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An Employee Owned Company

Operating Policy

Revision History

Rev.	Change	Approved By	Date
A	Initial Release 2/14/02	J. Harris	7/22/09
H	Added sec 5.9 -13 and 7.3	V. Chaturvedi	4/18/16
I	Added sec 5.2	V. Chaturvedi	5/25/16
J	Change Document No. to align with AS9100D, add 5.7 requirements for Masks, Dicing for ITAR products	S. Iannone	2/17/17
K	EDIT 5.7 and 5.15 FOR SUPPLIER FLOW DOWN CLARIFICATION	S. Iannone	6/26/17

Supplier Quality Requirements

QSOP 109A • Revision: K 06/26/17

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Steve Iannone — 6/26/17

Released by — **Date**

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NOTICE

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X = Sig Required	Approvals	Date	Document Title and Author
X	President	6/26/17	Supplier Quality Requirements Author: Jerimy Harris, QA Manager
X	Quality Assurance:	6/26/17	
X	Manufacturing:	6/26/17	
X	Purchasing:	6/26/17	
X	Engineering:	6/26/17	
	Other		

1 DISTRIBUTION

1.1 Current revisions of this document are available to all suppliers and made available electronically to all TLMI Corporation Purchasing, Quality, Materials and Engineering employees.

2 FORWARD

2.1 It is of the utmost importance that our supplier base understands their importance as an extension of our process. We pride ourselves on delivering the highest quality products and services to our customers, on time, every time at an agreed upon price. Our suppliers must do the same for us.

3 PURPOSE

3.1 This document is provided to enable our suppliers to understand our expectations. It establishes minimum quality requirements for all suppliers of materials and services whether they are being provided by the supplier directly or are purchased through sub-suppliers for use in TLMI Corporation products.

4 SCOPE

4.1 This document is part of and in addition to other purchasing and engineering documents that you may receive from us from time to time. This document does not replace or alter any of the terms and conditions, purchasing documents, purchase orders, engineering documents or requirements stated in those documents. It covers minimum quality requirements and describes our minimum quality system expectations.

4.2 If conflicts arise between this Supplier Quality Requirements document, TLMI Corporation purchase order and/or engineering documents or specifications the prevailing order shall be:

a) Purchase Order
b) Engineering documents or specifications
c) This Supplier Quality Requirements document

4.3 **The Supplier must inform TLMI Corporation of any documentation conflict through the appropriate TLMI Corporation purchasing agent.**

5 RESPONSIBILITY

5.1 It is the responsibility of TLMI Corporation to ensure that our supplier requirements are documented and communicated to our suppliers. It is also our responsibility to notify the supplier of any change in requirements and to provide feedback to the supplier.

5.2 TLMI will request any additional information and/or data that will mitigate any perceived risk that might impact our production schedule to meet customer requirements from “Sole Supplier” designated vendors either with stable or unstable On Time Receipt (OTR) history. This communication may be via any appropriate means suitable to the situation at hand.

5.3 It is the supplier’s responsibility to ensure that the contractual requirements are understood and that any ambiguities are clarified and agreed upon before their acceptance. The supplier must have the capability to meet the contract or accepted order requirements.

5.4 Each supplier will fill out a Supplier Quality Survey (last few pages of this manual) and return it back to us within 30 days of receipt. This document will be used to determine the capabilities of your quality management system and used should we need to visit your facility for auditing purposes.

5.5 Suppliers are expected to submit to TLMI Corporation Quality Assurance a corrective action plan to address problems that we bring to their attention within ten days of receipt. Communications between us in this regard will be via E-Mail. The supplier plan shall address the following topics.

- Description of noncompliance or problem as they understand it
- Probable root cause of the noncompliance or problem
- Description of containment activities designed to contain the problem while a fix is being determined
- Description of the short term preventive action that will be taken
- Description of long term corrective actions, including the names of procedures written or modified to address the problem.

5.6 The supplier is responsible for notifying TLMI Corporation Purchasing for approval BEFORE any changes are made with regard to the following (also applies to the supplier’s sub-suppliers or subcontractors).

