

Purchasing Critical Materials

1.0 Scope and Objectives

- 1.1 This procedure defines all activities required by the purchasing critical materials process.
- 1.2 The objectives of the purchasing critical material process shall be to ensure that a detailed process is utilized procure critical material and special processes used to produce customer product.
- 1.3 The results of the purchasing critical material process shall be the availability of materials and special processes meeting all customer specifications and requirements and to improve the overall effectiveness of the quality management system.

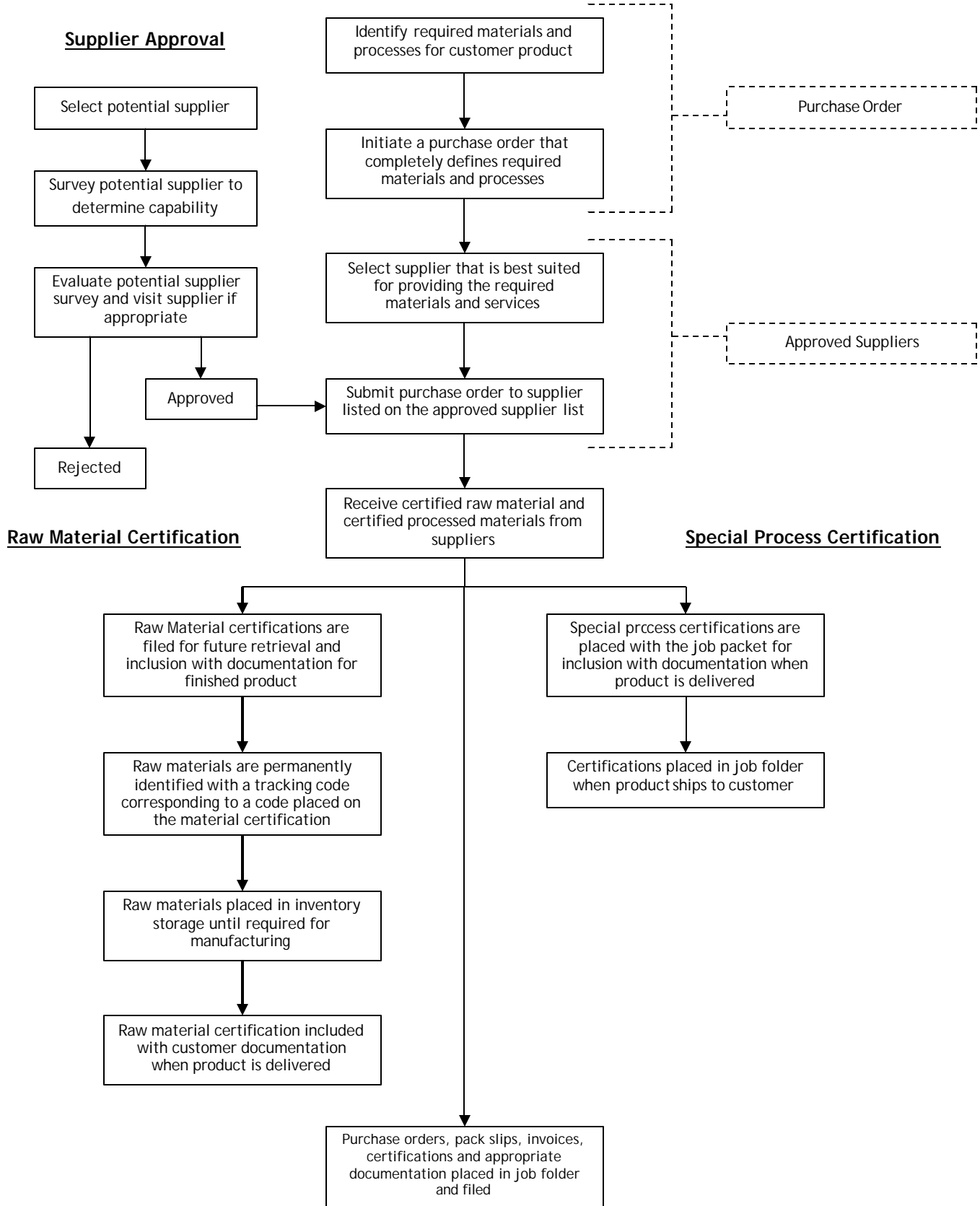
2.0 Applicability

- 2.1 This procedure applies to all personnel assigned to procure special processes and critical materials.
- 2.2 This procedure applies to all suppliers providing special processes and critical materials to St. Vrain Manufacturing.

