaints.

Corrective actions taken are appropriate to the effects of the nonconformities encountered.

When a Non-Conforming Report (NCR) is initiated the following occurs:

- (a) the problem is reviewed and defined
- (b) the causes of non-conformities are determined
- (c) the need for action to ensure that nonconformities do not recur is evaluated and the actions needed are determined and implemented,
- (d) remedial or containment actions needed are determined and implemented,
- (e) records of the results of actions taken are recorded on the NCR
- (f) the effectiveness of the corrective action taken is reviewed and followed up
- (g) flow down of corrective action requirements to a supplier when it is determined that the supplier is responsible for the nonconformity.
- (h) specific actions where timely and/or effective corrective actions are not achieved
- (i) determining if additional nonconforming product exists based on the causes of the nonconformities and taking further action when required

#### Problem solving

Problem-solving steps are taken as appropriate for each NCR raised including:

- problem identification
- containment
- root cause identification
- verification of effectiveness of corrective action.

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External non-conformities are handled in the customer prescribed format when specified by the customer. (Example, customer requesting a corrective action in the form of an "8-D" or "7-step").

**Error-proofing**

Error-proofing methods (also referred to as "PokaYoke" methods) are used to solve corrective and preventive issues. Mistake proofing is used to the degree appropriate to the magnitude of the problem and commensurate with the risks encountered. These actions may be initiated as a result of an FMEA.

**Corrective action impact**

Once a corrective action is complete and proven effective, the assignee and/or requestor will consider other areas to implement these controls, to prevent/eliminate a nonconformity.

**10.2.2 Precision Plate retains documented information as evidence of:**

- a. the nature of the nonconformities and any subsequent actions taken;
- b. the results of any corrective action.

**10.3 Continual Improvement**

Precision Plate continually improves the suitability, adequacy, and effectiveness of the quality management system.

Continual Improvement in quality, service, cost, and technology is carried out within Precision Plate Ltd. Opportunities for quality and productivity improvement are identified and implemented using the quality graphs and action plans, preventive and corrective actions, and our business plans.

Information for these projects is gained by using the following list of techniques as appropriate:

- on time delivery results
- customer complaints
- parts per million (PPM)
- internal audit trends
- customer satisfaction feedback
- efficiencies/productivity
- cost of poor quality trends

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### Manufacturing process improvement

Manufacturing process improvement is focused 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 have been deemed capable and stable, or once the product characteristics are predictable and meet requirements.

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

Preventive Actions are documented, monitored and reviewed per Procedure **GP14-11**.

Records of Preventive Actions are maintained which outline the following:

- potential nonconformities and their causes
- the need for action to prevent occurrence of nonconformities,
- implementation and responsibility for action needed,
- results of action taken
- reviews of the effectiveness of the preventive action taken

Quality system inputs are discussed and analyzed during applicable management meetings to detect and eliminate potential causes of nonconformities such as:

- process and work operations which affect product quality
- customer concessions/deviations
- audit results
- quality records
- customer complaints
- key performance measures
- NCR trends

The actions needed to deal with any problems requiring preventive action are determined by Quality Assurance, assigned to the responsible department supervisor and are recorded on the CAR form.

NOTE: Examples of continual improvement opportunities can include lessons learned, problem resolutions, and the benchmarking of best practices.

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**Section 11 – NOTES**

**Section 12 - Quality Manual Distribution**

The latest revision of the Quality Manual shall be controlled electronically and is available on the system under the QualityDocs network path.

Controlled copies will be distributed to concerned parties only upon request to the QA Manager.

Note: No hard copy formats will be distributed.

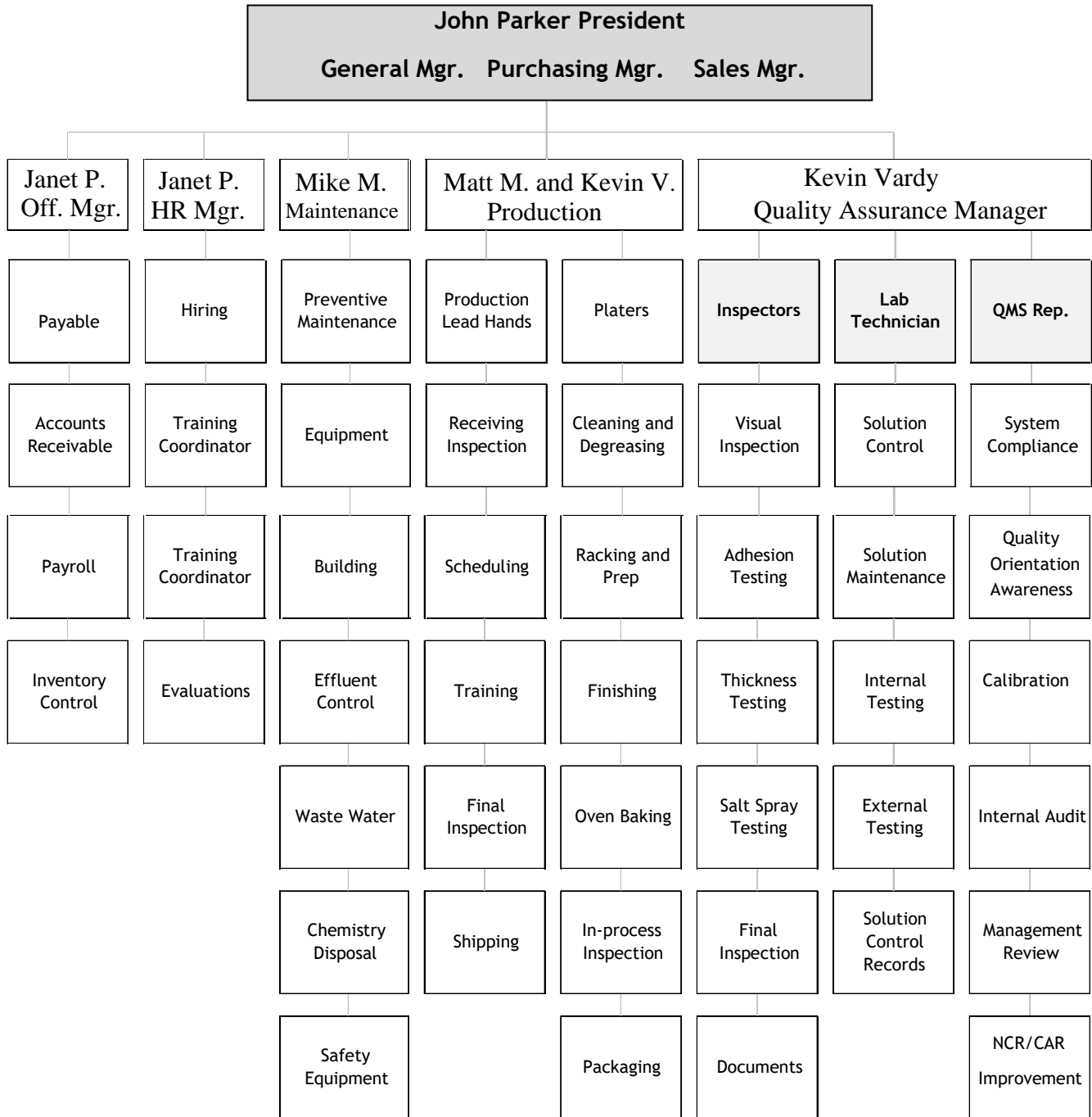
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### Section 13 - QUALITY MANUAL REVISIONS

<u>Date</u>	<u>Rev. No.</u>	<u>Reason for Change</u>
15 Jan. 2014	10	Re-written to requirements of AS9100C. Removed QSP system procedures and included as references. Updated Organizational chart and QMS Flowcharts
Nov 30 2017	11	Rewritten to requirements of AS9100D
Feb 15 2020	12	Added improved process interaction map. Appendix F Added Interested party matrix Appendix G
Feb 25 2022	13	Added 5 year review requirement for all QMS documentation in section 7.5 Replace used of Doc Revision Notification with Training Record for document revision process.

