

# McKenzie Valve & Machining Company

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# SUPPLIER QUALITY MANUAL

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## SUPPLIER QUALITY ASSURANCE PHILOSOPHY

We require a commitment from you to assist us in meeting our goal of continuously improving Customer Satisfaction.

We in turn will seek to establish a long-term relationship with you in a joint effort to remain competitive in the world economy.

McKenzie Valve & Machining Co. will remain loyal to our suppliers who are committed to working with us to find solutions to our customers' needs and who will meet our quality, cost and total service requirements.

Just-in-time delivery is a critical service requirement.

We expect our suppliers to promote a philosophy of continuous improvement and to develop, monitor and assess, on an on-going basis, the following:

- Quality Assurance systems capable of ensuring 100% conformance to McKenzie Valve & Machining Co. quality standards.
- Participation in simultaneous engineering programs.
- Use of analytical techniques such as design of experiments, quality functions deployment, failure mode and effect analysis and other techniques as required.
- Continuous review of product and processes in an effort to reduce product cost to meet annual cost down targets.

We expect our relationship to be based on mutual trust, with reciprocal respect for any confidential material exchanged between us.



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## I. SUPPLIER MANUAL SCOPE

This manual applies to all Distributors and Suppliers, which provide raw materials, components, graphic materials, and packaging products in the manufacture of McKenzie Valve & Machining Co. products for resale. The manual also applies to product purchased complete for resale.



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## II. QUALITY SYSTEM QUALIFICATIONS

### Goal

It is the goal of McKenzie Valve's Quality and Purchasing Departments for each subcontractor and supplier to be compliant to AAR M-1003 quality system requirements. It is also our goal that all suppliers and subcontractors are compliant to the AAR M-1003 reference manuals: PPAP, APQP, FMEA, MSA, and SPC. McKenzie Valve & Machining Co. keeps records of the status of all suppliers and subcontractors and their efforts towards AAR M-1003 or ISO/QS 9000 compliance.

### Quality Certifications

If a supplier/subcontractor is M-1003 or ISO/QS 9000 certified, a copy of their certificate must be submitted to the Purchasing Department for our records. It is the responsibility of the supplier/subcontractor to send the Purchasing Department copies of any renewed certifications once they have been issued.

### Uncertified Suppliers/Subcontractors

McKenzie Valve & Machining Co. does not currently require suppliers/subcontractors to be M-1003 or ISO/QS 9000 certified. If a supplier/subcontractor is not ISO/QS 9000 certified, they are required to fill out a quality system assessment. This assessment must be filled out once a year in order for McKenzie Valve & Machining Co. to track progress towards ISO/QS 9000 compliance. A copy of the quality system assessment can be found in the Appendix section of this manual.

Failure to submit a quality system assessment will result in the lowering of the on-time delivery score of the quarterly performance report. If the quality system assessment is less than 75% (unacceptable quality system score), the subcontractor is required to issue a corrective action.

McKenzie Valve & Machining Company can make an on-site audit of supplier's/subcontractor's quality systems. McKenzie Valve & Machining Co. encourages suppliers/subcontractors to visit our facility and review our quality system.



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### III. CERTIFICATIONS, SPC, PERFORMANCE DATA, AND REVALIDATION

#### Material Certifications

Unless other arrangements have been made with McKenzie Valve & Machining Co. Purchasing Department, all material must have representative material and finish certifications with every shipment. The certifications must represent the lot of material that is shipped to McKenzie Valve. They must be from the manufacturer of the material (steel, casting, etc...). They must call out the material stated on the print, and, if specifications (ASTM, ANSI, etc...) are called out on the print or purchase order, the supplier/subcontractor must have the specification called out and the actual material composition and/or the material performance that coincides with each specification. Blanket statements of conformance are unacceptable.

Certifications must be less than one year old. If the certification is over one year old, but does represent the material to be shipped to McKenzie Valve, a statement must be sent with or on the certification saying that "The material certification does represent the material shipped to McKenzie Valve & Machining Co. on date with a signature.