3.0 Related Documents

- 3.1 QM-001, Quality Manual, Section 7.4, Purchasing
- 3.2 QM-001, Quality Manual, Section 7.5.2, Validation of Processes for Production and Service Provision
- 3.3 QM-001, Quality Manual, Section 7.5.3, Identification and Traceability
- 3.4 SAE AS9100, Quality Management System - Aerospace - Requirements, Section 7.4, Purchasing
- 3.5 Supplier Evaluation Survey
- 3.6 Approved Supplier register
- 3.7 Certificates of Compliance
- 3.8 Corrective Action
- 3.9 Material Traceability Work Instruction, WI-002

4.0 Process Flow Chart



5.0 Procedure

- 5.1 In accordance with SAE AS9100, Section 7.4, all purchased material and special processes must satisfy customer requirements. St. Vrain Manufacturing understands the importance of using suppliers that can provide certified materials and approved certified processes as required. St. Vrain Manufacturing has implemented this process to ensure only raw materials and special processes that satisfy customer requirements are used.
- 5.2 St. Vrain Manufacturing shall be responsible for the quality of all products purchased from suppliers, including customer-designated sources.
- 5.3 The following documents are used to identify customer requirements for raw materials and special processes. The customer can identify additional requirements, as needed, therefore this list includes, but is not limited to:
 - 5.3.1 customer purchase order
 - 5.3.2 purchase order amendments
 - 5.3.3 quality clauses
 - 5.3.4 product specifications
 - 5.3.4.1 prints
 - 5.3.4.2 parts list
 - 5.3.4.3 bill of materials
 - 5.3.5 specified standards for special processes (MIL, ASMT, ASM, etc.)
 - 5.3.6 additional requirements from government agencies and regulatory authorities

Register of Approved Suppliers

- 5.4 St. Vrain Manufacturing maintains a register of approved suppliers from which critical materials are purchased. Information on individual suppliers may include, but is not limited to, the following:
 - 5.4.1 supplier company name
 - 5.4.2 supplier contact information
 - 5.4.2.1 name of contact
 - 5.4.2.2 business address
 - 5.4.2.3 phone/fax numbers
 - 5.4.2.4 e-mail and web addresses
 - 5.4.3 scope of their approval
 - 5.4.3.1 raw materials
 - 5.4.3.2 special processes
 - 5.4.4 rating based on review of quality, price and delivery
 - 5.4.4.1 poor
 - 5.4.4.2 good
 - 5.4.4.3 excellent
 - 5.4.5 notes
- 5.5 The approved supplier register is reviewed annually during the management review meeting.
- 5.6 Suppliers, considered for inclusion in the register, are identified in one of two ways.
 - 5.6.1 St. Vrain Manufacturing identifies a supplier that is capable of meeting St. Vrain Manufacturing and customer requirements
 - 5.6.1.1 refer to Approval of Suppliers section for supplier approval process, start at Section 5.11
 - 5.6.2 St. Vrain Manufacturing customer shall designate a supplier that will provide materials and special processes for that customer's products
 - 5.6.2.1 refer to Approval of Suppliers section for customer designated supplier approval process, start at section 5.11

- 5.7 Suppliers on the register are reviewed periodically for performance.
 - 5.7.1 records of these reviews shall be used as a basis for establishing the level of controls to be implemented on that supplier
 - 5.7.1.1 refer to Supplier Review section for supplier review process, start at section 5.18
- 5.8 Suppliers that do not meet performance requirements are subject to defined actions designed to assist the supplier in meeting the required performance goals.
 - 5.8.1 refer to Approved Supplier Corrective Actions section for the corrective action process, start at section 5.22
- 5.9 St. Vrain Manufacturing and all its suppliers shall use customer-approved special process sources as required by customer contract.
 - 5.9.1 refer to Customer-Designated Sources section for supplier sources as required by the customer contract process, start at section 5.35
- 5.10 St. Vrain Manufacturing quality assurance personnel are responsible for approving supplier quality systems and are given the authority to disapprove the use of sources based on their review findings.
 - 5.10.1 refer to the Disapproval of Suppliers section for the disapproval of supplier process, start at section 5.30

