Quality Management System

QUALITY MANUAL

Tandex Test Labs, Inc.
15849 Business Center Dr.
Irwindale, CA 91706

This document is approved for use by: **Brian Peale**

Copy Holder

Copy Holder: Brian Peale

Copy Number: 1

This Quality Manual covers the activities and functions performed by operating areas included in the service scope definition:

The testing of components for commercial, medical, military, defense and aerospace applications.

The Quality Management System is designed to meet the requirements of

1. ISO 9001:2008
2. AS9100:2009 Rev. C

It is the responsibility of the Company to provide its' Customers with the finest attainable service. This is accomplished through the co-ordination and teamwork of all those involved in their various projects. Each entity will contribute that which is required to meet this goal, as deemed necessary by Management. Through proper training and cross training, the Company has developed the versatility to achieve this objective.

Confidential information and Proprietary rights: All Procedure, Reports and Certificates of Conformance applies only to the sample(s) tested and is not necessarily indicative of the quality or condition of apparently identical or similar testing. As a mutual protection to clients and Tandex Test Labs, any and all proprietary procedures, reports and Certificate of Conformances are submitted and accepted for the confidential use of the client to whom they are addressed and upon the condition that it is not to be used in whole or in part, by anyone other then addressed, without written authorization from the client and Tandex Test Labs.

Distribution

Quality Manual

Manual Contents

Amendments

All copies of this Quality Manual must be kept under strict control to prevent the System from becoming unreliable. The following Procedures will ensure that System remains current and valid.

1) All official copies of the Manual will be clearly numbered and the Holder recorded.

2) Each page in the manual will carry its own number.

3) The Management Representative will be responsible for all revisions and additions being recorded.

4) Changes can be suggested by any Employee but must receive signed approval before being entered into the Manual.

5) All changes must be recorded on the Table of Amendments.

Table of Amendments – Quality Manual					
Document Number	Page Number	Issue	Date	Description of Change	Authorization
QM01-08		A	03/01/01	INITIAL RELEASE	
QM 06	8	B	04/30/02	Modified to comply with AS9003 Par. 4.2.2	
QM 05	6	B	08/17/02	Modified to comply with ISO9001:2000	
QM 08	10	B	08/17/02	Modified Para. 4.1.1 to comply with ISO9001:2000	
QM 07	9	B	7/28/03	Added Job Descriptions to comply with ISO9001:2000	
ALL	ALL	C	12/01/03	Complete revision to comply with ISO/IEC 17025	
ALL	ALL	D	6/04/07	To comply to AS9100 requirements	
QM 8	8	E	8/11/08	To add customer notification statement	bp
ALL	ALL	F	9/29/10	To comply with ISO 9001:2008 requirements	DMG
ALL	ALL	G	10/03/2011	To comply with AS 9100:2009 Rev. C requirements	DMG
ALL	ALL	H	2/20/14	Revised page 8, Revised Quality policy	DMG
ALL	ALL	I	6/10/14	Revised page 6, Company Profile Added Quality Rep to Org chart	DMG
ALL	ALL	J	4/20/16	Added para. 7.4.4	dmg

Company Profile

- Tandex Test Labs, founded in 1980, is a full service Space Flight test house providing full test services for the inspection, testing, and assembly of electronic components for commercial, military, defense and aerospace application. Tandex is proud of it's ability to meet customer's requirements and indeed exceeding customer satisfaction expectations.

- The organization has established a culture of quality awareness through effective communication by its' top Managements' commitment to the implementation and maintenance of the Quality Management System across the whole Organization.

- The organization is proud of its' reputation as being compliant to National and International Standards specifications, and any statutory regulations with respect to Health and Safety, employment and environmental requirements.

- Tandex has excluded from AS9100 the following requirements of the scope of its Quality Management System:
  - AS9100 para. 7.3 Product Design and Development (entirely) as Tandex Testing Labs does not provide design services. Product testing is done following governmental or customer directed requirements.

- Process servicing after delivery may be required and will be addressed through Tandex Corrective Action system or per customer request.

Quality Objectives

Tandex Test Labs is dedicated to establishing a Quality System that embraces measurable Quality objectives. Achieving these objectives will demonstrate top Management's dedication of applying a systematic approach to the establishment and maintenance of a Quality Management System:

- Achieving at least 60% in Win vs. Loss Quotes.
- Achieving at least 95% for On time Delivery.
- Having no more than 5% in Customer Complaints.

Further measurable objectives relating to any given project or process may be set. Objectives shall be reviewed on a regular basis to determine achievement levels.