Appendix A – Organizational Chart

**Precision Plate Ltd. Organizational Chart**

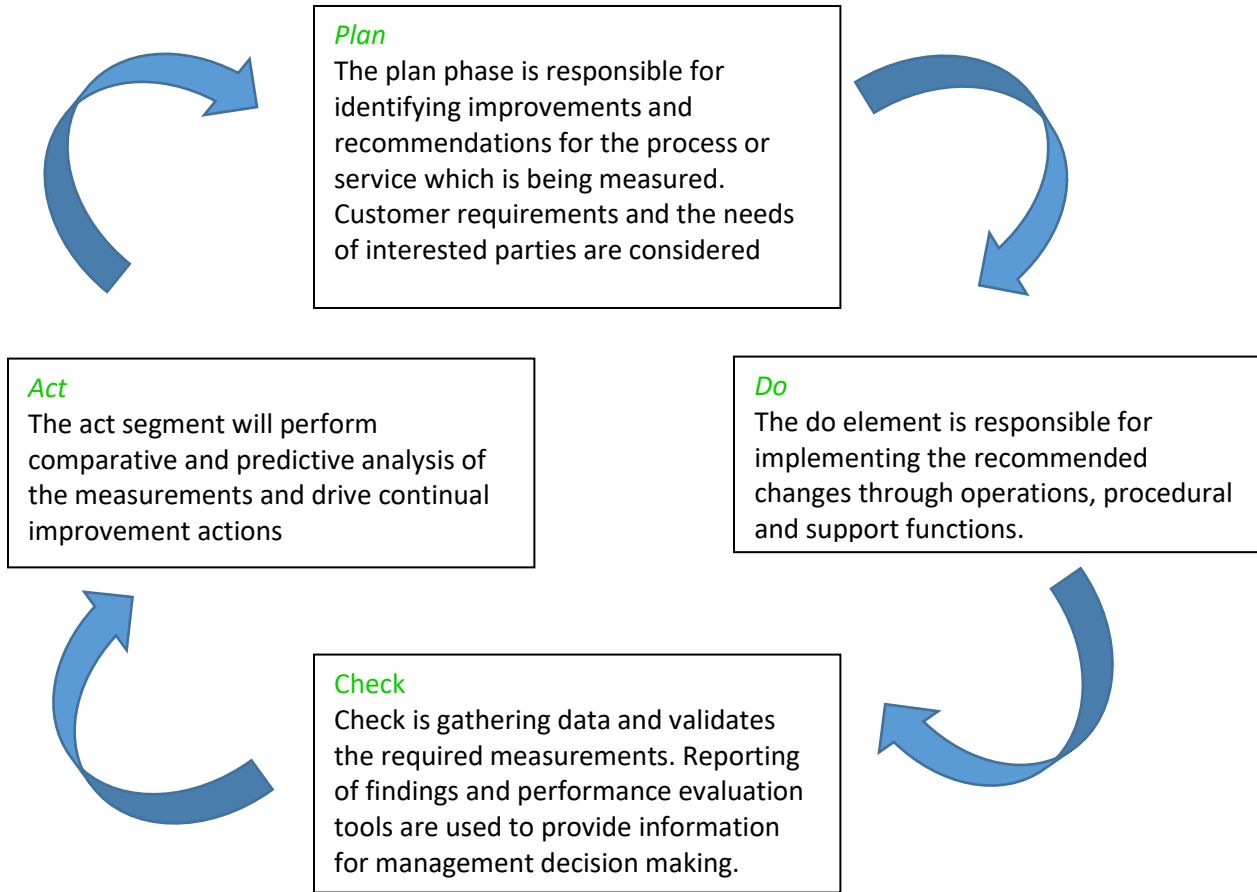




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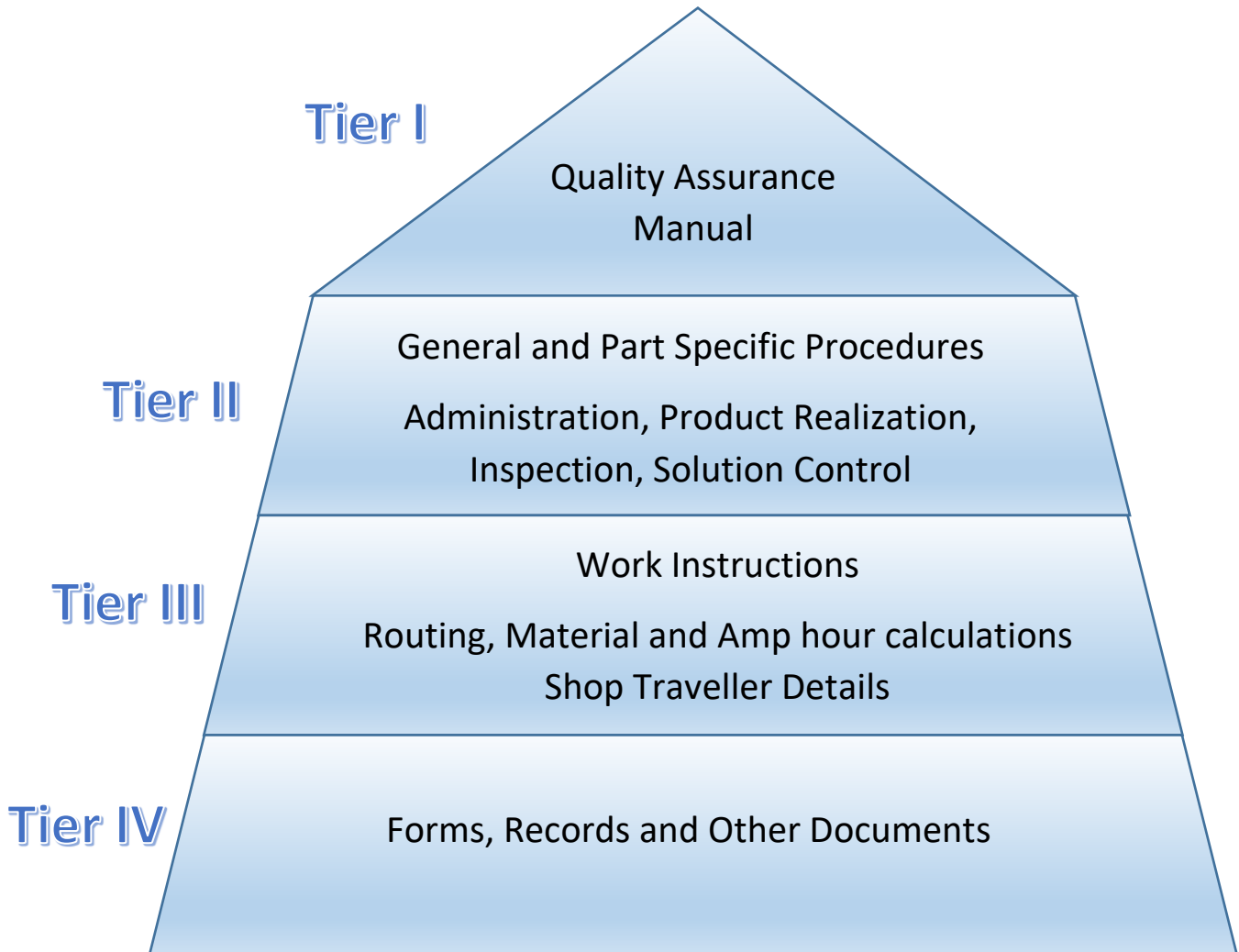
Appendix B – Process Approach