Approval of Suppliers

- 5.11 Not all suppliers are required to undergo the approval process in order to be placed on the approved supplier register. Suppliers may not need formal approval under the following conditions:
 - 5.11.1 goods and services provided shall not have an impact on customer product quality
 - 5.11.2 raw materials and tooling are proprietary and available through no other source
 - 5.11.3 customer required and shall not impact other St. Vrain Manufacturing customers (see section 5.35)
 - 5.11.4 national OEM suppliers including MSC, Grainger, etc.
- 5.12 Adding a supplier to the approved supplier register may require the supplier to be evaluated using one of the following five methods. If the supplier meets the criteria of the evaluation method used, that supplier may be added to the approved supplier register. Under no circumstances is the potential supplier guaranteed addition to the approved supplier register.

Method One

- 5.13 The quality manager or assigned personnel shall meet the potential supplier to perform an on site evaluation of the supplier and verify the existing quality management system and the effectiveness of the quality management system in controlling the required processes. Special processes will be audited to the applicable standard.
- 5.13.1 supplier satisfies all requirements and may be added to the approved supplier register
- 5.13.2 supplier does not satisfy all requirements and is not considered as a potential supplier

Method Two

- 5.14 The potential supplier shall be given the opportunity to complete the supplier evaluation survey. Upon return, the quality manager will review the survey.
- 5.14.1 supplier satisfies all requirements and may be added to the approved supplier register
- 5.14.2 supplier does not satisfy all requirements and is not considered as a potential supplier

Method Three

- 5.15 The potential supplier is currently certified by a recognized, third party registrar. The scope of the certification includes the standard(s) that meets St. Vrain Manufacturing requirements. The potential supplier may provide a copy of the current certification and a copy of the QMS and then be considered for addition to the approved supplier register.
- 5.15.1 possession of a third party registrar certification is no guarantee of addition to the approved supplier register
- 5.15.2 supplier satisfies all requirements and may be added to the approved supplier register
- 5.15.3 supplier does not satisfy all requirements and is not considered as a potential supplier

Method Four

- 5.16 Customer required suppliers shall be added to the approved supplier register only when mandated by the customer.
- 5.16.1 St. Vrain Manufacturing will normally set the condition that the supplier shall only be used for that customer's product unless it is proven to be advantageous to use the supplier for other customers and projects

Method Five

5.17 Certified material suppliers may be added to the approved supplier register under the condition that required materials they supply are certified to the appropriate standards as defined by the customer contract.

5.17.1 this shall typically be the case with suppliers of raw materials such as:

5.17.1.1 metal

5.17.1.2 plastic

5.17.1.3 paint

5.17.1.4 etc.

5.17.2 these suppliers shall meet the requirements of:

5.17.2.1 on time delivery

5.17.2.2 cost

5.17.2.3 quality based on condition

5.17.2.4 quality based on certification

Supplier Review

5.18 Approved suppliers are periodically reviewed and evaluated for performance. This takes place in the form of:

5.18.1 management review of the quality management system

5.18.2 annually by means of survey

5.19 Approved suppliers shall be evaluated on the basis of:

5.19.1 price

5.19.2 on time delivery

5.19.3 correctness of order

5.19.4 completeness of order

- 5.20 Previously approved suppliers that do not meet the requirements of annual review may be subject to the corrective action process or removal from the approved supplier register. Corrective action or removal may be based on one or more of the following expectations:
- 5.20.1 Non-competitive pricing
 - 5.20.2 alternate sources for critical materials is available
 - 5.20.3 failure to provide on time delivery
 - 5.20.4 failure to provide the correct order
 - 5.20.5 failure to provide the complete of order
 - 5.20.6 failure to deliver quality goods and services
- 5.21 St. Vrain Manufacturing reserves the right to use approved suppliers that meet our expectations based on review criteria and remove the rest from the approved supplier register, as appropriate.