#### Submitting Certifications

McKenzie Valve & Machining Co. prefers suppliers/subcontractors to ship certifications with the shipment. They should be stapled to the packing slip and placed inside a box. If there is more than one box, a mark should be placed on the box that contains the packing slip and material certifications. Suppliers may also submit certifications by mail, fax, or e-mail. **However, they must reach McKenzie Valve & Machining Co. before the shipment.** If suppliers are not sending the material certifications with the shipment, please indicate this on the packing slip.



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### IV. PROCESS CONTROL, TRACEABILITY, AND INSPECTION RESULTS

McKenzie Valve & Machining Co. urges suppliers/subcontractors to implement the usage of control plans for process control.

Suppliers/subcontractors must assure traceability of all parts or material shipped to McKenzie Valve. Material certifications and packing slips must include the supplier's lot number or manufacturing date. All boxes must indicate the supplier's lot number or manufacturing date.

McKenzie Valve & Machining Co. requires all suppliers to keep evidence of all inspection results a McKenzie Valve & Machining Co. disposal.

The use of statistical process control (SPC) is necessary on characteristics mutually agreed upon by the supplier and McKenzie Valve & Machining Co. but are not required with each shipment unless other arrangements have been made with the Purchasing Department.



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### V. REJECTED PURCHASED MATERIAL

All material found out of print specification or received into McKenzie Valve & Machining Co. without proper documentation is considered discrepant and results in a Rejected Material Form (RMF). An example of a Rejected Material Form can be found in the Appendix Section of this Manual.

The Supplier Quality Assurance Representative (SQA) will contact the supplier concerning the RPM and provide information and samples to the supplier to aid in their investigation.

Supplier's quality performance is reported quarterly on the Quarterly Performance Report. For each item on a RMF due to a quality issue, the Quality score will be lowered. For each item on a RMF due to material certifications, the Material Certs score will be lowered. A copy of the quarterly performance report can be found in the Appendix Section of this Manual.

All Rejected Material reports require written documentation of corrective action. Failure to forward corrective action and requested documentation within the specified time frame results in further lowering of the supplier's rating performance.



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## VI. CHARGES FOR REJECTED PURCHASED MATERIAL

In the event that discrepant material is found, all costs associated with the discrepant material are the responsibility of the supplier that supplied the material. The responsible supplier must give a return authorization number for return of the material or cost associated with the discrepant material within five days after notification of the (RMF) Report. An administrative charge may also be applied.

### **Debits for Rejected Material Found at Receiving Inspection**

When material is discovered to be discrepant during receiving inspection, a Rejected Material Form is issued to the supplier, and the supplier will be requested to give McKenzie Valve & Machining Co. a return material authorization number. The material will be shipped back to the supplier at the supplier's cost.

### **Debits for Rejected Material Found During the Manufacturing Process**

If discrepant material is found during manufacturing, the material will be rejected and a RPM will be issued to the supplier. All material that is processed will be totaled and a debit will be issued from McKenzie Valve & Machining Co. for the material costs incurred from our process. A return material authorization number will be requested from the supplier to have the material sorted for the discrepancy. In some cases, material must be sorted at McKenzie Valve & Machining Co. instead of sending it back to the supplier. In such cases, the supplier will either be requested to send someone to our facility to sort the material or McKenzie Valve & Machining Co. will sort the material and the supplier will be debited for the sort cost.

### **Debits for Rejected Material Found at Customer Location**

If discrepant material is found at our customer's location, the material will be rejected and a RMF will be issued to the supplier. All charges associated with the discrepant material will be assessed and a debit will be issued from McKenzie Valve.



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### VII. CORRECTIVE ACTION TO REJECTED MATERIAL REPORTS

When a RMF is issued, the supplier is expected to respond with a correction action report. Supplier corrective actions are not limited to sorting and rework of a given lot of material, but should include the following actions:

- A. Review in-house inventory and shipment history and notify McKenzie Valve & Machining Co. of potential problems with prior shipments or parts in transit.
- B. Institute short-term containment measures and 100% inspection of product at McKenzie and at the supplier to assure further defects from being shipped.
- C. Determine the root cause(s) of the problem.
- D. Investigate error proofing and implement permanent corrective action.
- E. Audit to assure the effectiveness of the permanent corrective action and potential for recurrence of the problem.
- F. Document the actions taken and the results implemented on an 8-D report.

