

# Production Provision



## 1.0 Scope and Objectives

- 1.1 St. Vrain Manufacturing claims exclusion from the service provision to the extent that nonconforming product will be reworked or replaced to meet product specifications. St. Vrain Manufacturing does not provide product that requires servicing.
- 1.2 This procedure defines the activities required for establishing and maintaining production provisions specific to St. Vrain Manufacturing's method of operation. Refer to other procedures for additional process details.
- 1.3 The objective of the production provision process shall be to ensure that basic requirements are established and maintained specific to St. Vrain Manufacturing's responsibility to plan, manufacture and verify customer product and to document these activities.
- 1.4 The result of the production provisions process shall be documented planning, manufacturing and verification activities that are the direct responsibility of St. Vrain Manufacturing. The production provisions process shall be used to improve customer product quality and improve the overall effectiveness of the quality management system.

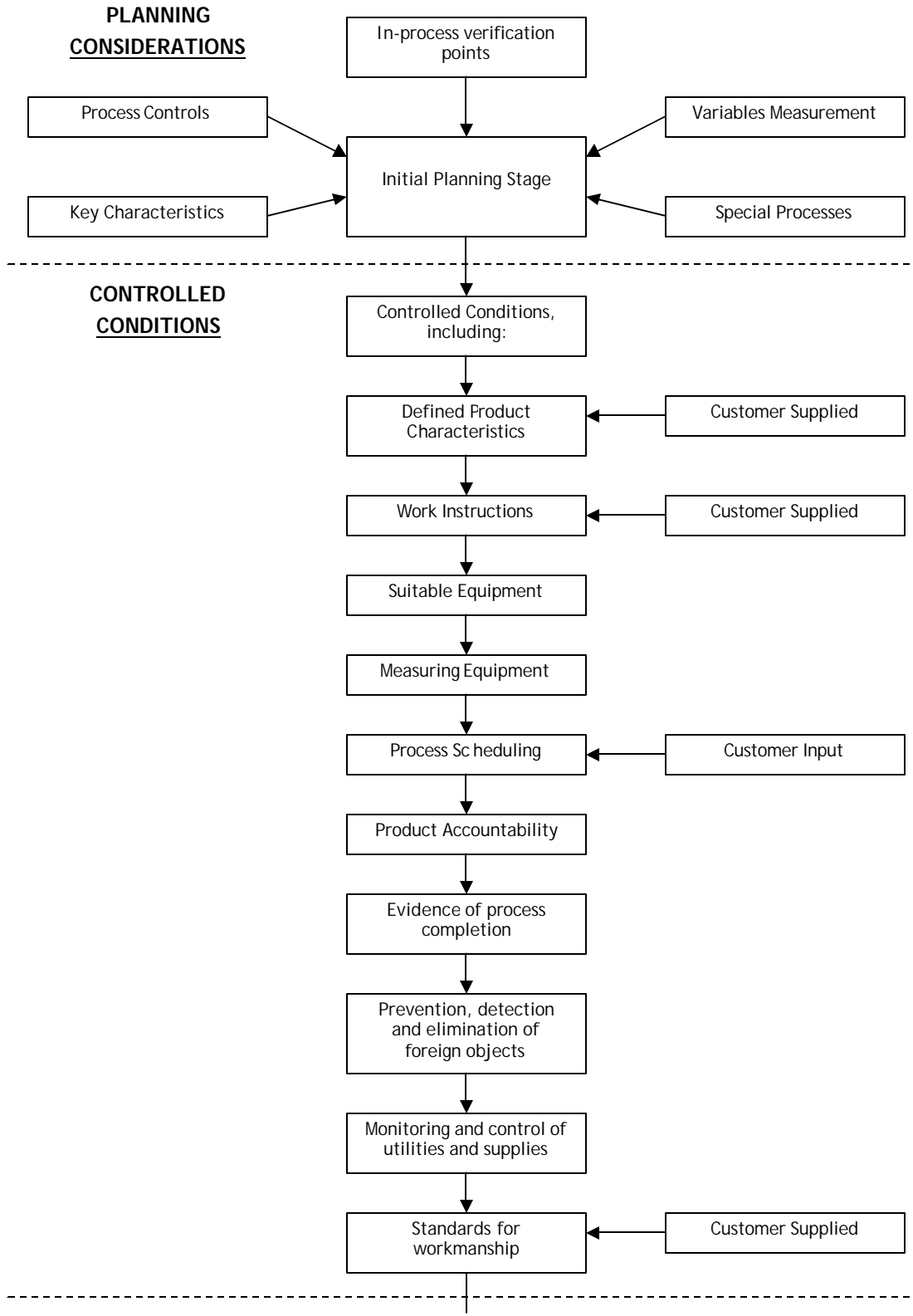