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- Planned change in manufacturing location
- Planned change in manufacturing method
- Planned change of suppliers.
- Proposed change affecting product characteristics of form, fit, function or base material of any component, sub-component of an assembly or chemical recipe.
- Planned discontinuance of service
- Change in price
- Change in planned delivery schedule

5.7 The supplier of products or services, such as Sputtering, Masks or Dicing/Back Grinding, for use on ITAR or "Trusted" product(s) are required to be either ITAR compliant, or have a "Trusted Status" as applicable. Flow downs for services will be provided on an as required basis.

5.8 The supplier is responsible for providing certificates of compliance for mechanical products and chemicals stating that such items meet or exceed our requirements. Certificates of compliance shall be directly traceable to our purchase order by reference.

5.9 Suppliers and distributors must notify TLMI Corporation Purchasing, in writing, when supplied product may contain substances considered dangerous or harmful to humans, animals or the environment. Material safety data sheets (MSDS) shall be supplied with all chemicals and all chemicals shall be properly labeled in accordance with OSHA and federal standards.

5.10 Such data sheets should contain instructions for proper handling, storage, packaging and disposal after use, indications (diagnosis) of exposure in humans, emergency treatment after exposure and any known emergency neutralization procedures, if available, from the core manufacturer.

5.11 The Supplier is responsible for notifying TLMI if any nonconforming product may have shipped to TLMI.

5.12 Obtain permission form TLMI for nonconforming product disposition as appropriate.

5.13 Appropriate records must be retained at least for three (3) years or more as appropriate, unless otherwise contractually agreed upon to different time duration.

5.14 TLMI has right of access to suppliers customer and regulatory authorities to the applicable area of facility involved in the order and to all applicable records.

5.15 The Supplier is responsible for flow down to the supply chain all applicable requirements as appropriate. All purchased commercial off the shelf (COTS) materials are exempt from flow down. DoD FAR 252.244-7000

6 ASSOCIATED DOCUMENTS

6.1 Supplier Survey (last few pages of this manual)

7 INITIAL SUPPLIER QUALIFICATION PROCESS

7.1 A supplier is any vendor, subcontractor, or individual that supplies TLMI Corporation with materials or products that will be used in the production of products for sale to our customers. Supplier selections (initial qualification) are made using one or more of the following evaluation methods (not in any order of priority):

a) Surveys within every three years

b) Past history/experience (quality, price, delivery),

c) Product qualification/product appraisal (in-use test).

7.2 Suppliers that satisfactorily meet these requirements are considered approved suppliers. These suppliers must continue to meet requirements (as well as on time delivery) to remain on the AVL (approved vendor list). To verify that the supplier quality system is effective, specific inspection and/or audit controls may be instituted at our discretion to assure quality.

7.3 The initial risk level for each supplier will be identified and noted on the Approved Vendor List (AVL) and subsequent risk level status will be discussed during the scheduled management review meetings using the following "Risk Level (RL = P x I) Determination Tool" as a guide;

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Risk Level (RL = P x I) Determination Tool