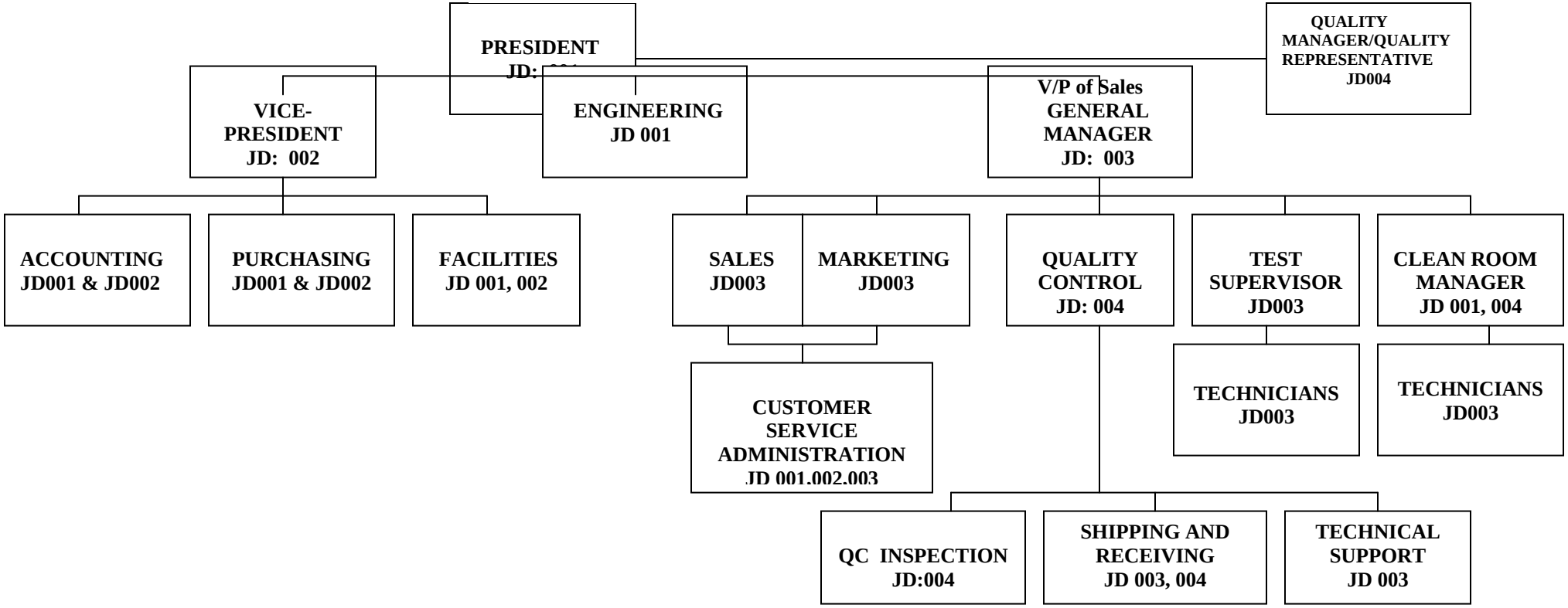
Quality Policy

Tandex Test Labs, Inc. recognizes that the disciplines of Quality, Health and Safety and Environmental Management are an integral part of its Management function. The company views these as primary responsibilities and the key to good business by adopting appropriate Quality standards.

- ✓ The goal of the Organization is to achieve superior external and internal Customer satisfaction levels. The top Management is committed to providing leadership qualities that will ensure the implementation of supporting Managerial and Operating Systems towards realizing that goal.
- ✓ Tandex is committed to meeting customer, statutory, and regulatory requirements.
- ✓ All work that is done by Company employees, suppliers and product outlets is part of a process that creates a product or service for a Customer and complies with their specific requirements.
- ✓ Sustained Quality excellence requires continuous improvement. This means, regardless of how good your present performance may be, it can be improved. Quality improvements will be followed up in a systematic and planned manner. This applies to every part of the Organization.
- ✓ Publicity will be given to the Quality policy in every part of the Organization so that everyone will understand it. All available methods and media will be used for its internal and external promotion and communication.
- ✓ Reporting on the progress of the implementation of the policy will be a permanent agenda item in the Management Review Meeting.
- ✓ Quality Records (e.g. procedures and associated documentation) shall be available for customer, government or regulatory agencies examination.
- ✓ A direct line to the president's office applies to any internal or external pressures of ethics.
- ✓ To ensure Health and Safety of Tandex employees a safety manual shall be maintained for easy access and review in the Quality Managers office.
- ✓ Tandex will notify customers of any changes in Ownership, Location, process changes, Certification/Registration/accreditation or major audit findings. Notification will occur within 30 days or as required by specific customer requirements.

Signed: Title: Date:

ORGANIZATION CHART



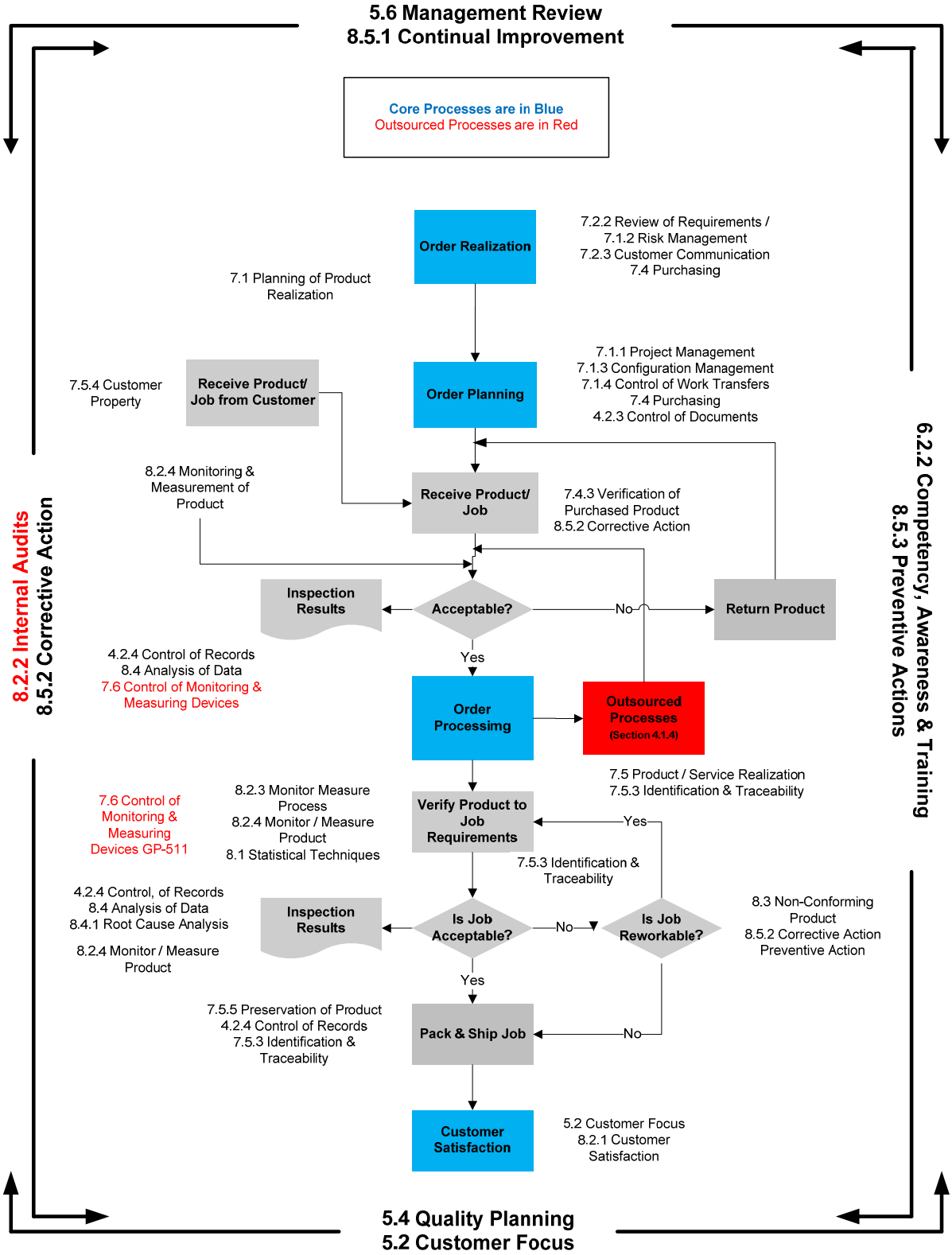
JD001: President
Responsible for all operational functions of the company

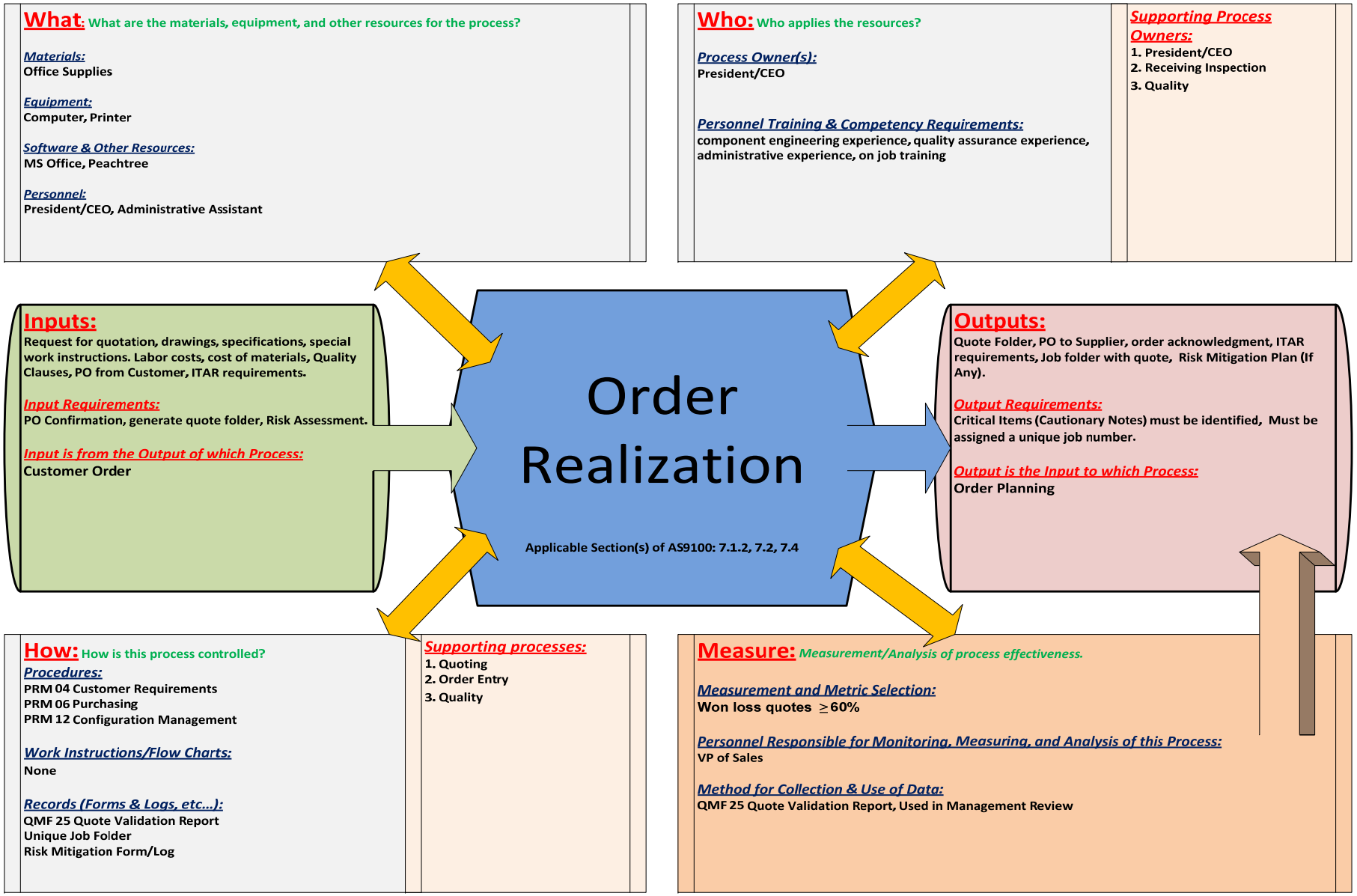
JD002: Vice President/CFO
Responsible for purchasing and financial operations of the company. Reports directly to the President.