## 2.0 Applicability

- 2.1 The production provision process applies to:
  - 2.1.1 the customer
    - 2.1.1.1 provide documentation
    - 2.1.1.2 provide interpretation of specifications
    - 2.1.1.3 provide customer supplied materials
  - 2.1.2 St. Vrain Manufacturing
    - 2.1.2.1 planning activities
    - 2.1.2.2 manufacturing activities
    - 2.1.2.3 verification activities
  - 2.1.3 suppliers
    - 2.1.3.1 process control to specification
    - 2.1.3.2 process documentation
    - 2.1.3.3 interpretation of specifications
  - 2.1.4 government and regulatory authorities
    - 2.1.4.1 provide documentation
    - 2.1.4.2 provide interpretation of specifications

**3.0 Related Documents**

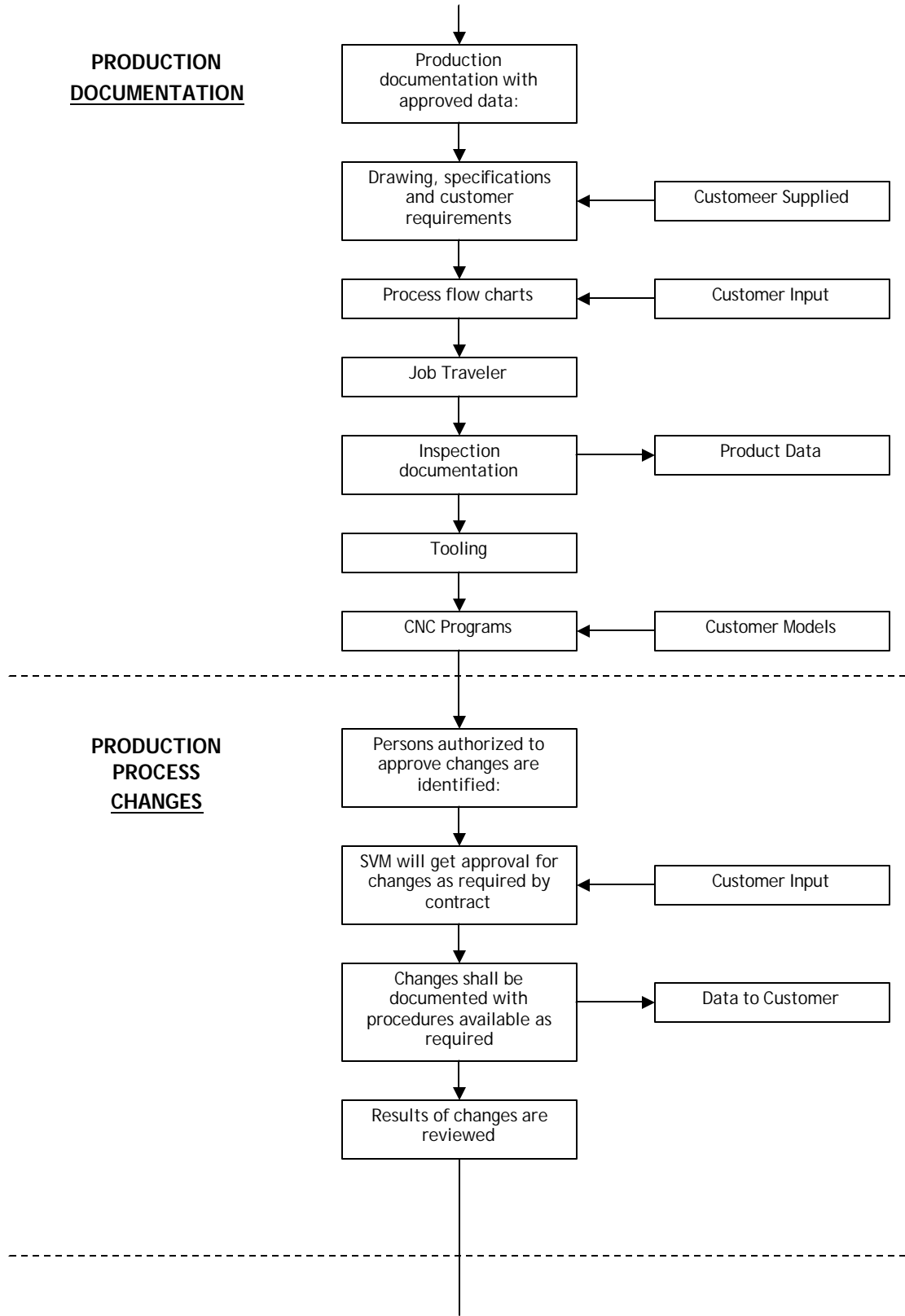
- 3.1 QM-001, Quality Manual, Section 7.5, Production and Service Provision
- 3.2 QMS-008 Product Realization
- 3.3 SVM-017 Process Checklist
- 3.4 SVM-039 SVM Job Traveler
- 3.5 SVM-041 In Process Inspection Report
- 3.6 SVM-042 First Article Inspection Report
- 3.7 SVM-043 Final Inspection Report
- 3.8 St. Vrain Manufacturing Quality Documents and Quality Records
- 3.9 Customer Contract, Prints, Specifications, Materials
- 3.10 Government and Regulatory Authority Documents and Specifications