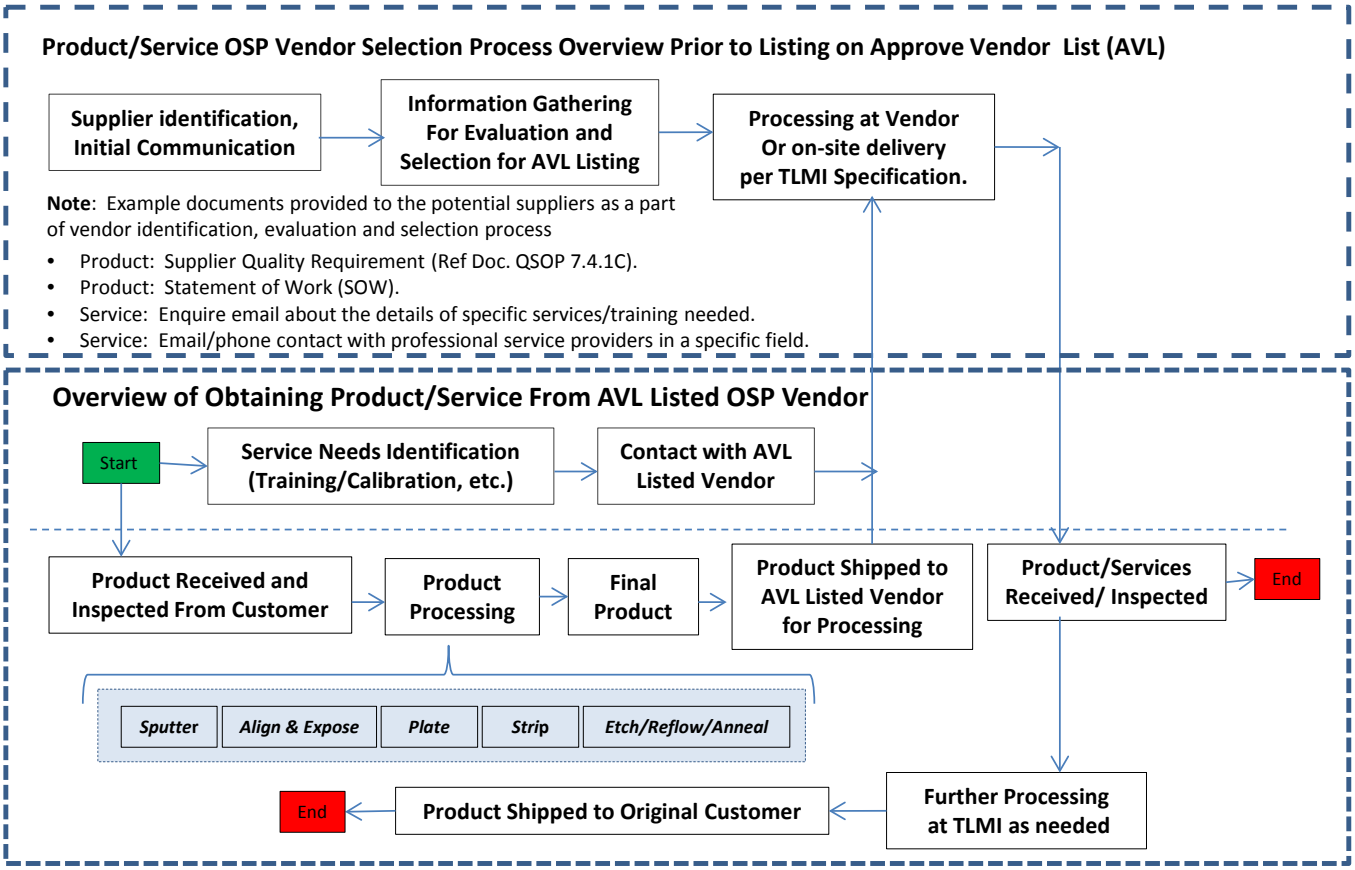
Event Impact Level (I)		Event Occurrence Probability (P) Low 1	Medium 2	High 3
Low	1	1	2	3
Medium	2	2	4	6
High	3	3	6	9

Risk Level (P * I)	
Low	= No Action Required
Medium	= Action Required
High	= Action Required

8 PURCHASED PRODUCTS AND OUTSOURCED PROCESSES

8.1 Outsourced processes shall be controlled. A high level process overview of Outsourced Processes for product and service and their interaction with product realization/manufacturing processes is depicted in the following figure.

TLMI Outsourced Process (OSP) Overview



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8.2 A process/product specification or SOW (statement of work) is sent out with the work which is further controlled through receiving inspections to assure conformance to requirements. If suppliers are Medium or High Risk, tightened inspection procedures will be used up to 100%.

8.3 Initial decisions to use a particular supplier on an urgent basis are based on the following areas.

- Supplier capability (both technical capability and on time urgent product delivery)
- Price (the lowest price is not always the best price)
- Quality (industry reputation for product quality)
- Willingness to comply with our requirements and work with us to correct deficiencies in a timely manner.

8.4 Normally, after TLMI Corporation Purchasing has identified potential suppliers, a request for quotation package containing all relevant product drawings and specifications is provided to the potential supplier.