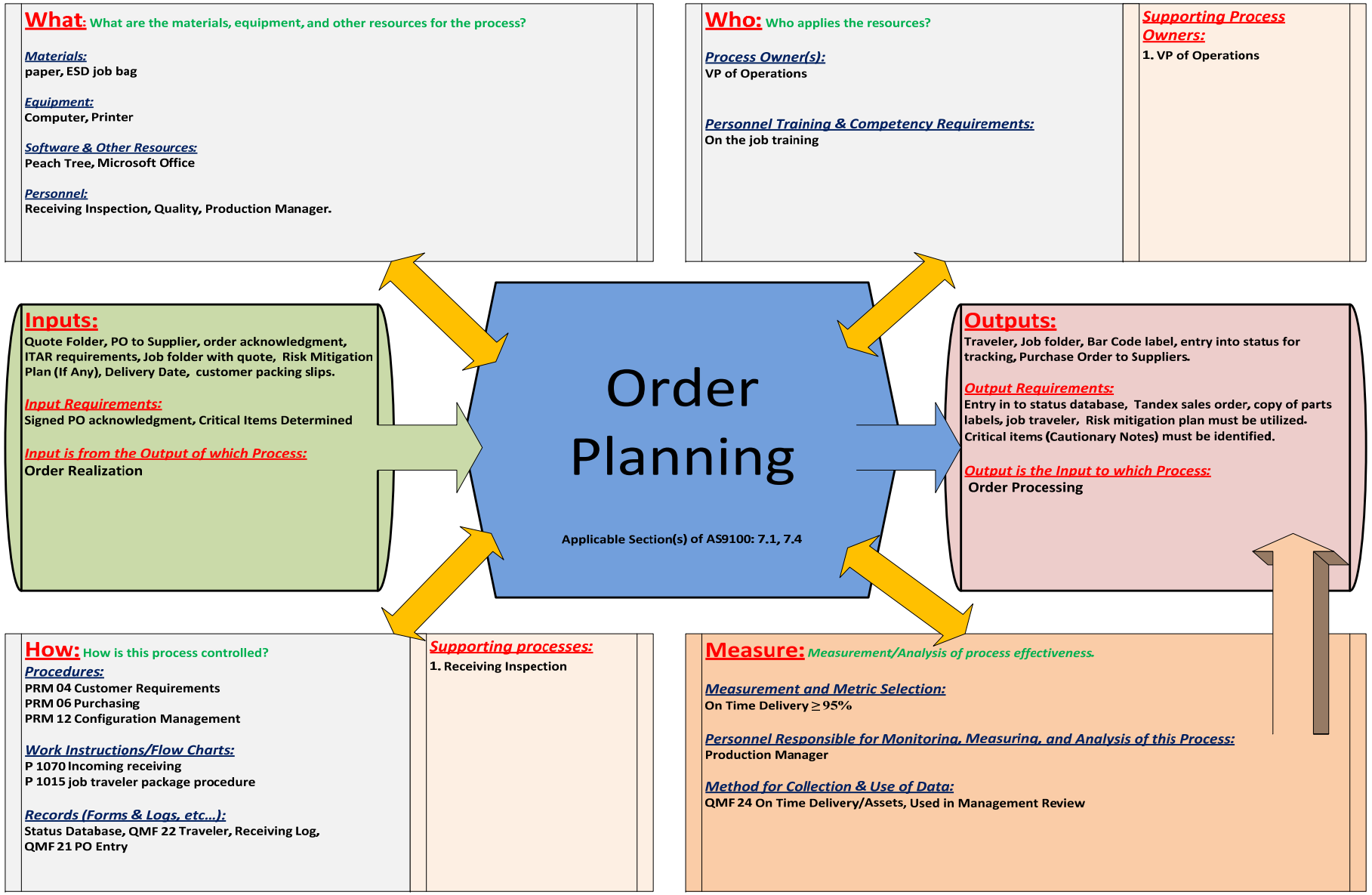
JD003: V.P of Sales/General Manager
Responsible for production and personnel. Reports directly to President.