4.0 Process Flow Chart for Production Provisions



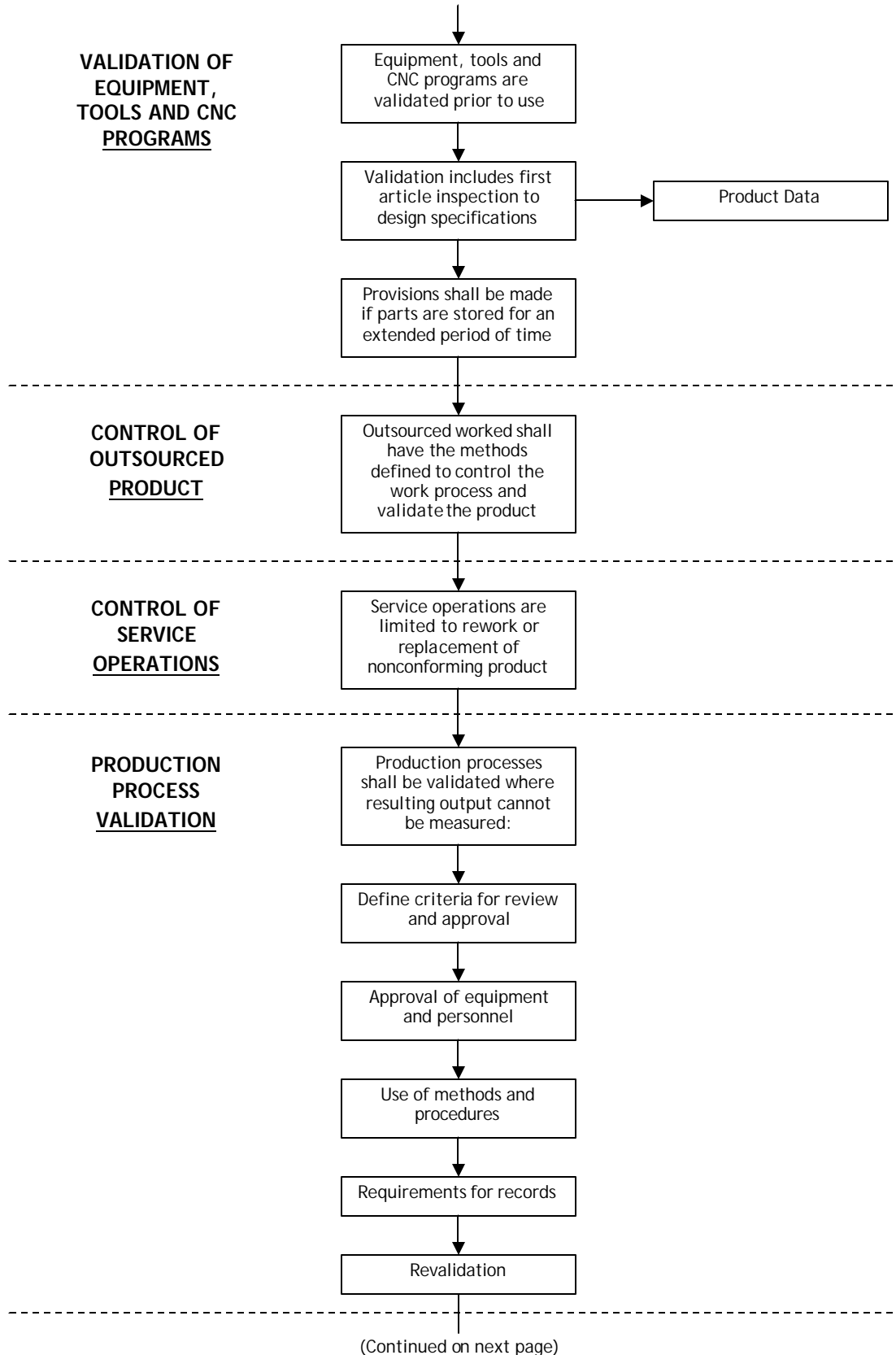
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4.0 Process Flow Chart for Production Provisions - continued