Approved Supplier Corrective Action

- 5.22 On occasion a nonconformance may be identified with goods and services procured from approved suppliers. In the event of that occurrence a supplier corrective action may be initiated.
- 5.23 St. Vrain Manufacturing shall contact the supplier and, through investigation, determine if there is a problem with the quality management system at the supplier. Conclusions based on the results of the investigation may include:
- 5.23.1 this is a one-time occurrence, see section 5.24
 - 5.23.2 effectiveness of the supplier QMS is compromised due to problems with QMS processes, see section 5.25
- 5.24 If this is a one-time occurrence, no further action may be required beyond notification of the supplier that there was a nonconformance.
- 5.25 If problems are identified with the supplier QMS, additional discussions shall take place to determine the extent of the problems and how these problems may affect future product quality.
- 5.26 If process problems appear to be severe and reoccurring, a supplier corrective action may be initiated.
- 5.26.1 the supplier may use their own corrective action form to respond to concerns
 - 5.26.2 St. Vrain Manufacturing may provide the supplier with a corrective action form

- 5.27 At a minimum, the corrective action processes will address:
 - 5.27.1 description of the nonconformance
 - 5.27.2 root cause
 - 5.27.3 immediate corrective action
 - 5.27.4 long term corrective action
 - 5.27.5 method of verifying results of corrective action
- 5.28 St. Vrain Manufacturing and the supplier shall agree upon an immediate solution to keep product on schedule and set a completion date for addressing the corrective action.
- 5.29 Based upon the results of the investigation, communications and corrective action, the supplier may or may not be removed from the approved supplier register.

Disapproval of Suppliers

- 5.30 Suppliers may be disapproved and removed from the approved supplier register for failure to meet any of the criteria listed in sections 5.19 and 5.20. Disapproval is based on:
 - 5.30.1 management review
 - 5.30.2 supplier performance

Removal of Suppliers

- 5.31 Following the review process, disapproved suppliers shall be removed from the approved supplier register.
- 5.32 Quality assurance personnel will remove the designated supplier from the approved supplier list.
- 5.33 When a supplier is removed from the approved supplier register, St. Vrain Manufacturing shall no longer purchase materials and processes from that supplier
- 5.34 The supplier may or may not be notified of their removal from the approved supplier register.
 - 5.34.1 notification is given to the supplier only when it is deemed appropriate, otherwise, purchasing activities with the supplier simply cease

Customer-Designated Sources

- 5.35 Customers may require, by contract, that St. Vrain Manufacturing use customer-designated sources for:
 - 5.35.1 raw materials
 - 5.35.2 hardware
 - 5.35.3 special processes
 - 5.35.4 material handling and shipping
- 5.36 St. Vrain Manufacturing shall be responsible for the quality of all products purchased from customer-designated sources.
- 5.37 St. Vrain Manufacturing shall approve customer-designated sources by one of the processes defined in sections 5.11 through 5.17.
- 5.38 In the event the St. Vrain Manufacturing approval process identifies a serious problem with the customer-designated source, St. Vrain Manufacturing and the customer will explore and negotiate terms of risk associated with requiring St. Vrain Manufacturing to use a nonconforming process supplier.

Purchase Order

- 5.39 Responsible personnel shall initiate a purchase order to procure required raw materials and special processes. Special consideration will be given to:
 - 5.39.1 qualifications of vendors
 - 5.39.2 availability of goods and services
 - 5.39.3 price
 - 5.39.4 delivery time
 - 5.39.5 material and process certificate of compliance
 - 5.39.6 customer-designated sources
- 5.40 Responsible personnel will review the customer requirements to the extent necessary to ensure required goods and services have been properly identified, fully defined and fully understood.