8.5 The supplier will review and return to TLMI Corporation Purchasing either a quotation for the products or services requested or no bid the job. If a satisfactory quotation is received and accepted by TLMI Corporation Purchasing, the supplier (if a new supplier only) will be provided with [THIS] manual and must complete the Supplier Survey (located on the last few pages of this manual) and return it via e-mail to TLMI Corporation Quality Assurance for review and approval.

8.6 Any portion of the survey that does not apply to the supplier in question must be clearly indicated by the supplier on the survey form by checking the “N/A” box.

8.7 After receipt of the Supplier Survey form from the supplier, Purchasing and Quality Assurance will jointly review the document and determine the depth of the Quality Management system in place. We will make our recommendations based on this review. The Supplier Survey results will determine which suppliers need to be monitored more closely.

8.8 At our discretion if an on-site audit is needed, both Purchasing and Quality Assurance will plan the audit, notify the supplier of the visit and audit the supplier based on survey results.

8.9 Quality Management System Qualification Levels are described as follows.

- **Disqualified**: The supplier has no quality management system in compliance with the elements of our survey and or process controls do not appear to be adequate to assure good product delivery for outsourced processes. No further purchase orders will be placed without TLMI management approval.
- **Conditionally qualified**: The supplier has a basic or partial quality management system in place and the supplier seems willing to move forward toward meeting our quality management system requirements. Purchase orders can be placed as long as the supplier maintains a good quality and on time delivery record.
- **Qualified**: The supplier meets most if not all elements of our survey considering the type of supplier (general supplies, chemicals or outsourced process) and only minor issues are evident. Purchase orders can be placed as long as the supplier maintains a good quality and on time delivery record.
- **Exempt**: The supplier provides equipment and materials that do not come in intimate contact with product. Home Depot, Lowe’s, Ebay, Office Depot, etc. provide generic tools, parts and components used in repair and maintenance or office supplies. No surveys or certification are required of exempt suppliers. The use of an exempt supplier does not relieve Maintenance, Engineering, Production or QA from the responsibility of ensuring that the equipment or material being purchased will not adversely affect our products.

8.10 The next step in this process is to qualify the product supplied based on TLMI’s product evaluation. TLMI staff will sample the product supplied and determine if it meets our specifications by using the product in the applications for which it was purchased.

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8.11 Satisfactory completion (outcome) qualifies the product. Purchasing will notify the supplier of acceptance or failure via e-mail with TLMI QA in copy. TLMI QA will file the notice electronically to the appropriate supplier folder on the QA server.

8.12 Test equipment and tooling suppliers are also considered here as equipment and tooling are qualified based on actual use.

8.13 Suppliers are required to notify TLMI Corporation Purchasing should they suspect that defective or nonconforming materials have left their facility for delivery to us after initial sample approval.

8.14 Suppliers are reviewed once a year (or sooner) and re-qualified if significant changes have been made after initial acceptance and or if quality problems (product quality, on time delivery) are noted. Suppliers will be notified of corrective actions by e-mail and will respond back to us by e-mail stating what they intend to do to correct noncompliance's. Criteria for issuing Corrective Action Request are as follows: 3 instances of late delivery during a calendar year based on order acknowledgement, 2 instances of not meeting fit, form or function according to specifications during a calendar year.

8.15 Purchasing may request that the supplier pay for any expenses which can be directly associated with a line shut down or rejected materials that are sorted on site to keep our production lines running.

8.16 The supplier will provide copies of all material certifications, SDS, and laboratory test results as applicable with the product.

9 MINIMUM QUALITY MANAGEMENT SYSTEM REQUIREMENTS

9.1 Our quality management system survey makes an assessment of the suppliers' quality system in many areas we feel should form the foundation of any sound quality management system. Rating each element is simple. The element is either in your system, doesn't apply or is not in your system (Y, N, N/A).

END OF SUPPLIER MANUAL – SURVEY FOLLOWS ON NEXT PAGE

Supplier Quality Management System Survey

INSTRUCTIONS: We are asking that all suppliers complete this survey so that we may better understand the Quality Management System (QMS) that you currently have in place. If your Quality Management System (QMS) is CURRENTLY registered to one or more of the following international standards, then you only need to fill out this page and e-mail us a copy of your current registration certificate(s) and this page in PDF format to purchasing@tlmicorp.com. You do not need to complete the survey.