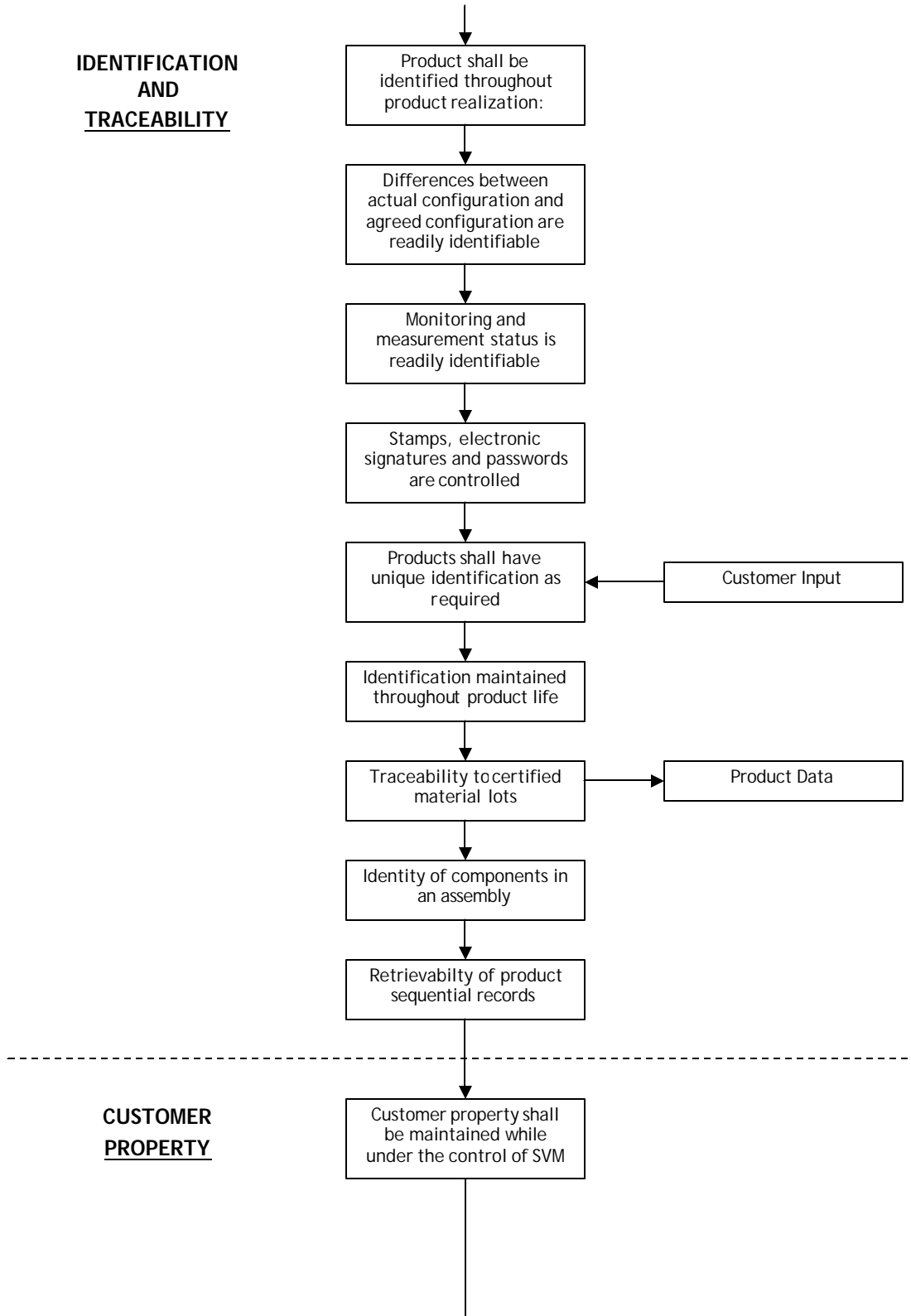


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## 4.0 Process Flow Chart for Production Provisions - continued