The supplier must notify the Supplier Quality Assurance Representative within 24 hours to verify containment measures. If the RMF was issued due to lack of documentation or incorrect documentation (certifications, SPC, performance data, etc...), the documentation must also be relayed to McKenzie Valve & Machining Co. within 24 hours after notification of the RMF. The supplier must send the Corrective Action including supporting documentation to the Supplier Quality Assurance Representative within five (5) working days with the Interim Action portion completed. Within 30 days, a completed CA must be submitted to McKenzie Valve & Machining Co. with Permanent Action implemented. Subcontractors may use their own format for the CA or they can use the McKenzie Valve & Machining Co. form located in the Appendix.



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### VIII. REQUEST FOR DEVIATION

On an interim basis, suppliers may apply for a deviation for the material that does not conform to engineering specifications. McKenzie Valve & Machining Co. will either grant or deny each deviation request received. Deviated material must not be shipped without receiving formal permission.

All deviation requests to McKenzie Valve & Machining Co. may be by phone for expediting reasons, but they must be followed up in writing in a form convenient to the supplier and contain the following information:

- A. McKenzie Valve & Machining Co. part number
- B. Description and amount of variation, along with print specification and actual data collected.
- C. Quantity of non-conformities affected.
- D. Lot number and planned shipment date.
- E. Remarks, including interim corrective action taken.

If the deviation is approved, the shipped product must be labeled with the McKenzie Valve & Machining Co. deviation number. If the deviation is denied, the supplier must segregate the nonconforming material and ensure that it is contained properly. All deviation requests must be made to the McKenzie Valve & Machining Co. Quality Assurance Department.



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### IX. REQUEST FOR ENGINEERING CHANGE

#### **Engineering Changes by McKenzie Valve:**

Should there be a need for an engineering change during a model run; the supplier will be notified by the Purchasing Department with a new drawing release. The supplier/subcontractor may be required to attend an APQP meeting at McKenzie Valve & Machining Co. upon “kick-off” of the engineering change. Prior to implementation of the engineering change, a sample submission will be required, and the supplier will be notified via a sample submission checklist.

#### **Supplier Request for Engineering Change**

If there becomes a need for a supplier to request a change to an existing product, the supplier must contact McKenzie Valve & Machining Co. Purchasing Department with a documented request. When the change is approved, a revised drawing will be sent to the supplier when released. Should it become necessary to implement a change prior to formal drawings being released, the Purchasing Department will release a document allowing the implementation prior to drawing release.

#### **Denial for an Engineering Change**

If a change is denied, the Purchasing Department will notify the supplier with a formal letter of denial. Should the denial be unacceptable, a meeting will be scheduled between the two parties for resolution.



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### X. OBSOLESCENCE CLAIMS

McKenzie Valve & Machining Co. accepts responsibility for material that has become obsolete, so long as our customer does, due to engineering change or model build-out, up to Material Authorization Releases only. Any material that has been fabricated beyond the authorized quantity will not be credited to the supplier.

All suppliers will be notified prior to any part build out. It is imperative that suppliers monitor their material release authorizations. This will assure minimal inventory requiring a claim.

To file a claim, contact the Purchasing Dept. with a quantity for all raw, work-in-process, and fabricated material. For any concessions above what is outlined, contact the Purchasing Manager.

Claims must be timely, but not to exceed two (2) weeks after notification from McKenzie Valve.



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## XI. DELIVERY REQUIREMENTS

### **On-Time Delivery**

McKenzie Valve & Machining Co. requires 100% on-time delivery from all suppliers. If 100% on-time delivery is not met, the Purchasing Department will notify the supplier by a Delivery Deficiency Report. Suppliers are required to supply corrective action for every shipment that is not 100% on time. Orders must be shipped **100% complete** to be considered as 100% on-time.