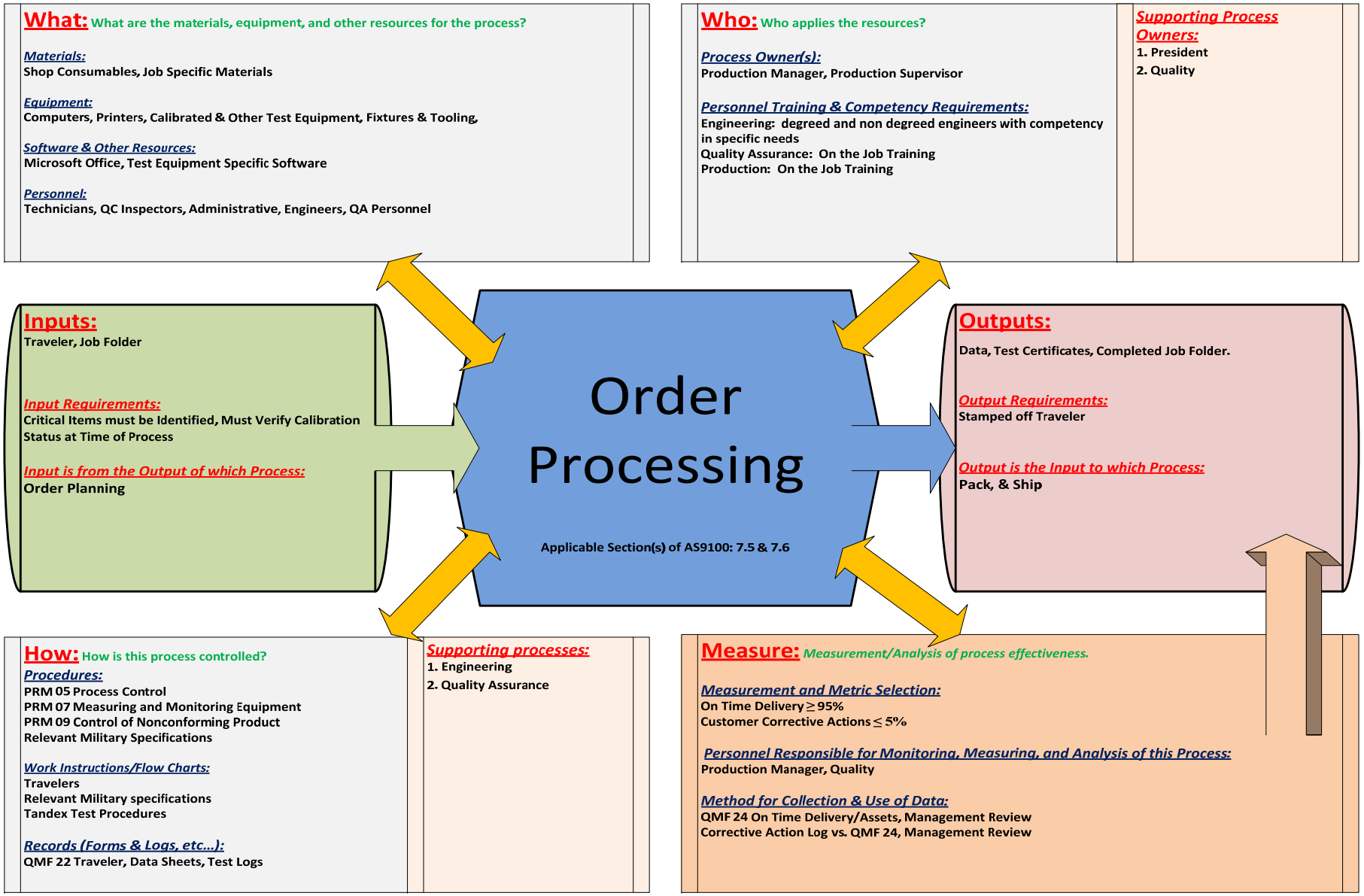
JD004: Quality Manager/Quality Representative
Responsible for quality. Reports directly to President.

QMS PROCESSES




What: What are the materials, equipment, and other resources for the process?
Materials:
Office Supplies
Equipment:
Computer, Printer
Software & Other Resources:
MS Office, Peachtree
Personnel:
President/CEO, Administrative Assistant
Who: Who applies the resources?
Process Owner(s):
President/CEO
Personnel Training & Competency Requirements:
component engineering experience, quality assurance experience, administrative experience, on job training
Supporting Process Owners:
1. President/CEO
2. Receiving Inspection
3. Quality
Inputs:
Request for quotation, drawings, specifications, special work instructions. Labor costs, cost of materials, Quality Clauses, PO from Customer, ITAR requirements.
Input Requirements:
PO Confirmation, generate quote folder, Risk Assessment.
Input is from the Output of which Process:
Customer Order
Order Realization
Applicable Section(s) of AS9100: 7.1.2, 7.2, 7.4
Outputs:
Quote Folder, PO to Supplier, order acknowledgment, ITAR requirements, Job folder with quote, Risk Mitigation Plan (If Any).
Output Requirements:
Critical Items (Cautionary Notes) must be identified, Must be assigned a unique job number.
Output is the Input to which Process:
Order Planning
How: How is this process controlled?
Procedures:
PRM 04 Customer Requirements
PRM 06 Purchasing
PRM 12 Configuration Management
Work Instructions/Flow Charts:
None
Records (Forms & Logs, etc...):
QMF 25 Quote Validation Report
Unique Job Folder
Risk Mitigation Form/Log
Supporting processes:
1. Quoting
2. Order Entry
3. Quality
Measure: Measurement/Analysis of process effectiveness.
Measurement and Metric Selection:
Won loss quotes ≥60%
Personnel Responsible for Monitoring, Measuring, and Analysis of this Process:
VP of Sales
Method for Collection & Use of Data:
QMF 25 Quote Validation Report, Used in Management Review