## The Process Approach to Continual Improvement



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Appendix C - Quality System Documentation Structure



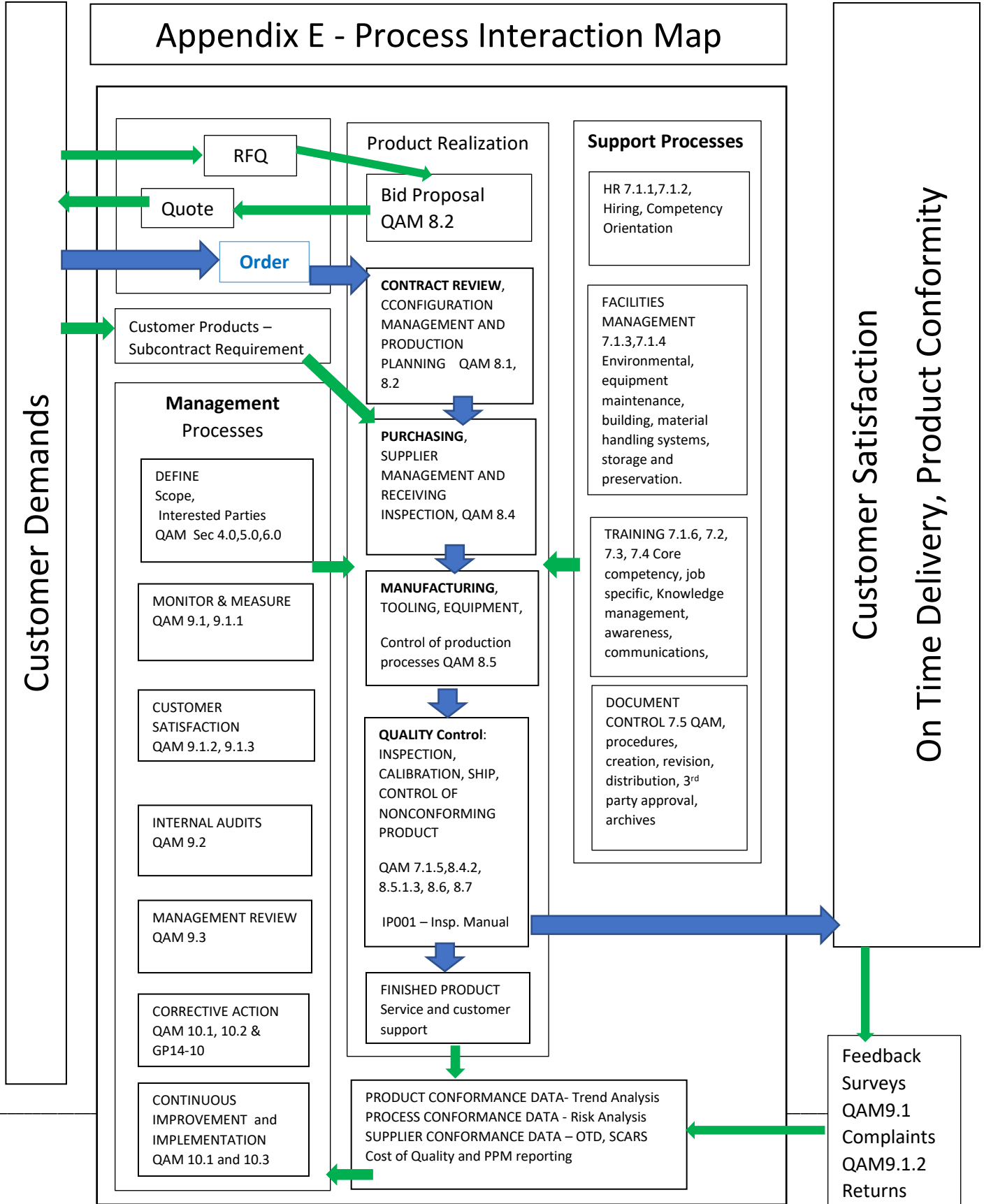
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APPENDIX D – Quality Policy

## **PRECISION PLATE LTD.**

### **QUALITY POLICY STATEMENT**

- **Precision Plate Ltd. is committed to a Quality System that makes quality a basic business principal and to the implementation and maintenance of an AS9100 system.**
  
- **Management will maintain and assess the effectiveness of the Quality System on a regular basis.**
  
- **Precision Plate Ltd. will educate and train our employees and encourage employee participation in continual improvement efforts.**
  
- **Conformance to our customer's requirements and expectations is the responsibility of all employees at Precision Plate Ltd.**
  
- **Precision Plate Ltd. will understand, fulfill and exceed our customer's needs through communication and partnership.**