### **Quantity Accuracy**

Suppliers are required to supply quantities according to the material release. Over- or under-shipments are not acceptable. In the case of over- or under-shipments of more than 10%, the Purchasing Department will notify the supplier by a Delivery Deficiency Report. Suppliers are required to supply corrective action for every shipment that is over or under in quantity as compared to the material release.

### **Delivery Performance**

Supplier's delivery performance is reported every quarter on the quarterly performance report. A copy of the quarterly performance report can be found in the Appendix. For every occurrence of less than 100% on-time delivery, the On-Time Deliveries score will be lowered. For every occurrence of over or under shipments, the Quantity Scheduled score will be lowered.

### **Premium Freight**

Any and all premium freight incurred by the supplier because on-time delivery was not met shall be the responsibility of the supplier. The delivery date must be met even if the supplier has to incur the additional freight costs.



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### **XII. SHIPPING, PACKAGING, AND LABELING**

#### **Packing Slips**

All suppliers are required to submit with each shipment a packing slip with the purchase order number, the McKenzie Valve & Machining Co. part number, the quantity, and their lot number. Suppliers that perform secondary operations such as painting, subassembly, plating, and etc. must transfer the McKenzie Valve & Machining Co. part number from the McKenzie Valve & Machining Co. packing slip or box tags when returning the parts to McKenzie Valve. Invoices must be mailed that reflect the valid purchase order number and should reference the packing slip number.

#### **Shipping**

All material shipped to McKenzie Valve & Machining Co. must be adequately contained in a manner that will prohibit the material from being damaged during shipment.

#### **Packaging**

Supplier's product must be packaged in a way to assure prevention of product deterioration at McKenzie Valve. In the event that special packaging is required to assure ease or removal during manufacturing, McKenzie Valve & Machining Co. purchasing staff will contact the supplier to develop a method of packaging.

#### **Hazardous Material Control**

All material sent to McKenzie Valve & Machining Co must comply with current reported and restricted chemical guidelines as stated on the McKenzie Valve & Machining Co. supplied print. All material must also have a coinciding Material Safety Data Sheet. These standards detail governmental regulations for control and handling of all material deemed Hazardous to humanity. Copies of the standards can be obtained from the Purchasing Department at the supplier's request.



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### Labeling

All material received at McKenzie Valve & Machining Co. must be labeled properly with the following:

- McKenzie Valve & Machining Co. Part Number
- Supplier Manufacturing Lot Number or Manufacturing Date
- Quantity
- McKenzie Valve & Machining Co. Drawing Revision Level
- Deviation Number (If Applicable)



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### **XIII. QUALITY LEVEL AND CONTINUOUS IMPROVEMENT**

#### **Supplier Quality System Elements**

Suppliers to McKenzie Valve & Machining Co. must have an adequate Quality Assurance System to assure that the products supplied will meet specifications established by the blueprint and purchasing contract.

#### **Control of Incoming Material/Component Parts**

Suppliers are responsible for the quality and integrity of the material and components they purchase from their suppliers for use in products for McKenzie Valve. Suppliers must establish procedures to carry out this responsibility and keep records of inspection and testing of incoming materials and components.

The supplier will initiate corrective actions with their suppliers on non-conforming products. Our supplier, not your supplier, will communicate any requests to McKenzie Valve & Machining Co. for deviation concerning supplied products to McKenzie Valve.

#### **Inspection & Test Equipment and Tooling Maintenance Program**

Suppliers must have a program that assures the calibration and repair of equipment and McKenzie Valve & Machining Co. owned tooling on periodic intervals throughout the life of the product. All equipment used for final acceptance must be included in the control program. A record keeping system must be maintained with a file on all tooling and equipment containing at minimum the following information:

- A. Identification number and type of instrument.
- B. Customer part number and revision level.
- C. Initial certification record and date of calibration.
- D. Frequency of calibration and next calibration due date.
- E. Record of each calibration including date, inspector, and actual reading.
- F. Repair history.