What: What are the materials, equipment, and other resources for the process?
Materials:
paper, ESD job bag
Equipment:
Computer, Printer
Software & Other Resources:
Peach Tree, Microsoft Office
Personnel:
Receiving Inspection, Quality, Production Manager.
Who: Who applies the resources?
Process Owner(s):
VP of Operations
Personnel Training & Competency Requirements:
On the job training
Supporting Process Owners:
1. VP of Operations
Inputs:
Quote Folder, PO to Supplier, order acknowledgment, ITAR requirements, Job folder with quote, Risk Mitigation Plan (If Any), Delivery Date, customer packing slips.
Input Requirements:
Signed PO acknowledgment, Critical Items Determined
Input is from the Output of which Process:
Order Realization
Order Planning
Applicable Section(s) of AS9100: 7.1, 7.4
Outputs:
Traveler, Job folder, Bar Code label, entry into status for tracking, Purchase Order to Suppliers.
Output Requirements:
Entry in to status database, Tandex sales order, copy of parts labels, job traveler, Risk mitigation plan must be utilized. Critical items (Cautionary Notes) must be identified.
Output is the Input to which Process:
Order Processing
How: How is this process controlled?
Procedures:
PRM 04 Customer Requirements
PRM 06 Purchasing
PRM 12 Configuration Management
Work Instructions/Flow Charts:
P 1070 Incoming receiving
P 1015 job traveler package procedure
Records (Forms & Logs, etc...):
Status Database, QMF 22 Traveler, Receiving Log, QMF 21 PO Entry
Supporting processes:
1. Receiving Inspection
Measure: Measurement/Analysis of process effectiveness.
Measurement and Metric Selection:
On Time Delivery ≥ 95%
Personnel Responsible for Monitoring, Measuring, and Analysis of this Process:
Production Manager
Method for Collection & Use of Data:
QMF 24 On Time Delivery/Assets, Used in Management Review


What: What are the materials, equipment, and other resources for the process?
Materials:
Shop Consumables, Job Specific Materials
Equipment:
Computers, Printers, Calibrated & Other Test Equipment, Fixtures & Tooling,
Software & Other Resources:
Microsoft Office, Test Equipment Specific Software
Personnel:
Technicians, QC Inspectors, Administrative, Engineers, QA Personnel
Who: Who applies the resources?
Process Owner(s):
Production Manager, Production Supervisor
Personnel Training & Competency Requirements:
Engineering: degreed and non degreed engineers with competency in specific needs
Quality Assurance: On the Job Training
Production: On the Job Training
Supporting Process Owners:
1. President
2. Quality
Inputs:
Traveler, Job Folder
Input Requirements:
Critical Items must be Identified, Must Verify Calibration Status at Time of Process
Input is from the Output of which Process:
Order Planning
Order Processing
Applicable Section(s) of AS9100: 7.5 & 7.6
Outputs:
Data, Test Certificates, Completed Job Folder.
Output Requirements:
Stamped off Traveler
Output is the Input to which Process:
Pack, & Ship
How: How is this process controlled?
Procedures:
PRM 05 Process Control
PRM 07 Measuring and Monitoring Equipment
PRM 09 Control of Nonconforming Product
Relevant Military Specifications
Work Instructions/Flow Charts:
Travelers
Relevant Military specifications
Tandex Test Procedures
Records (Forms & Logs, etc...):
QMF 22 Traveler, Data Sheets, Test Logs
Supporting processes:
1. Engineering
2. Quality Assurance
Measure: Measurement/Analysis of process effectiveness.
Measurement and Metric Selection:
On Time Delivery ≥ 95%
Customer Corrective Actions ≤ 5%
Personnel Responsible for Monitoring, Measuring, and Analysis of this Process:
Production Manager, Quality
Method for Collection & Use of Data:
QMF 24 On Time Delivery/Assets, Management Review
Corrective Action Log vs. QMF 24, Management Review


What: What are the materials, equipment, and other resources for the process?
Materials:
None
Equipment:
Computer, Printer
Software & Other Resources:
MS Office
Personnel:
Quality
Who: Who applies the resources?
Process Owner(s):
Quality Manager
Personnel Training & Competency Requirements:
MS Office
Supporting Process Owners:
1. President/CEO
Inputs:
On Time Delivery form QMF 24, Customer Complaints/ Feedback, Corrective Action Log
Input Requirements:
None
Input is from the Output of which Process:
Order Processing, Customer
Customer Satisfaction
Applicable Section(s) of AS9100: 5.2 & 8.2.1
Outputs:
Corrective Actions, Data Prepared for Management Review
Output Requirements:
Must be Trended
Output is the Input to which Process:
Management Review
How: How is this process controlled?
Procedures:
Quality Manual
Work Instructions/Flow Charts:
None
Records (Forms & Logs, etc...):
QMF 24 On Time Delivery/Assets , Customer Report Cards
Supporting processes:
1. All Processes
Measure: Measurement/Analysis of process effectiveness.
Measurement and Metric Selection:
On Time Delivery ≥ 95%
Customer Corrective Actions ≤ 5%
Personnel Responsible for Monitoring, Measuring, and Analysis of this Process:
Production Manager, Quality
Method for Collection & Use of Data:
QMF 24 On Time Delivery/Assets, Management Review
Corrective Action Log vs. QMF 24, Management Review

QMS Requirements

4.1 General

4.1.1 Tandex Test Labs, Inc. is committed to maintaining an effective Quality Management System through the office of the President.