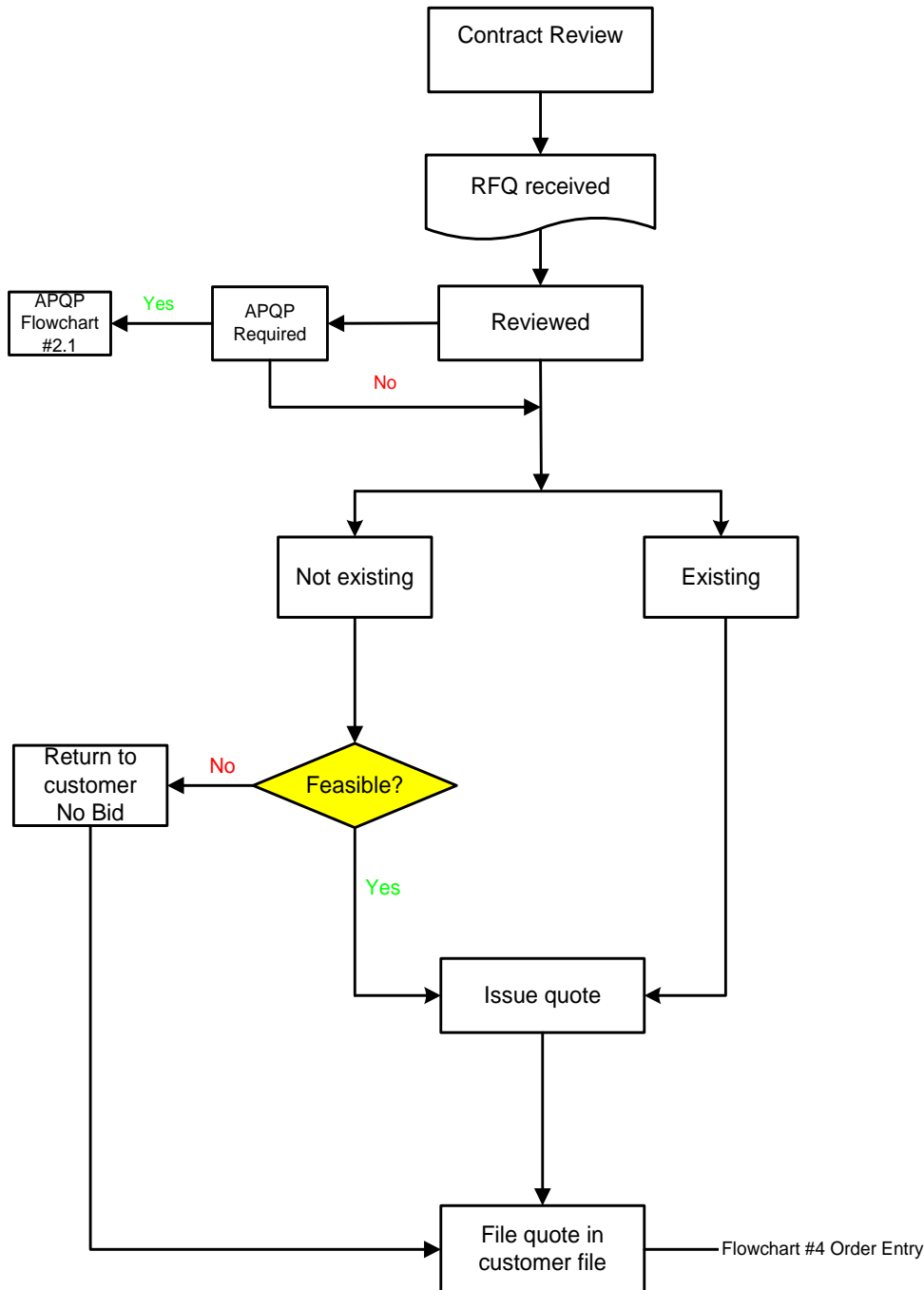




Precision Plate Ltd.

**Quality Management System Flowchart**  
**Contract Review - Quoting**

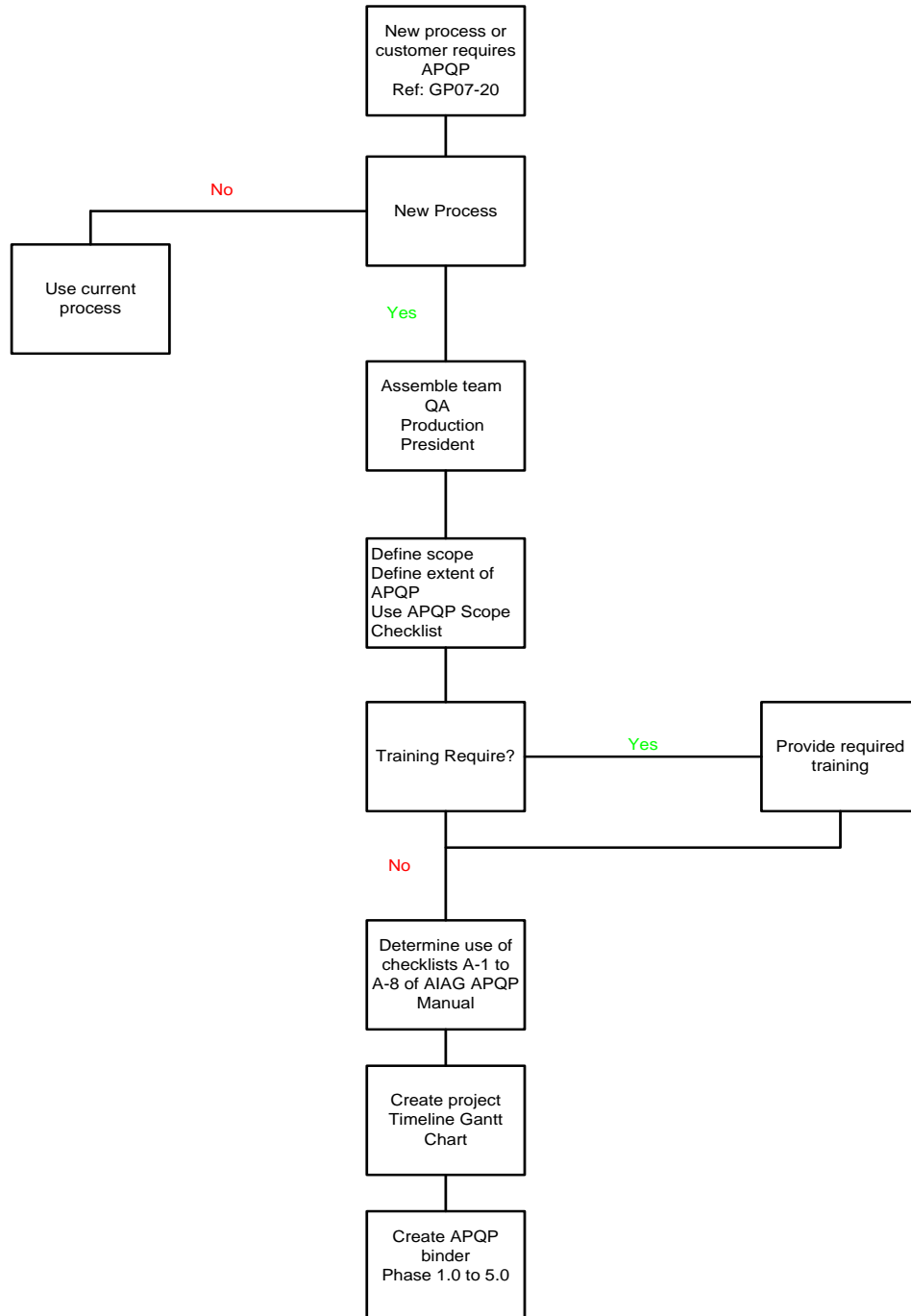
Flowchart #2



Precision Plate Ltd.