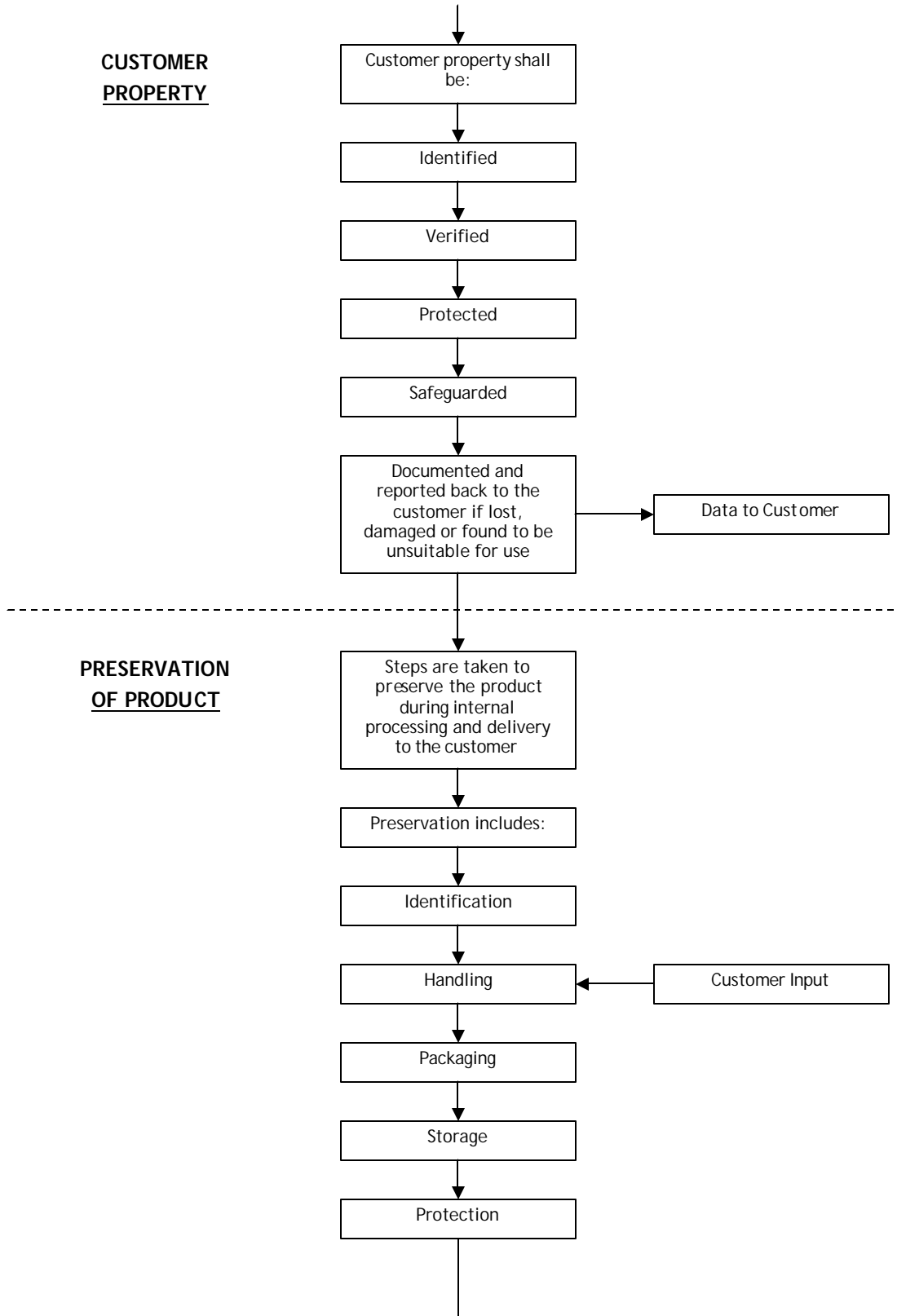


4.0 Process Flow Chart for Production Provisions - continued



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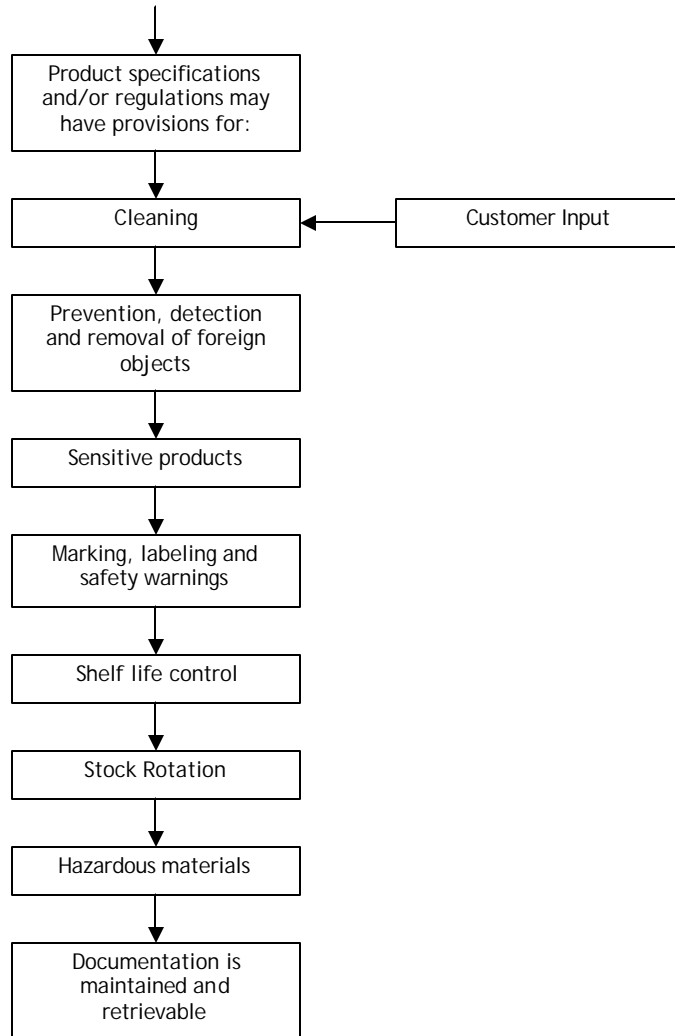
4.0 Process Flow Chart for Production Provisions - continued



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4.0 Process Flow Chart for Production Provisions - continued

**PRESERVATION  
OF PRODUCT**



## 5.0 Procedure

- 5.1 St. Vrain Manufacturing claims exclusion from the service provision to the extent that nonconforming product shall be reworked or replaced to meet product specifications.
- 5.2 In accordance with SAE AS9100, Section 7.5, Production and Service Provision, St. Vrain Manufacturing has defined and implemented planning, verification and documentation processes for customer product. St. Vrain Manufacturing understands the importance of planning processes, verifying the results of those processes and documenting the results for future retrieval. St. Vrain Manufacturing has implemented these processes to ensure finished product will satisfy customer requirements.