4.1.2 This manual has been prepared to satisfy the requirements of ISO 9001:2008 and AS9100: 2009 Rev. C for Quality Management Systems, for the activities carried out at the site (Environment, Health and Safety, etc.) and cross-referenced for ease of interpretation.

4.1.3 The effective implementation of the Quality Management System will be verified by regular inspections, reviews and audits that will compare Management practice against the requirements of the written procedures and Quality Management System standards. Corrective action will be taken where necessary and will be subsequently reviewed for effectiveness.

4.1.4 **Outsource Processes**

- An outsourced process is a process the organization needs for its QMS system and has determined must be performed by an outside supplier.
- Ensuring control over outsourced processes will not absolve the organization of the responsibility of conformity to all customer, statutory and regulatory requirements. The type and extent of control to be applied to the outsourced process will be influenced by factors such as

  a) The potential impact of the outsourced process on the organization's capability to provide product that conforms to requirements.
  b) The degree to which the control for the process is shared.
  c) The capability of achieving the necessary control through the application of purchasing.

Tandex Outsourced Processes include:

- Testing
- Clean Room Inspection & Certification
- Calibration
- Internal Audits

4.2 Documentation

The Company has written its Quality Policy and Procedures as appropriate to its size, type, complexity, and it is available to all employees.

QMS Requirements

5.0 Management Responsibility

5.1 Commitment

5.1.1 Top management of the Company ensures that all employees are aware of the need to meet Customer and regulatory requirements, and the necessary resources are available to accomplish this. The currency of Quality Policy and Objectives are maintained by regular Management review.

5.2 Customer Focus

5.2.1 Customer's actual and perceived needs and expectations are determined, and fulfilled to meet Customer satisfaction. Due consideration is given to product, service, regulatory and legal requirements.

5.3 Policy

5.3.1 The Company has established, through its Quality Policy, the need to meet requirements and continually improve its products and services. Quality objectives are reviewed for continuing suitability and communicated as appropriate throughout the Organization.

5.4 Planning

The Company has established that all relevant functions and levels within the Organization have clear, measurable Quality objectives that are consistent with the Company Quality Policy and product requirements.

Adequate resources are available and output is planned in a controlled manner, as is required by the Quality Management System, being mindful of the process and the need for continual improvement.

5.5 Administration

5.5.1 Details of the Company Quality Management System are documented.

5.5.2 Elements of the Quality Management System have been defined and communicated wherever Quality is affected.

5.5.3 Representatives have been appointed who have the authority and responsibility to ensure that the Quality Management System is established and maintained, and that reports on the performance of the System and any needs for

improvement are made available to the Quality representative. The significance of meeting Customer requirements is understood.

5.5.4 Communication between all levels and functions are set to ensure the effectiveness of the processes of the Quality Management Systems.

5.5.5 The Company has prepared and maintains a controlled Quality Manual that defines the scope of its activities, supported by referenced documented procedures and how the procedures operate.

5.5.6 A documented procedure ensures that all relevant Quality documentation is controlled, adequate, reviewed, updated and approved as necessary. The status of the documents is identified and they are legible, retrievable, and located where required within the organization. When documents originate from outside the organization, they are identified, their distribution controlled, and obsolete documents are clearly identified to prevent unintended use.

5.5.7 Procedure are in place for the identification, storage, retrieval, protection, retention time and disposition of Quality records.

5.6 Management Review

5.6.1 The complete Quality Management System is reviewed at planned intervals to ensure its continuing suitability, adequacy and effectiveness to evaluate the need for change.

5.6.2 This review includes the evaluation of current performance and improvement opportunities related to audits, Customer feedback, process and product performance, follow-up from previous meetings, and any changes that could affect the product or service Quality.

5.6.3 All results of the Management review activity are recorded.

QMS Requirements

6.0 Resource Management

6.1 Provision of Resources
The Company has ensured that the necessary resources needed to implement and improve the Quality Management System and to address customer satisfaction are available.

6.2 Human Resources

6.2.1 Where personnel are assigned Quality responsibilities, the Company has ensured that they are competent on the basis of applicable education, training, skills and experience.

6.2.2 The Company has identified the training needs for Quality related activities and provides training to satisfy these needs. Performance is evaluated and appropriate training records are maintained.

6.3 Facilities

Suitable equipped workplaces with appropriate hardware and software, and with supporting services are provided.

6.4 Work Environment

All aspects of the human and physical factors of the working environment that effect conformity of product or service have been identified and are managed.

QMS Requirements

7.0 Product Realization

7.1 Planning of realization process

7.1.1 The production process for the Company's products and services is planned and documented as defined within the Quality Management System. Quality objectives, risk mitigation, resources, processes and documentation needs are defined and acceptable criteria for verification and validation. Records appropriate to the level of confidence required for the process and the product or service is maintained.

7.2 Customer related processes

7.2.1 The needs of the Customer in respect of availability, delivery and support are considered against the products' intended use and regulatory and legal requirements, which are determined and implemented.