**Quality Management System Flowchart  
APQP**

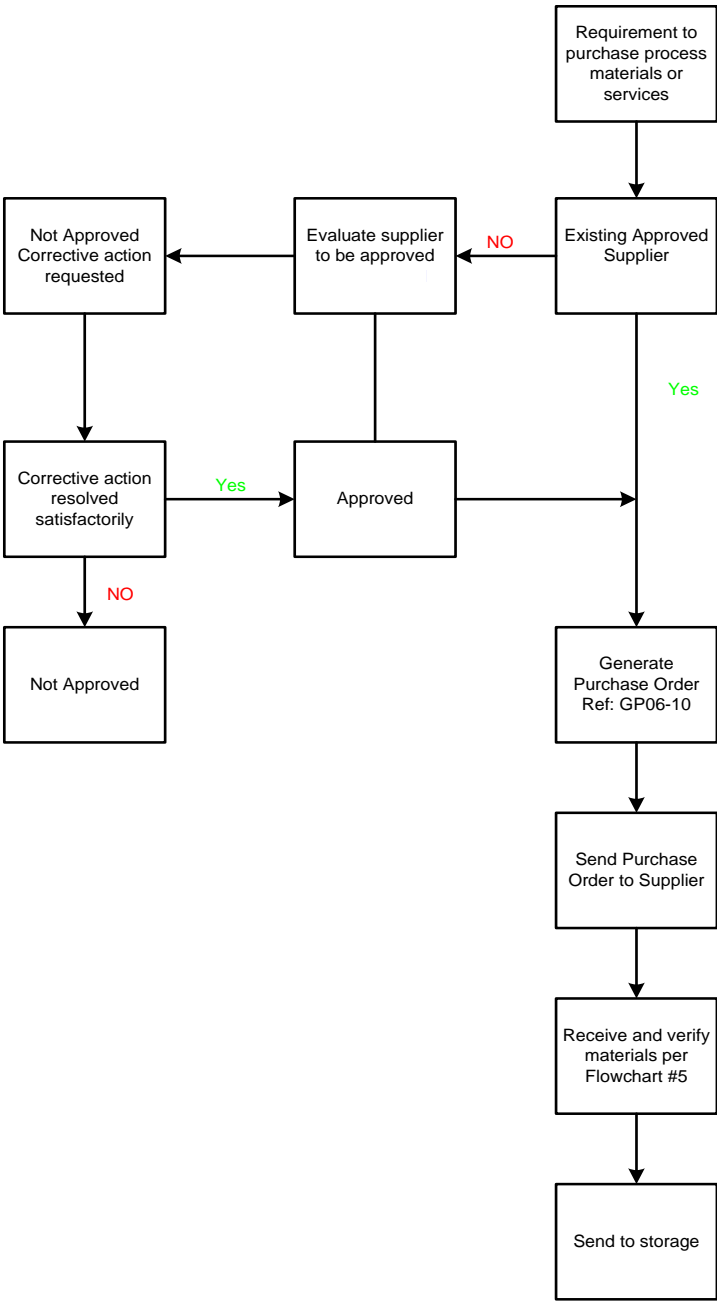
Flowchart #2.1



Precision Plate Ltd.

**Quality Management System Flowchart  
Purchasing**

Flowchart #3

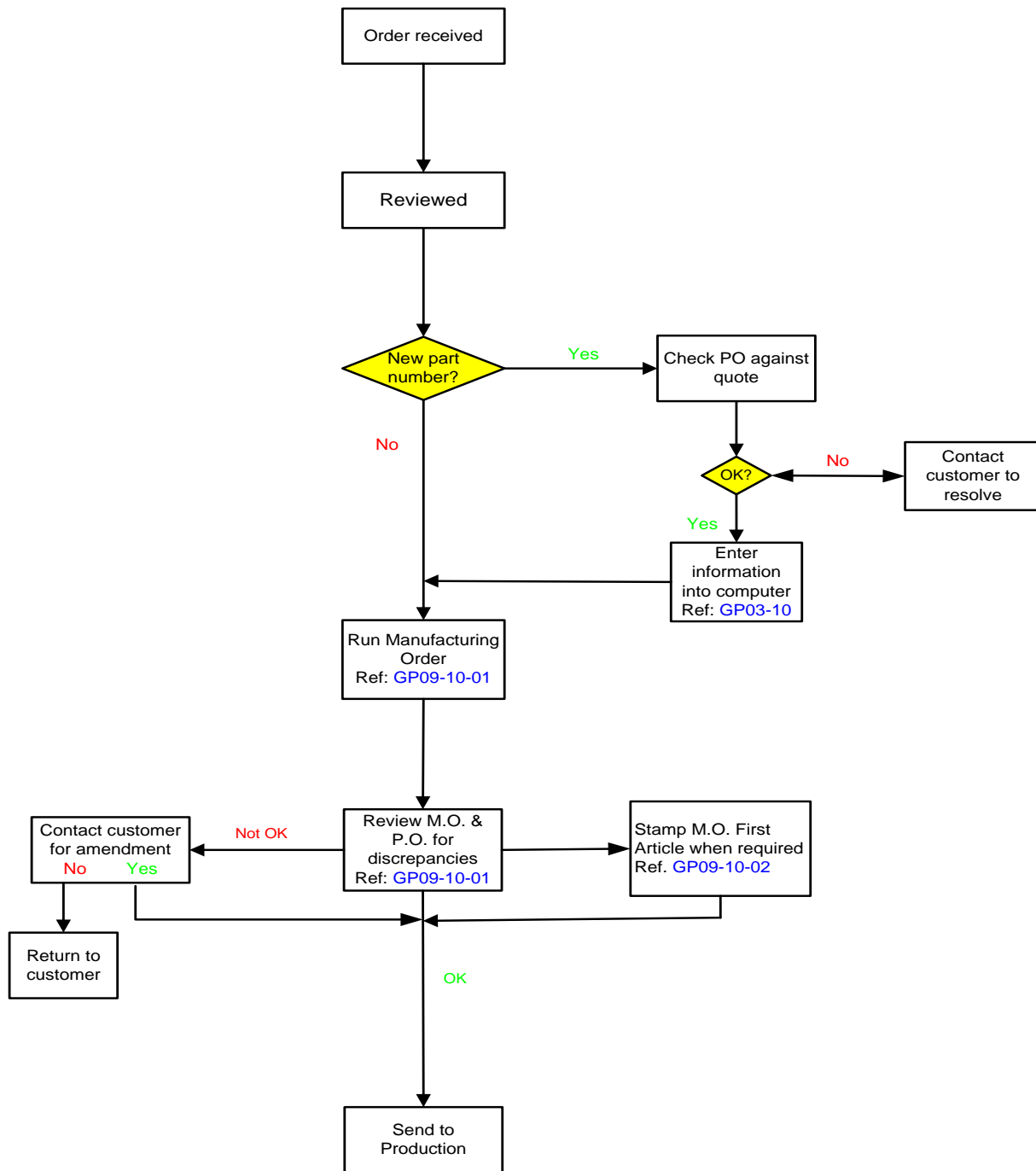




Precision Plate Ltd.