### Planning

- 5.3 St. Vrain Manufacturing recognizes the key role planning plays in successfully manufacturing complex products meeting specification requirements. The planning process has identified and considers the following key elements:
  - 5.3.1 identifying key elements and developing control plans to ensure the requirements of key elements are satisfied
  - 5.3.2 identifying in-process verification points to monitor the manufacturing process as applicable
  - 5.3.3 development of measuring processes to verify key elements
  - 5.3.4 identifying special processes and suppliers that can satisfy the requirements of the product specifications
- 5.4 Planning decisions for key elements are based on data from controlled conditions, including:
  - 5.4.1 information and data that describes the characteristics of the product such as the contract, prints and specifications
  - 5.4.2 work instructions from the customer, suppliers and internal sources
  - 5.4.3 suitability of available equipment and machinists to meet product requirements
  - 5.4.4 monitoring and measuring devices capable of verifying product condition
  - 5.4.5 implementation of monitoring and measuring into the production process
  - 5.4.6 scheduling for production release and product delivery to the customer on the required due date
  - 5.4.7 accountability of product for quantities, split lots and nonconforming product
  - 5.4.8 inspection processes and authorizations to proceed

- 5.4.9 prevention, detection and removal of foreign objects
- 5.4.10 control of supporting utilities, including water and power
- 5.4.11 workmanship standards
- 5.5 Customer order job packets released to production have minimum required documentation, including, but not limited to:
  - 5.5.1 work order which includes raw material requirements, quantity and due date
  - 5.5.2 job traveler listing order of operations
  - 5.5.3 product specification
  - 5.5.4 customer requirements
  - 5.5.5 special process certifications
  - 5.5.6 first article inspection form
  - 5.5.7 in-process inspection form
  - 5.5.8 product model
  - 5.5.9 CNC programs
  - 5.5.10 additional customer information and requirements
- 5.6 Changes to production processes may be updated by the following individuals at St. Vrain Manufacturing:
  - 5.6.1 president
  - 5.6.2 facilities manager
  - 5.6.3 office manager
  - 5.6.4 production manager
  - 5.6.5 quality manager
  - 5.6.6 process planner
- 5.7 When required by contract, St. Vrain Manufacturing shall notify the customer of any process changes that require customer approval.
- 5.8 Process changes shall be documented to the extent necessary to ensure product conformity to specification is not affected.
  - 5.8.1 procedures will be written and implemented as required

- 5.9 Product will be verified to ensure process changes did not have an adverse affect on product conformance to specification.
- 5.10 Production equipment and tooling is validated through first article inspection on customer product to verify conformnace to required specifications.
  - 5.10.1 machines and tooling are maintained in accordance with manufacturer's recommendations
- 5.11 Customer product that is outsourced is controlled by the purchasing agreement between the supplier and St. Vrain Manufacturing. The purchasing agreement includes:
  - 5.11.1 purchase order agreement between St. Vrain Manufacturing and the supplier
  - 5.11.2 all required product specifications
  - 5.11.3 use of approved suppliers
- 5.12 In the event St. Vrain Manufacturing implements a service operation, information on the control of that operation will go here. At this time there is no service operation.

**Validation**

- 5.13 St. Vrain Manufacturing validates all processes to ensure that the process achieves planned results.
  - 5.13.1 internal processes
  - 5.13.2 external processes (special process suppliers)
- 5.14 The following methods are used in the validation of processes:
  - 5.14.1 define criteria for, review and approval of the process, including special process suppliers
  - 5.14.2 approval of equipment
  - 5.14.3 approval of personnel
  - 5.14.4 use of pre-established procedures that are specific to the process being validated
  - 5.14.5 use of records as objective evidence for process capability
  - 5.14.6 revalidation in the event a process is found to be nonconforming
- 5.15 Additional information on the validation process is found in QMS-009, Purchasing Critical Material.