- 5.41 Purchasing documentation shall describe the product or services to be purchased, including, where appropriate:
 - 5.41.1 purchase order number
 - 5.41.2 dates: origination date and date required
 - 5.41.3 contact information for St. Vrain Manufacturing
 - 5.41.4 name and address of the supplier and additional contact information as required
 - 5.41.5 quantity
 - 5.41.6 signature of person creating the purchase order
 - 5.41.7 requirements for approval of product, procedures, processes and equipment
 - 5.41.8 requirements for qualification of personnel
 - 5.41.9 quality management system requirements
 - 5.41.10 the name or other positive identification, and applicable issues of specifications, drawings, process requirements, inspection instructions and other relevant technical data
 - 5.41.11 requirements for design, test, examination, inspection and related instruction for acceptance by St. Vrain Manufacturing
 - 5.41.12 requirements for test specimens (e.g., production method, number, storage conditions) for design approval, inspection investigation or auditing
 - 5.41.13 requirements relative to supplier notification to St. Vrain Manufacturing of nonconforming product
 - 5.41.14 requirements relative to arrangements for St. Vrain Manufacturing approval of supplier nonconforming material
 - 5.41.15 requirements for the supplier to notify St. Vrain Manufacturing of changes in product and/or process definition and, where required, obtain St. Vrain Manufacturing's approval
 - 5.41.16 right of access by St. Vrain Manufacturing, our customer, and regulatory authorities to all facilities involved in the order and to all applicable records
 - 5.41.17 requirements for the supplier to flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key characteristics when required
- 5.42 St. Vrain Manufacturing shall review purchasing documentation to ensure the adequacy of specified purchase requirements prior to our communication with our supplier.

- 5.43 Purchase order will be submitted to an approved supplier located on the approved supplier register. Refer to section 5.4 for the approved supplier register. Refer to section 5.11 for the supplier approval process.

Verification of Purchased Product

- 5.44 St. Vrain Manufacturing has established and implemented inspection and other verification activities to ensure that purchased materials and special processes meets specified purchase requirements.
- 5.45 Where St. Vrain Manufacturing, or its customer, intends to perform verification at the supplier's premises, St. Vrain Manufacturing shall state the intended verification arrangements and method of product release in the purchasing information (see section 5.41.11).
- 5.46 Verification activities by St. Vrain Manufacturing and its customer may include:
- 5.46.1 obtaining objective evidence of the quality of the product from suppliers
 - 5.46.1.1 accompanying documentation
 - 5.46.1.2 certificate of conformance
 - 5.46.1.3 test reports
 - 5.46.1.4 statistical records
 - 5.46.1.5 process control records
 - 5.46.2 inspection and audit performed by St. Vrain Manufacturing and/or customer at the supplier's premises
 - 5.46.3 review of required documentation
 - 5.46.4 inspection of products upon receipt
 - 5.46.5 delegation of verification to the supplier
 - 5.46.6 supplier certification
- 5.47 Purchased product is not used or processed until it has been verified as conforming to specified requirements unless it is released under the positive recall procedure, QMS-017, Positive Recall.
- 5.48 Where St. Vrain Manufacturing utilizes test reports to verify purchased product, the data in those reports shall be acceptable per applicable specifications.
- 5.48.1 St. Vrain Manufacturing periodically validates test reports for raw material through independent analysis by Colorado Metallurgical Services

- 5.49 Where St. Vrain Manufacturing delegates verification activities to the supplier, the requirements for delegation shall be defined and a register of delegations maintained.
- 5.50 Where St. Vrain Manufacturing or its customer intends to perform verification at the supplier's premises, St. Vrain Manufacturing shall state the intended verification arrangements and method of product release in the purchasing information (see section 5.41.11 and 5.41.12).
- 5.51 Where specified in the contract, the customer or the customer's representative shall be afforded the right to verify at the supplier's premises and St. Vrain Manufacturing's premises that subcontracted product conforms to the specified requirements (see section 5.41.16).
- 5.52 Verification by the customer shall not be used by St. Vrain manufacturing as evidence of effective control of quality by the supplier and shall not absolve St. Vrain Manufacturing of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by the customer.

Customer Supplied Material

- 5.53 St. Vrain Manufacturing's customers may provide raw material and hardware for processing of their products.
- 5.54 St. Vrain Manufacturing accepts responsibility for these customer supplied materials.
- 5.55 Customer supplied material shall be clearly identified to ensure it is not used for any purpose other than for what it was intended by the customer.
 - 5.55.1 St. Vrain Manufacturing shall mark or tag the material as being customer supplied material
- 5.56 Upon delivery, customer supplied material shall be inspected to ensure it arrived in good condition and will be useable as intended.
- 5.57 The customer shall be notified immediately when:
 - 5.57.1 customer supplied material is delivered damaged
 - 5.57.2 customer supplied material cannot be located (lost) in the St. Vrain Manufacturing facility
 - 5.57.3 customer supplied material is scrapped during manufacturing processing
- 5.58 Unused customer supplied material shall be returned to the customer as appropriate.
- 5.59 Customer shall be responsible for maintaining material certifications for all customer supplied material.
- 5.60 Customer supplied material shall be maintained and tracked by its identification marking.