**Quality Management System Flowchart**  
**Contract Review - Order Entry**

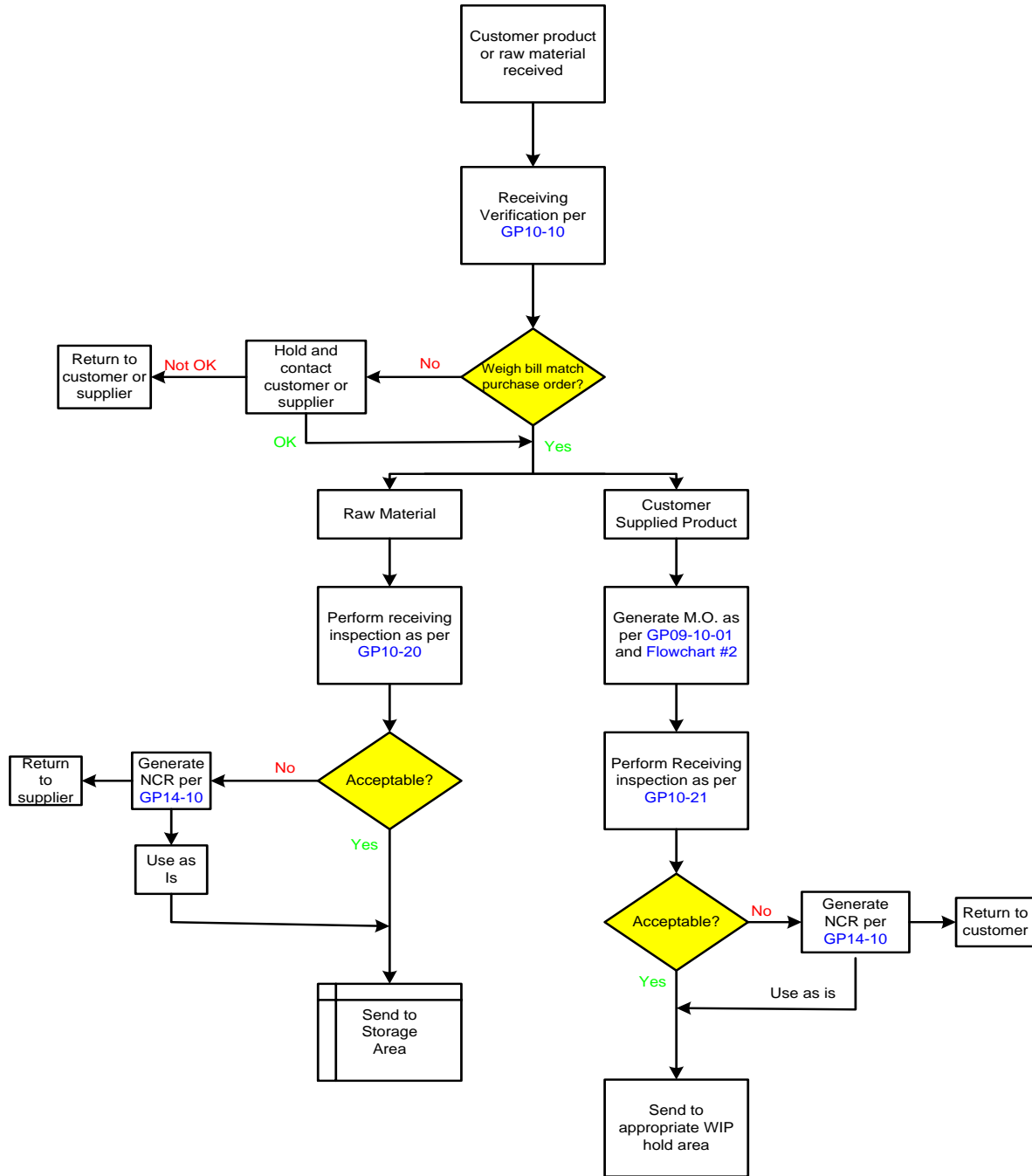
Flowchart #4



Precision Plate Ltd.

**Quality Management System Flowchart Receiving Verification and Inspection**

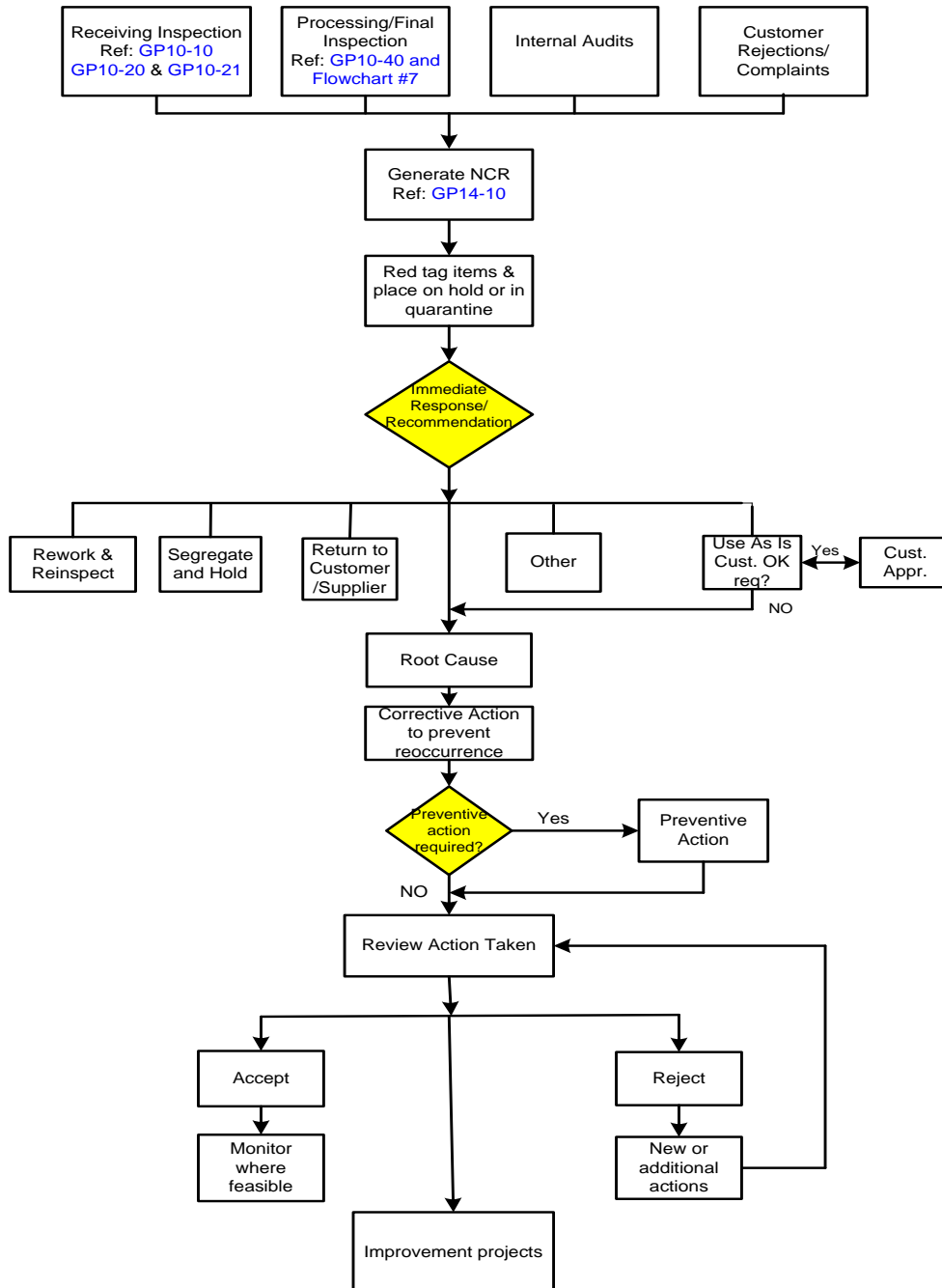
Flowchart #5



Precision Plate Ltd.