**Identification and Traceability**

- 5.16 Where it is appropriate St. Vrain Manufacturing shall provide traceability on all products throughout the manufacturing process.
- 5.17 Product identification will allow determination of product status in differences between actual configuration and the agreed configuration in relation to:
  - 5.17.1 revision change
  - 5.17.2 rework configuration
  - 5.17.3 disposition for nonconformance
- 5.18 Product documentation will allow for identification of inspection status.
- 5.19 Acceptance media shall be controlled through a documented process.
  - 5.19.1 the current practise is signature/initial/stamp and date
- 5.20 When product traceability is a requirement of the customer, product shall be identified in a manner prescribed by the customer.
  - 5.20.1 when unique identification is used, it is documented by St. Vrain Manufacturing on the certificate of conformance
- 5.21 When required by contract, regulatory or other requirements, St. Vrain Manufacturing's documentation system shall provide for:
  - 5.21.1 identification to be maintained through out product life
  - 5.21.2 all product manufactured from the same batch of raw material
  - 5.21.3 all product manufactured from the same manufacturing batch
  - 5.21.4 destination of all product from the same batch
  - 5.21.5 destination of scrap
  - 5.21.6 identity of components in higher assemblies
  - 5.21.7 retrieval of all relevant documentation for a product

**Customer Property**

- 5.22 St. Vrain Manufacturing shall exercise care with customer property while it is under manufacturing control or being used, including following processes to:
  - 5.22.1 identify
  - 5.22.2 verify
  - 5.22.3 protect
  - 5.22.4 safeguard

- 5.23 In the event customer product is damaged scrapped or lost, St. Vrain Manufacturing will:
  - 5.23.1 contact the customer immediately and relay information on the events and property involved
  - 5.23.2 document what happened, including:
    - 5.23.2.1 customer
    - 5.23.2.2 hardware, software or raw material
    - 5.23.2.3 nature of the problem
    - 5.23.2.4 resolution

**Preservation of Product**

- 5.24 St. Vrain Manufacturing shall preserve the conformity of product during manufacturing and shipping. Preservation shall include:
  - 5.24.1 identification
  - 5.24.2 handling
  - 5.24.3 packaging
  - 5.24.4 storage
  - 5.24.5 protection
- 5.25 Preservation also includes:
  - 5.25.1 cleaning
  - 5.25.2 prevention, detection and removal of foreign objects
  - 5.25.3 special handling for sensitive products as directed by the customer
  - 5.25.4 marking and labeling as directed by customer and best practices
  - 5.25.5 shelf life control and stock rotation
  - 5.25.6 special handling for hazardous materials as directed by the customer, regulatory authority and best practices
- 5.26 St.Vrain Manufacturing shall provide all documentation required by the contract and ensure that documentation is protected against loss and deterioration.

**6.0 Responsibilities**

6.1 Customer, Government and Regulatory Authority

6.1.1 documentation

6.1.1.1 request for quote

6.1.1.2 contract

6.1.1.3 prints and specifications

6.1.1.4 additional requirements

6.1.2 materials

6.1.2.1 raw material

6.1.2.2 product

6.1.2.3 tooling

6.1.3 documentation interpretation

6.2 Suppliers

6.2.1 process specifications

6.2.2 certification

6.3 St. Vrain Manufacturing Personnel

6.3.1 planning

6.3.1.1 job packet

6.3.1.2 supplier approval

6.3.2 manufacturing

6.3.2.1 raw material

6.3.2.2 machines and tooling

6.3.3 verification

6.3.3.1 inspection

6.3.3.2 lot control

- 6.4 Quality manager
  - 6.4.1 maintain document control system
  - 6.4.2 issue and control documents
  - 6.4.3 ensure documents are regularly reviewed and updated
  - 6.4.4 ensure that regular internal audits, that address the continued applicability of this document, are scheduled
  
- 7.0 Record Retention**
  - 7.1 Standard retention period will be three years minimum, all documents.
    - 7.1.1 Customers may stipulate longer retention times.
  - 7.2 This controlled QMS procedure shall be maintained on the server indefinitely.
  - 7.3 Any hardcopy of this controlled document shall be valid for one day after printing.
    - 7.3.1 after one day has elapsed the document shall be used only as a reference document
    - 7.3.2 reference documents must be verified for revision level prior to use
  - 7.4 Obsolete documents shall be removed from area of use and disposed of as appropriate.
  - 7.5 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