- 5.61 Customer supplied material shall be maintained in the:
 - 5.61.1 locked certified material area
 - 5.61.2 external material racks when size prohibits storage in the locked material certification area
 - 5.61.2.1 All St.Vrain Manufacturing personnel are aware that any material tagged as customer supplied is only used for the purpose for which it was intended

Raw Material Traceability

- 5.62 Certified material certificates shall be reviewed to ensure mill test results meet applicable standard requirements.
- 5.63 Certified raw material shall be clearly identified with the St. Vrain Manufacturing identification code. The code is:
 - 5.63.1 the three letters "SVM"
 - 5.63.2 year, such as "2005"
 - 5.63.3 three digit tracking number, such as "036"
- 5.64 By way of example, a tracking identification code shall appear as "SVM2005274".
- 5.65 Certified raw material shall be maintained in the locked inventory area, clearly identified with the tracking number.
- 5.66 Certified raw material shall be available for any job it can satisfy the requirements for, with the exception of:
 - 5.66.1 customer supplied material which is used for that customer's product only as required by contract
- 5.67 Raw material certificates of conformance shall have the tracking identification code written on each sheet of the certification documentation including:
 - 5.67.1 St. Vrain Manufacturing purchase order
 - 5.67.2 supplier invoice
 - 5.67.3 supplier pack slip
 - 5.67.4 material certification
 - 5.67.5 lab reports for chemical and physical analysis
 - 5.67.6 any additional documentation required by the customer that establishes traceability.
- 5.68 All certificate of conformance documentation on raw material is placed in the certificate of conformance files located in quality assurance.

Raw Material Verification

5.69 St. Vrain Manufacturing annually selects a piece of raw material, at random, and submits it to an independent testing facility to verify original mill test reports correlate to independent test results.

5.69.1 independent test results will be reviewed to verify the latest test results indicate the raw material:

5.69.1.1 meets the requirements of the applicable standard

5.69.1.2 does not meet the requirements of the applicable standard

5.69.1.2.1 nonconforming material is replaced

5.69.1.2.2 appropriate notifications are issued

6.0 Responsibilities

6.1 Responsible personnel

6.1.1 identify raw material requirements

6.1.2 identify special process requirements

6.1.3 initiate purchase order and document requirements

6.1.4 file certificates of conformance for raw material

6.1.5 identify and maintain traceability on raw material

6.2 Customer

6.2.1 provide complete documentation required for product definition

6.2.2 provide customer-designated sources for raw material and special processes as required

6.2.3 provide raw material and hardware as required

6.3 Suppliers

6.3.1 provide data required for surveys and evaluation

6.3.2 provide certificates of conformance and relevant quality data as required

6.3.3 provide goods and services as specified on purchase orders

6.4 Quality Manager

- 6.4.1 survey and approve suppliers
- 6.4.2 maintain approved supplier register
- 6.4.3 conduct the management review meeting
- 6.4.4 review quality records
- 6.4.5 issue and control documents, as appropriate
- 6.4.6 ensure documents are regularly reviewed and updated
- 6.4.7 ensure that regular internal audits, that address the continued applicability of this document, are scheduled and completed

7.0 Record Retention

- 7.1 All purchase orders are maintained for a minimum of three years or the interval specified by customer contract whichever is longer.
- 7.2 All raw material certificates of conformance are maintained for a minimum of three years or the interval specified by customer contract whichever is longer.
- 7.2 Management review minutes shall be maintained on the server indefinitely.
- 7.3 This controlled QMS procedure shall be maintained on the server indefinitely.
- 7.4 Any hardcopy of this controlled document shall be valid for one day after printing.
 - 7.4.1 after one day has elapsed the document shall be used only as a reference document
 - 7.4.2 reference documents must be verified for revision level prior to use
- 7.5 Obsolete documents shall be removed from area of use and disposed of as appropriate.
- 7.6 As appropriate, all quality records associated with this document are available for customer or regulatory agency review.

8.0 Document Control

- 8.1 Custodian: Quality Manager
- 8.2 Review Activity: Quality Manager
President
Operations Manager
- 8.3 Approval Authority: Quality Manager
President
Operations Manager