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G. Equipment and tooling ownership identification.

### Rejected Material Control

Suppliers must have an identified location(s) within their facility to temporarily quarantine discrepant material. Discrepant or suspect material removed from in-process operations must be segregated to this area until disposition is made (rework, scrap, or sort). The suspect or discrepant material and the quarantine area must be visually identified (brightly colored tags, etc.) to assure the discrepant material is not used.

### Drawing and Change Control

Suppliers must maintain a system for assuring that the latest engineering drawings, specifications, and deviations are available at the time and place of manufacturing (when feasible), inspection, and testing. All suppliers must use and reference engineering drawings supplied by McKenzie Valve. Supplier-controlled drawings will not be accepted unless approved by the end customer. All suppliers will be notified of any engineering specification change. Changes cannot be made by a supplier without prior approval from McKenzie Valve. Concurrent with the effective dates of product changes, the supplier must ensure that the obsolete information is removed from all points of use. Where an industry standard is specified (material Specifications, test method, etc.) the supplier is responsible for obtaining the standard and for being current with the latest revisions.

### Supplier Manufacturing Audits

All suppliers must establish an audit procedure for day-to-day monitoring of the quality of products produced for McKenzie Valve. The procedure should consist of three separate steps.

- A. Machine set-up approvals
- B. In-Process inspection (including first and last piece inspection)
- C. Final Inspection

Machine set-up approvals are required each time a machine or process is retooled or changed-over to run products for McKenzie Valve & Machining Co. and must be supported by documentation.



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In-Process inspections monitor the daily part quality. The supplier direct process activities toward defect prevention methods, such as statistical process control, first and last piece inspection, mistake proofing, visual controls, rather than defect detection. If nonconformity is found during an audit, all material ran since the last approval should be segregated for further evaluation and disposition.

The supplier must also have final inspection documentation to verify that the packaged final product is in conformance to all specified requirements (product, packaging, labeling).

### **Record Keeping Requirement**

The supplier must maintain a system of record keeping including both quality system and performance records on products produced for McKenzie Valve. These must include but are not limited to:

- A. Sample Submission Documentation
- B. Machine Set-Up Approvals
- C. Statistical Process Control Charts
- D. In-Process Inspection Records
- E. Discrepant Material Records
- F. Corrective Action Records
- G. Deviation Request Records
- H. Engineering Change Request Records
- I. Inspection and Test Equipment Certifications and Records
- J. McKenzie Valve & Machining Co. Owned Tooling Records
- K. Drawing and Change Control Records
- L. Material and Additional Process (Coatings) Certifications
- M. Current Material Specifications (AAR, ASTM, ANSI, etc.)
- N. Material Safety Data Sheets
- O. Current Lab Accreditation as applicable

Sample submission documentation, tooling records, purchase orders, and McKenzie Valve & Machining Co. owned tooling records must be retained at minimum for the length of time that the part is active for production and service requirements plus one calendar year.



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## XIV. SAMPLE SUBMISSIONS

### **Purpose**

The purpose of a sample submission is to determine if the supplier properly conforms to all McKenzie Valve & Machining Co. engineering design record and specifications requirements.

### **When Submission Is Required**

Sample submission is required prior to the first production shipment of product in the following situations:

- A. A new part or product
- B. Correction of a discrepancy on a previously submitted part
- C. Product modified by an engineering change to design records, specifications, or materials
- D. Use of another optional construction or material than was used in the previously approved parts
- E. Production from new or modified tools (except perishable tools), dies, molds, patterns, etc, including additional or replacement tooling
- F. Production following refurbishment or rearrangement of existing tooling or equipment
- G. Production following any change in process or method or manufacture
- H. Production from tooling and equipment transferred to a different plant location or from an additional plant location.
- I. Change of source for supplier parts, material, or services
- J. Following a customer request to suspend shipment due to a supplier quality concern



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### Sample Submission Process

The McKenzie Valve & Machining Co. Purchasing Dept. will send the supplier a purchase order, print, and sample submission checklist when a sample submission is required. The sample submission checklist is to be used by the supplier to verify that they are submitting all documentation required by McKenzie Valve. A copy of a sample submission checklist can be found in the Appendix.