**Quality Management System Flowchart  
Control of Non Conforming Product**

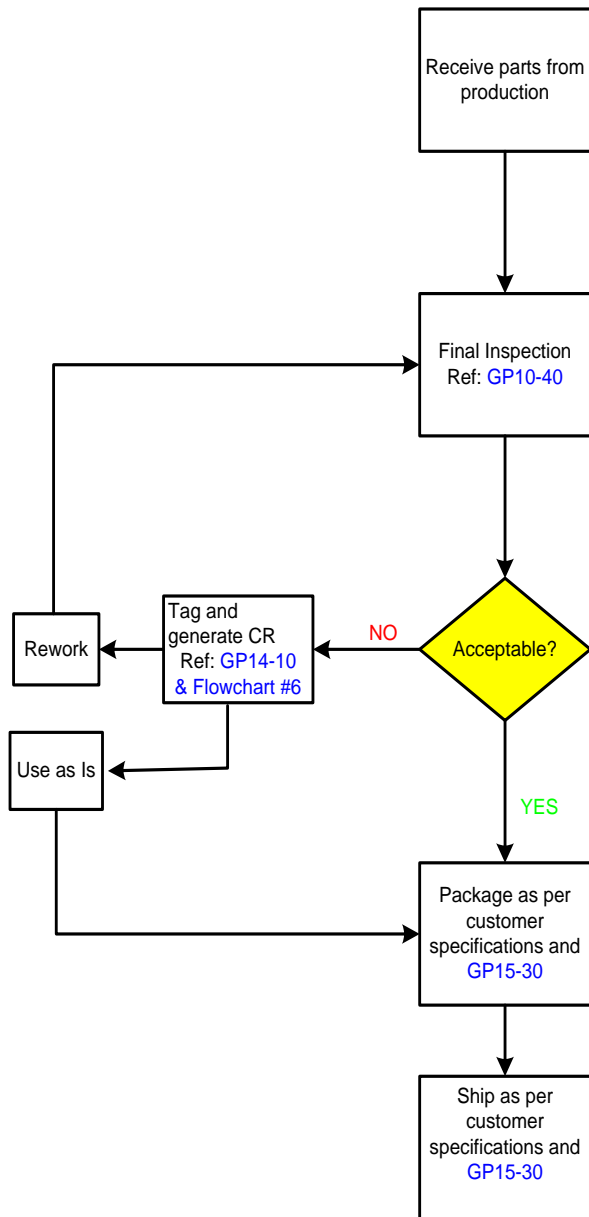
Flowchart #6



Precision Plate Ltd.

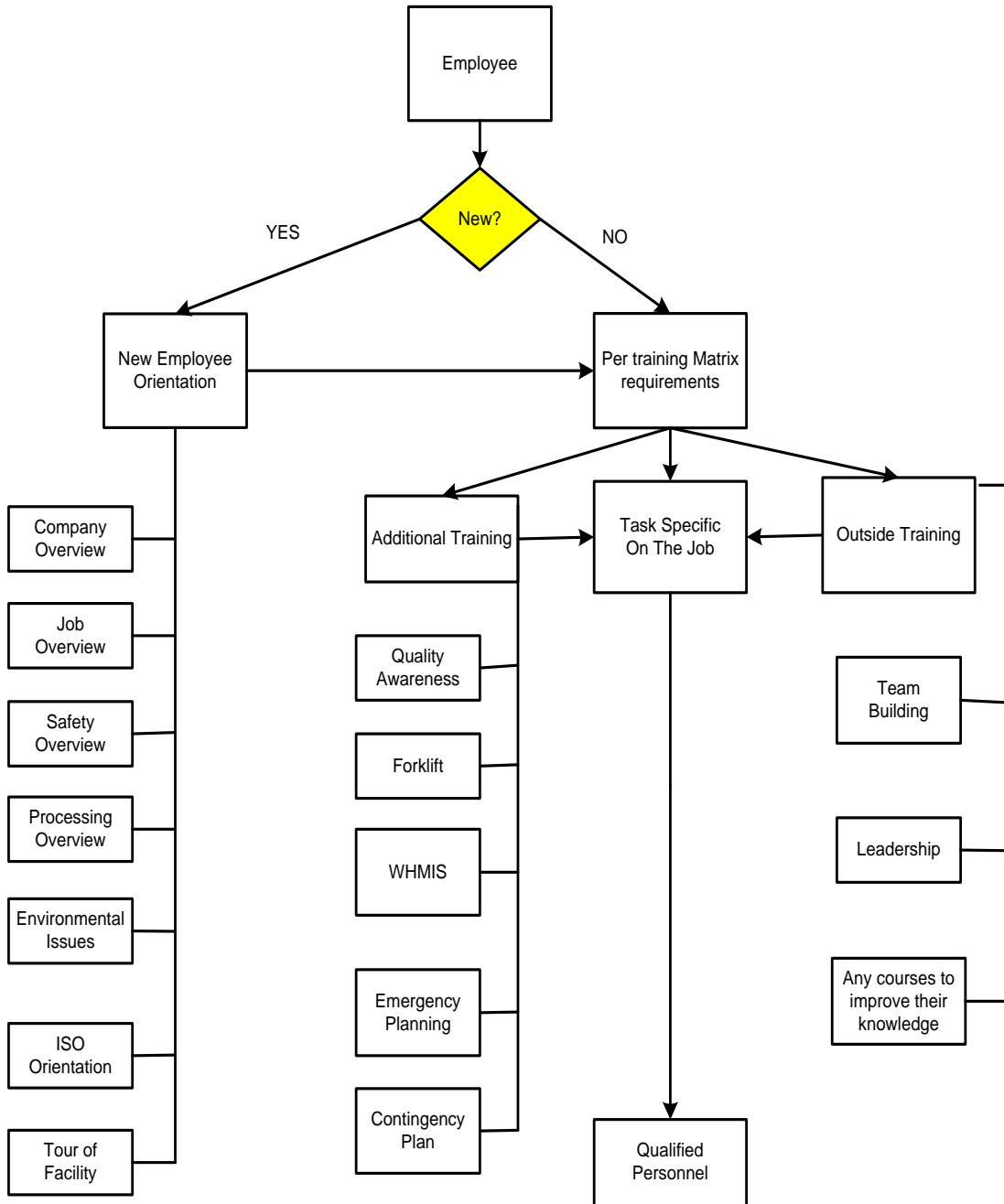
**Quality Management System Flowchart**  
**Final Inspection, Packaging and Shipping**