7.2.2 The Company reviews its Customer's requirements and determines any additional requirements for each contract or order. Where no Customer requirements are documented, details are confirmed before acceptance. Any changes to contracts or quotations are resolved before proceeding and the Company's ability to meet the defined requirements is confirmed.

7.2.3 The Customer is kept informed of product information, inquiries, order changes or amendments and progress on Customer's complaints.

7.4 Purchasing

7.4.1 The Company controls its purchasing function to ensure that the purchased product conforms to requirement. Suppliers are selected against defined criteria and are subject to planned review and evaluation. The results of evaluations and follow-up actions are recorded.

7.4.2 Purchasing documents are reviewed before release for the adequacy of information on product, procedures, processes, equipment and personnel.

7.4.3 The Company verifies it's purchased products, and where verification takes place at the supplier's premises, details of the arrangements and the method of release are specified.

7.4.4 Counterfeit part detection and avoidance will be flowed down to all approved suppliers in compliance with PRM 06 para. 4.2.3.1

7.5 Production and service operations.

7.5.1 Production and services are controlled through product specifications and work instructions. Suitable equipment is used and properly maintained with the use of

specified measuring and monitoring devices and activities. Release and post delivery and delivery processes are defined.

7.5.2 Where appropriate, the Company identifies the product throughout the production and service activities, and identifies its status with respect to measuring and monitoring activity. Where traceability is required, the unique identification of the product is controlled and recorded.

7.5.3 Where Customer property for inclusion in the product comes within the Company control, it is identified, verified, maintained and protected with details of adverse condition reported to the Customer.

7.5.4 The company preserves the conformity of the product or service receipt of order to delivery.

7.5.5 Where verification of product or service cannot be ensured during the process by measuring and monitoring, control is exercised by qualification of the process, equipment and personnel through defined methods procedures and records, and re-validation if required.

7.6 Control of measuring and monitoring devices

7.6.1 Measuring and monitoring devices are identified throughout the company where Quality is affected and the equipment used is controlled to appropriate standards for consistency. The devices are protected against random adjustments, damage and deterioration, and the results of calibrations are recorded.

QMS Requirements

8 Measurement, Analysis and Improvement

8.1 Planning

8.1.1 The requirement for measurement and monitoring devices has been determined and the method of use.

8.2 Measurement and monitoring

8.2.1 Clear methods have been established to audit Customer satisfaction and deal with any failures to meet company standards.

8.2.2 Suitably trained personnel conduct periodic independent internal audits on a planned basis. All aspects of internal audits are recorded and reviewed and corrective action taken where necessary.

8.2.3 Processes affecting Customer requirements are periodically reviewed to ensure that the intended purpose is being met.

8.2.4 Measuring and monitoring of the product throughout the process is designed to ensure that the finished items meet specification and authorized personnel control its release.

8.3 Control of non-conformity

8.3.1 Documented procedures are in place to identify and isolate non-conforming products and before a repaired product is returned to the process, it is re-checked. In the event of non-conforming product reaching the Customer, appropriate corrective action is taken.

8.4 Analysis of data

8.4.1 Data referring to product Quality problems is collected and analysed, and where changes to the Quality Management System offers improvements, these changes are introduced.

8.4.2 Areas for attention are Customer complaints, meeting the Customer's needs, product characteristics and supplier performance.

8.5 Improvements

8.5.1 The Quality Management System is maintained in a manner to offer continual improvement, having regard to statements in its Quality policy, objectives, audit results, data analyses, corrective and preventive action and Management review.

8.5.2 Appropriate action is taken to rectify faults and prevent their re-occurrence, and the procedure is documented. Requirements for identifying faults and determining their cause with appropriate corrective action is covered and recorded and the results reviewed.

8.5.3 The Company identifies preventive actions to prevent the recurrence of non-conformities and the results of such actions are recorded and reviewed for effectiveness.

Procedure List

Title	TTL Reference	ISO 9001:2008 Reference	AS 9100 Reference
Document Control and Records	PRM 01	4.2.3 & 4.2.4	4.2.3 & 4.2.4
Management Review	PRM 02	5.6	5.6
Resources	PRM 03	6.1,6.2.1,6.2.2,6.3 & 6.4	6.0
Customer Requirements	PRM 04	7.1,7.2.1,7.2.2 & 7.2.3	7.1,7.1.1,7.1.2,7.1.4, 7.2.1,7.2.2 & 7.2.3
Process Control	PRM 05	7.1,7.5.1,7.5.2,7.5.3,7.5.4,7.5 & 8.2.4	7.1,7.1.1,7.1.2,7.1.4,7.5.1,7.5.2,7.5.3,7.5.4,7.5 & 8.2.4
Purchasing	PRM 06	7.4.1,7.4.2 & 7.4.3	7.1.2,7.1.4,7.4.1, 7.4.2 & 7.4.3
Measuring and Monitoring Equipment	PRM 07	7.6	7.6
Internal Audit	PRM 08	8.2.2	8.2.2
Non-conforming Product	PRM 09	8.3	8.3
Corrective and Preventive Action	PRM 10	8.5.2 & 8.5.3	8.5.2 & 8.5.3
Measurement and Improvement	PRM 11	5.2,8.1,8.2.1,8.2.3,8.4 & 8.5.1	5.2,8.1,8.2.1,8.2.3,8.4 & 8.5.1
Configuration Management	PRM 12		7.1.3