The sample submission checklist must be returned to McKenzie Valve, to the attention of the Supplier Quality Assurance Representative and should be signed by the person responsible for the submission in order to verify that the checklist was followed. Sample submissions should include three (3) samples from each cavity. The submission should be completed by the date specified on the checklist and should include all information requested on the checklist. If there are any questions or concerns about the information requested on the checklist, the supplier should notify the Supplier Quality Assurance Representative.

Once the sample submission (including parts) is obtained by McKenzie Valve, the documentation will be verified, the parts will be dimensionally inspected, and performance testing (when applicable) will be conducted. The Supplier Quality Assurance Rep. will then notify the supplier of the status of the sample submission by a signed off warrant. One of the following statuses will be assigned to the submission.

*Fully Approved:* The part is approved for production. All dimensional, material, and performance specifications inspected have been found to conform to the print. No further action is required on the part.

*Rejected:* The part is not acceptable for production. New samples and documentation must be resubmitted for any nonconformance noted in order to ship product to McKenzie Valve.

If the sample submission is rejected or interim approved, the Supplier Quality Assurance Rep. will include a new sample submission checklist and the McKenzie Valve & Machining Co. inspection report with the signed-off warrant. In the event of a rejected submission, any parts received with the sample submission package will be returned to the supplier.



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### Sample Submission Documentation

The documentation included in the sample submission must follow an ISO/QS 9000 PPAP standard format. Per the sample submission checklist, the following documentation is required with the submission:

- A. Warrant
- B. Marked Drawing/Inspection results. The inspection results must be coded to the drawing with measurements in the same unit as the drawing and all other notes addressed
- C. Compliance to the reported and restricted chemical standard as noted on the drawing
- D. Control Plan
- E. Laboratory/Performance Studies (per print requirements)
- F. Material certifications and/or Additional Processes
- G. Material Safety Data Sheet (from raw material subcontractor)



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## XV. QUARTERLY PERFORMANCE REPORTS

McKenzie Valve & Machining Co. suppliers are assessed quarterly for quality and delivery performance. The following areas are assessed on the report: dimensional quality, material certifications, quantity scheduled, and on-time deliveries.

Quality, material certifications, and corrective action scores are based on Rejected Material Forms (NCR's), with quality being calculated as PPM's (part per million). If there are any questions concerning the quality or material certification scores, please contact the Supplier Quality Assurance Representative. Shipping Accuracy and On-Time Delivery scores are based on Delivery Discrepancy Reports. If there are any questions concerning the quantity scheduled or on-time delivery scores, please contact the Purchasing Department.

### Calculation of Rating

The performance rating is calculated based on the following:

- Shipping Accuracy
- On-Time Deliveries
- Quality
- Material Certifications
- On-Time Corrective Actions

The overall rating is 100 points and each category is worth 20 points. Points are assigned per the rating chart below.

Rate Chart		
Accuracy, On Time, Certs, & Corrective Action	PPM's	Points
100%	0 to 20	20
90%	21 to 65	18
80%	66 to 100	16
70%	101 to 200	14
60%	201 to 500	12
50%	501 to 1000	10



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40%	1001 to 5000	8
30%	5001 to 10,000	6
20%	10,000 to 20,000	4
10%	20,001 to 50,000	2
	50,001 & below	0

## Rating Categories

96 – 100 is considered a preferred candidate

90 – 95 points is considered a good candidate

89 or below is considered an unacceptable candidate

If a supplier's score is 89 or below, a corrective action is required. The corrective action must be sent to the supplier Quality Assurance Rep. within ten (10) working days after receipt of the notification; it will be noted on the performance report if corrective action did not follow a Rejected Material Form or Delivery Discrepancy Report. Continued unacceptable performance can result in loss of business or possible elimination as a McKenzie Valve & Machining Co. approved supplier.