Flowchart #7



Precision Plate Ltd.
**Quality Management System Flowchart**
Flowchart #8

**Training**



### Appendix G – Interested Parties and Communications Matrix

Precision Plate Ltd.	Interested Parties & Communication Matrix							Nov 1, 2019	Rev 1				
Issues, Risks, Requirements, Controls								Communication					
Interested Party	External Issues	Internal Issues	Risks	Interested Party Requirements	How Addressed	Applicable Processes	Responsible	What	When	With Whom	How	Who	
<b>Customers &amp; Suppliers</b>	Customer perception enhancement	Changing demands	Impact on future business Achieving revenue targets. Resource allocation.	Excellence in supply chain	Surveys - Communication	QAM 9.1.2 GP08-10	QA Mgr	Satisfaction Surveys	Annually	Purchasing	Email/Phone	QA MGR/Cust Service	
	On time deliveries	Scheduling, rework, workforce	Line stoppage, chargebacks	100% on time	Advanced Quality Planning	QAM 9.1.1 KPIs	QA MGR	Potential Lates Conflicts Rush Items Split Shipments	As Arise	Purchasing / Logistics	Email / Ship Notices	QA MGR / Cust Serv	
	Competitiveness.	Material and resource cost increases	Lost business to cheaper sources	Maintain or reduce prices	Purchase and labour cost control	QAM 8.4.4.1	General Mgr	Quotations price lists	On Demand	Purchasing	Email/Phone	Gen Mgr	
	Product Conformance	Inspection resources, calibration, Control of Non-Conforming Product	Escapes/Field Failures	Zero Defects	Inspection criteria, sampling plans, Test and measurement	QAM 8.7 GP14-10 GP09-23	QA MGR	Escapes Corrective Actions PPMs OCIs Risk Analysis	Frequency as demanded	Quality	Email		QA MGR
	Compliance to Standards	QMS Maintenance	Loss of registration lack of evidence of compliance	Document Retention	Documented System and Quality Management	QAM 4.1 AS9100 (current rev) Nadcap AC7108 QAM 8.5.1	QA MGR	Audit Findings Certificate Status Change of Scope External Documents Outsourcing QAM Revisions	As occur or revised	Quality	Email		QA MGR
<b>Shareholders</b>	Complaints							Complaint Resolution	As Arise	Applicable Dept	Phone/email	Gen. Mgr	
	Competition Global Mfg	Employee Concerns Regulations	Los of Viability Reduced profits	ROI Succession	Strategic Plan Business Objectives	Office Procedures	Gen Mgr	Financial Reports	Quarterly	Shareholders	Report Written	Gen. Mgr	
	Customer Demands				Quality Objectives Documented OMS	QMS	QA Mgr	Management Reviews Audit Findings KPIs	Annually with quarterly update	Gen Mgr	Report Written	QA Mgr	
<b>Employees</b>	Lenders/ Investors	Debt Service vs operating budgets	Cash flow issues	Payment per agreements	Cash Flow Management	Business Plan	Gen Mgr	Banking Agreements Refinancing	Annually	Lenders/ Investors	Reports	Gen Mgr	
	Family	Shift Work	Balance of work vs Lifestyle	ROI Succession	Strategic Plan Business Objectives	Office Procedure	Gen Mgr	Overall employee satisfaction	Annually	Employees	Performance Review	Gen Mgr	
	Financial	Wages Benefits Local Competition	Not being Competitive	Comparable remuneration locally	Wage reviews Employee progress	na	Gen Mgr	Wage increases Benefit packages Vacation	Annually	Employees	Verbally	Gen Mgr	
	Employee Safety	Work Practices Security Fairness	Employee discontent	Clear directions	Policies Employee Handbook	H&S Policies	Gen Mgr HR Mgr	Revisions and additions to policy and handbook	As arise	Employees	Written	Gen Mgr	
	Job Security	Employee Retention	Lack of skills & Competency		Training Performance Reviews	GP18-10	Gen Mgr	Overall employee satisfaction	Annually	Employees	Performance Review	Gen Mgr/QA Mgr	
	Complaints							Complaint Resolution	As Arise	Employee/ Team	Verbal / Written	Gen. Mgr /HR Mgr	
<b>Suppliers</b>													
<b>PRI (Nadcap)</b>	Compliance to Nadcap	QMS Maintenance QA MGMT Resources	Failure or CARS during audit	Ongoing Compliance	QA Manger Oversight	NADCAP slash sheets	QA Mgr	Nadcap Audits	Annually	PRI	Email	QA Manager	
	Audit Costs	Cash Flow, Costs	Lapse of Certification	Payment in advance of AUDIT	Payables	Office Procedures	Payables Dept	Payment	Annually	PRI Receivables	E-Transfer	Payables Dept	
	NADCAP revisions	Best Practices requirements	Failure or CARS during audit	Meet all slash sheet checklists	Self Audits	AC7108	QA Mgr	Self Audit Reports KPIs	Annual (30 prior to audit)	E-audit.net	Online	Online	
	Compliance Records		Lapse of Certification	Eaudit updates	Web - QA Mgr	PRI direction	QA Mgr	upload documents - close CARS	Monthly	Online	Online	QA Mgr	
	Complaints							Complaint Resolution	As Arise	PRI Exec / Staff Eng.	Phone/email	QA Mgr	
<b>SGS (QMS Registrar)</b>	Compliance to AS9100	QMS Maintenance QA MGMT Resources	Failure or CARS during audit	Ongoing Compliance	QA Manger Oversight	QAM, AS9100D (current rev) ISO9001:2015 (current rev)	QA Mgr	Certification & Surveillance Audits CAR Resolution	Annually	SGS Management	Email	QA Manager	
	Audit Costs	Cash Flow, Costs	Lapse of Certification	Payment in 30 Days Oasis updates	Payables	Office Procedure	Payables Dept	Payment	Annually	SGS Receivables	Cheque or E-Transfer	Payables Dept	
					Web - QA Mgr	SGS direction	QA Mgr	upload documents - close CARS	Monthly	Online	Online	QA Mgr	
	Complaints							Complaint Resolution	As Arise	Registrar Exec	Phone/email	QA Mgr	
<b>Local Government</b>		Taxes	Penalties	On time payment	Payables	Office Procedure	Payables Dept	Payment	Quarterly	Mun. Office	Cheque	Payables Dept	
	Waste & Water Regs.	Effluents	Environmental	Control metals	Waste water tests	Zinc & Nickel Tests	Lab Tech	City test	Monthly	City sample collector	Phone	Gen. Mgr	
	Complaints							Complaint Resolution	As Arise	Applicable Dept	Phone/email	Gen. Mgr	
<b>Provincial Gov.</b>		Taxes	Penalties, loss of image	On time payment	Payables	Office Procedure	Payables Dept	Payment	Quarterly	Treasurer of Ont.	Cheque	Payables Dept	
		First Aid	Worker Health & Safety	Certified Worker reps First response team	Documented External training	Health and Safety Manual	Gen. Mgr	Forms Valid Certificates Action Plans	As required	Workplace	Posted on communication board	Gen. Mgr	
		Environment	Contamination	Exhaust Air Groundwater	Compliance for Regs. Reporting	Per MOE regulations	Gen. Mgr	Forms Limits Remediation Plans	As required	MOE Officers	Email	Gen. Mgr	
		Health & Safety	WHMIS OH&SA	Worker Health & Safety Harassment Workplace Accidents	Compliance to ACT Worker Communication	Documented WHMIS & Training Picted Procedures aligned to ACT Worker Communication	Health and Safety Manual Health and Safety Manual Policies	HR Mgr HR Mgr	Reports, Training Reports, Training	As required As required	Prov. Enforcement Prov. Enforcement	Email Email	HR Mgr HR Mgr
<b>Federal Government</b>	Complaints							Complaint Resolution	As Arise	Applicable Dept	Phone/email	Gen. Mgr	
	Payroll GST	Taxes	Penalties	On time payment	Payables	Office Procedure	Payables Dept	Payment	Quarterly	REC GEN	Cheque	Payables Dept	
	Controlled Goods	Develop and maintain program	Unable to meet contractual req.	Registered	Documented Internal control Screening	Online program	Gen Mgr	Security Plans Assessments	Quarterly	Fed Agency	Email/Web	Gen Mgr	
	Complaints							Complaint Resolution	As Arise	Applicable Dept	Phone/email	Gen. Mgr	