If you are not CURRENTLY registered to any of the international standards (or your certificate is expired or about to expire within 3 months) then please complete the survey to the best of your ability and e-mail us this page and the completed survey in PDF format to purchasing@tlmicorp.com. Check (**X**) all that apply below.

☐ QMS IS Not Currently Registered	☐ ISO14000 Environmental	☐ ISO/TS 16949:2002 (QS9000) Automotive
☐ ISO9001:2000 General	☐ ISO9001:2008 General	☐ ISO13485 Medical
☐ ISO/TS16949:2009 (QS9000) Automotive	☐ AS9100 Aerospace	☐ Other, Explain =>

Section 1 – Company Information

Company: _____ **Address:** _____ **City, State, Zip:** _____

Quality Mgr. Name _____ **Direct Ph.** _____ **E-Mail** _____

President/CEO Name _____ **Direct Ph.** _____ **E-Mail** _____

General Mgr. Name _____ **Direct Ph.** _____ **E-Mail** _____

Sales Mgr. Name _____ **Direct Ph.** _____ **E-Mail** _____

Total employees at this location _____ **Annual Sales** _____ **Total Facility Size (sq ft)** _____

Type of products produced or supplied from this location: _____

We are an: | | **OEM Manufacturer/Producer** | | **Distributor/Warehouse** | | **Other, Explain =>**

Signature of person completing this survey _____ Title _____ Date _____

----------**TLMI QA AND PURCHASING ONLY BELOW** ----------

Quality Assurance and Purchasing Disposition

Qualified: ___ Comment: _____

Conditionally Qualified: ___ Comment: _____

Disqualified: ___ Comment: _____

Corrective Action Requested: ___ Comment: _____

_____ _____

Quality Assurance Signature Date

_____ _____

Purchasing Signature Date

Return this completed page to the supplier after disposition and signatures

Supplier Quality Management System Survey

Survey Questions

Check (X) Below

1) Quality management system	**Yes**	**No**	**N/A**
The organization has established, documented, implemented and maintains a quality management system (QMS) and continually improve its effectiveness			
You have determined the criteria and methods needed to ensure that both the operation and control of the quality management system (QMS) is effective			
You ensure the availability of resources and information necessary to support the operation and monitoring of the QMS			
You implement actions necessary to achieve planned results and continual improvement of the QMS processes			
2) Documentation requirements	**Yes**	**No**	**N/A**
The quality management system documentation includes documented statements of a quality policy and quality objectives			
You have a quality manual			
You have documented procedures and records required by your QMS			
You have documents, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of your processes			
3) Control of documents	**Yes**	**No**	**N/A**
A documented procedure is established to define the controls needed to approve documents for adequacy prior to issue			
You ensure that changes and the current revision status of documents are identified			
You ensure that relevant versions of applicable documents are available at points of use			
You prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose			
4) Control of records	**Yes**	**No**	**N/A**
You have established a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records. Records shall remain legible, readily identifiable and retrievable.			
5) Customer focus	**Yes**	**No**	**N/A**
Top management ensures that customer requirements are determined and are met with the aim of enhancing customer satisfaction			
6) Management representative	**Yes**	**No**	**N/A**
Top management has appointed a member of the organization's management who, irrespective of other responsibilities, shall have responsibility and authority that includes ensuring that processes needed for the quality management system are established, implemented and maintained			
7) Management review	**Yes**	**No**	**N/A**
Top management shall review the organization's quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives. Records from management reviews are maintained			
8) Resource management	**Yes**	**No**	**N/A**
The organization shall determine and provide the resources needed to implement and maintain the quality management system and continually improve its effectiveness			
9) Competence, training and awareness	**Yes**	**No**	**N/A**
Personnel performing work affecting conformity to product requirements are competent on the basis of appropriate education, training, skills and experience.			
The organization determines the necessary competence for personnel performing work affecting conformity to product requirements			
You maintain appropriate records of education, training, skills and experience			