It will be noted on the on-time deliveries rating if a supplier did not return the quality system assessment. Failure to submit a quality system assessment will result in the lowering of the on-time delivery score of the quarterly quality report until the assessment is received. If the quality system assessment is less than 75% (unacceptable quality system rating), corrective action is required from the supplier.



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## XVI. COST REDUCTION

Cost reduction is an integral component of the long-term success of McKenzie Valve & Machining Co. and our suppliers. To maintain and improve our competitive position, McKenzie Valve & Machining Co. and our suppliers must implement a focused systematic method to reduce the costs of goods sold. McKenzie Valve & Machining Co. will share non-proprietary best practices with its supplier base to develop a collaborative cost reduction effort.

- A. Cost reductions through long-term agreements
- B. New Supplier Selections
- C. Supplier bench marking
- D. Supplier certification and consolidation
- E. Implementation of internal quality improvement programs
- F. Concurrent Engineering, Value Engineering, and Value Analysis
- G. Delivery Costs
- H. Technology costs

Suppliers of McKenzie Valve & Machining Co. should have a cost reduction program in place that should include the following:

- A. The statement in the vision and mission statements of the on going effort to reduce costs
- B. Training and Cost Reduction Teams
- C. Data Collection Programs
- D. Techniques and Tools such as:
  - a. Kaizen
  - b. Value Analysis/Value Engineering
  - c. 5 Why Analysis
  - d. Concurrent Engineering
  - e. 8-D Problem Solving
  - f. Brainstorming
  - g. Bench Marking
  - h. Seven Tools of Quality
  - i. 5-S Principles
- E. Cross Functional Teams



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### XVII. MISTAKE PROOFING

McKenzie Valve & Machining Co. is committed to the concept of mistake proofing all processes, working towards the goals of zero defects. McKenzie Valve & Machining Co. encourages its suppliers to have a mistake-proofing system in place to enable product with zero defects to be shipped to McKenzie Valve. McKenzie Valve & Machining Co. also encourages mistake proofing when the PFMEA risk priority number exceeds 75 and/or the severity rating is 8 or higher.

- A. Defects by Human Error
- B. Mistake Proofing in the Design Stage
- C. Detection and Alarms
- D. Counters
- E. Checklists

Suppliers are encouraged to seek and use additional information on this subject through books, articles, and seminars.



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### XVIII. GOAL SETTING

Suppliers are encouraged to use Goal Setting Processes to help with corrective actions and improvements.

#### **Goal Setting Process**

The goal setting process consists of seven steps:

1. Identify an opportunity or problem
2. Identify a realistic goal or ideal
3. Identify Obstacles
4. Identify Resources
5. Map a plan of action or strategy
6. Develop measurable
7. Evaluate results and implement

Goal Setting can be used in the cost reduction function as well.



## SUPPLIER QUALITY MANUAL

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### **XIX. NEW PRODUCT LAUNCH**

#### **Components Suppliers and Subcontractors**

When McKenzie Valve & Machining Co. releases a supplier/subcontractor on a new product the following is required:

- A. Suppliers/Subcontractors must use the APQP/FPA Process and should be present for APQP/FPA meetings at McKenzie Valve.
- B. Suppliers/Subcontractors must submit a Project Timeline (Microsoft Project 98 is preferred). The timeline should include, but is not limited to, the following:
  - a. Development & Review of Control Plans, D/PFMEA's, and Process Flow Charts
  - b. PPAP Dates
  - c. Prototype, Pre-Launch, and Production Dates
  - d. Milestone dates for tool build, fixture build, auxiliary equipment, gages, training, etc.
- C. Suppliers/Subcontractors must be present at first launch of the new program.

McKenzie Valve & Machining Co. expects quality and timeliness from all our suppliers and subcontractors. Timeliness must be updated and submitted weekly and are due by noon every Friday. Suppliers/Subcontractors must meet all dates on the timeline. If the timing changes, the suppliers/subcontractors must include a reason for the change and a recovery plan to ensure the end date does not change.