Supplier Quality Management System Survey

Survey Questions Continued

Check (X) Below

10) Determination of requirements related to the product	**Yes**	**No**	**N/A**
The organization shall determine 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, and			
d) any additional requirements considered necessary by the organization.			
11) Review of requirements related to the product	**Yes**	**No**	**N/A**
The organization shall review the requirements related to the product and ensure product requirements are defined and the organization has the ability to meet the defined requirements			
Where product requirements are changed, the organization shall ensure that relevant documents are amended and that relevant personnel are made aware of the changed requirements.			
12) Purchasing Requirements	**Yes**	**No**	**N/A**
The organization shall ensure that purchased product conforms to specified purchase requirements.			
You evaluate and select suppliers based on their ability to supply product in accordance with the organization's and customer requirements. Criteria for selection, evaluation and re-evaluation is documented			
Records of the results of evaluations and any necessary actions arising from the evaluation are maintained			
13) Verification of purchased product	**Yes**	**No**	**N/A**
You have established and implement receiving inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.			
Work instructions are available for all inspection and testing activities covering receiving, in-process and final inspection			
Records are kept for all inspection and testing that is performed			
14) Validation of processes for production	**Yes**	**No**	**N/A**
You validate any processes where the resulting output cannot be verified by subsequent monitoring or measurement and, as a consequence, deficiencies become apparent only after the product is in use or the service has been delivered. Validation has demonstrate the ability of these processes to achieve planned results			
15) Identification and traceability	**Yes**	**No**	**N/A**
You identify the product by suitable means throughout the production cycle and delivery			
16) Preservation of product	**Yes**	**No**	**N/A**
You preserve the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable, preservation shall include identification, handling, packaging, storage and protection. Preservation shall also apply to the constituent parts of a product.			
17) Control of monitoring and measuring equipment (calibration)	**Yes**	**No**	**N/A**
You have determined the monitoring and measurement to be undertaken and the monitoring and measuring equipment needed to provide evidence of conformity of product to determined requirements.			
You have established processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements			
Measuring equipment is calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards			
You identify equipment in order to determine its calibration status (labels, serial numbers)			
You assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements (out of calibration). You take appropriate action on the equipment and any product affected			
Records of calibration are maintained and are available			
18) Measurement, analysis and improvement	**Yes**	**No**	**N/A**
You plan and implement the monitoring, measurement, analysis and improvement processes needed to demonstrate conformity to product requirements, to ensure conformity of the quality management system, and to continually improve the effectiveness of the quality management system			

Supplier Quality Management System Survey

Survey Questions Continued

Check (X) Below

19) Customer satisfaction	**Yes**	**No**	**N/A**
As one of the measurements of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements. The methods for obtaining and using this information shall be determined			
20) Internal audit	**Yes**	**No**	**N/A**
You conduct internal audits at planned intervals according to a documented procedure to determine whether the quality management system conforms to planned arrangements and to the quality management system requirements established by your organization			
Audits are 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 is defined. The selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.			
Audit records are maintained and written corrective actions are followed up and closed out in a timely manner.			
21) Monitoring and measurement of product	**Yes**	**No**	**N/A**
You monitor and measure the characteristics of the product to verify that product requirements have been met. Evidence of conformity with the acceptance criteria is maintained.			
Records shall indicate the person(s) authorizing release of product for delivery to the customer			
22) Control of nonconforming product	**Yes**	**No**	**N/A**
Product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. A documented procedure is established to define the controls and related responsibilities and authorities for dealing with nonconforming product.			
When nonconforming product is corrected it shall be subject to re-verification to demonstrate conformity to the requirements.			
Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained			
23) Continual improvement	**Yes**	**No**	**N/A**
The organization shall continually improve 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.			
24) Corrective action	**Yes**	**No**	**N/A**
You take action to eliminate the causes of nonconformities in order to prevent recurrence. A documented procedure is established to define requirements for reviewing nonconformities (including customer complaints)			
You determine the causes of nonconformities, evaluate the need for action to ensure that nonconformities do not recur, determine and implement action needed and maintain records of corrective action.			

End of survey