Inventory Process

# SRF-09-PR-001 Inventory Control, R1

5.4 Traceability

Serialization is described in SRF-09-PR-001 Serialization. It is typically done either by the vendor as a contract requirement or by SRF OPs staff upon receiving into inventory.

SRF OPs establishes and maintains the level of traceability requirements for components, sub-assemblies, or finished products. The requirements can come from the customer, specific project expectations, and/or by internal needs. The requirements for each project are described in the respective Project Execution Plan.

# SRF-09-PR-002 Serialization R3

1 Purpose

This procedure describes the recommended standard formats for serialization of components and sub-assemblies where traceability is required.

4 Roles and Responsibilities

|  |  |
| --- | --- |
| Role | Responsibility |
| Technical Representative (TR) | identify the critical parts where traceability is required in the SOW and/or Purchase Order |
| Inventory Representative | Verify an external unique identifier format is acceptable to PRIMeS database. |

5 Procedure

Specific serialization formats may be required by a project. Details about inventory can be found in SRF-09-PR-001 Inventory Control.

5.3 Critical Components & Sub-Assemblies

For Critical Components & Sub-Assemblies, where traceability is required, parts should be marked (stamped, etched, or engraved) by the vendor on the part in the following format.

Marking Format: JLabDrawingNumber-Revision-SerialNumber

Example Marking: CRM9007070-0000-B-026

SRF-09-PR-003 Identification and traceability R2

5.2 Traceability Determination

The Process Owner for Inventory and Traceability facilitates the decision of which parts and subassemblies are uniquely identified, and which travelers contain the identification to provide traceability throughout the production process.

5.3 Serialization

Unique identification shall follow marking and formats as written in the SRF Serialization procedure SRF-09-PR-002.

Project Execution Process

# SRF-11-PD-001 Project Execution Program Description R2

3.4 Planning

Project planning typically occurs in three steps – the Project Execution Plan, Vendor Requirements and Production Requirements. The Project Execution Plan provides a roadmap for how SRF OPs will approach areas such as, milestone schedule, fabrication, traceability, quality, customer communication and customer deliverables. Vendor requirements are delivered to the Vendor Management Process to support the procurement of items or services. Production requirements are delivered to the Production process to support production activities.

# SRF-11-PR-001 Project Execution R3

5.4.2 Project Execution Plan

The SRF Ops Project Coordinator develops a Project Execution Plan using SRF-11-FM-001 Project Execution Plan Template. Various WCLs, Group Leads or subject matter experts author or provide input to each section.

5.4.4 Production Requirements

The SRF Ops Project Coordinator works with WCLs and Group Leads or other subject matter experts to identify the Work Control Documents (e.g. travelers and procedures) needed for the project and the appropriate authors, reviewers, and approvers. This information is contained in the Project Work Control Document Register.

The SRF Ops Project Coordinator ensures customer requirements are provided to WCLs, Group Leads, and SRF OPs or other subject matter experts. The SRF Ops Project Coordinator works with the WCLs, Group Leads, and other subject matter experts to identify critical-to-quality measurements in accordance with the Calibration process.

5.4.4.1 Travelers

A Traveler is a document used to define and control a production process. It collects and stores data from the prescribed process within the Pansophy system. Rules for Travelers are documented in the Document Management process and training on writing Travelers is available in Pansophy. Travelers allow for the identification and tracking of non-conformances on production products as documented in the Nonconforming Product process. Process measurements identified as critical-to-quality shall be recorded in Travelers as required by the Calibration process.

The following rules apply to production travelers related to quality.

|  |  |  |
| --- | --- | --- |
| **Title** | **Role** | **Purpose of the Review** |
| Author | SME | Accuracy and completeness of all technical requirements. |
| Reviewer 1 | SME or WCL | Independent review of accuracy and completeness of all technical requirements. |
| Reviewer 2 | SRFOPS WCL or Group Lead | Awareness to ensure availability of resources needed to execute work. |
| SRFOps Project Representative | SRFOps Project Representative | Awareness to ensure scope meets project expectations. |

Note: Only Author and Review 2 can be the same person. Minimum of three independent signatures per traveler.

5.4.4.2 Procedures

The following rules apply to production procedures related to quality and are not applicable to procedures related to Health and Safety, such as OSPs, TOSPs, and SOPs.

|  |  |  |
| --- | --- | --- |
| **Title** | **Role** | **Purpose of the Review** |
| Author | SME | Accuracy and completeness of all technical requirements. |
| Reviewer 1 | SME or WCL | Independent review of accuracy and completeness of all technical requirements. |
| Reviewer 2 | SRFOPS WCL or Group Lead | Awareness to ensure availability of resources needed to execute work. |

Note: Only Author and Review 2 can be the same person. Minimum of two independent signatures per traveler.

5.4.4.3 Work Control Document (WCD) Register

The WCD Register lists all Travelers and Procedures needed for a Project in accordance with the procedure SRF-11-PR-002 and the WCD Register Template SRF-11-FM-005. It is created by the SRF Ops Project Coordinator at the initiation of the Project, with input from WCLs, Group Leads, and other SRF Ops subject matter experts. The SRF Ops Project Coordinator is responsible for maintaining and revising the Project's WCD Register as required in SRF-11-PR-002.

5.6.1 CEBAF, MLP, WFO Projects

The SRF Project Coordinator coordinates product and data delivery with the customer when product or data is confirmed complete by the Production Process. Data transmittals can occur via reviews defined by the customer including post-test, pre-shipment, or data deliverable reviews.

Production Process

# SRF-10-PD-001 Production Program Description R1

3.2 Capabilities and Organization

SRF OPs has the capability to manufacture, process, assemble, test, and deliver various products related to SRF cavities and complete cryomodules. The production area is organized by Work Centers and Work Stations, each with unique capabilities which can be tailored to meet the specific requirements of a customer.

3.3 Work Control Documents

Work Control Documents are developed by subject matter experts within each Work Center to contain all the customer requirements received from the Project Management Process.

3.5 Production Execution

Work Control Documents are used to provide detailed instruction and capture the details of work performed in each Work Station. Items are preserved through careful movement and storage during production.

3.6 Continuous Improvement

As production work proceeds, Group and Work Center Leads look for improvements that may be incorporated in revisions to work control documents or provided as inputs to the Organizational Knowledge Program.

3.7 Production Completion

When production work is complete, the SRF OPs Project Coordinator or Group and Work Center Leads ensure all Work Control Documents are complete and required data is filed or ready for delivery to the customer. Finished products or services are provided to the Project Execution Program for customer coordination and delivery. Smaller work requests may be delivered directly to a customer by the Group or Work Center Lead.

# SRF-10-PR-001 Production R1

4 Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| SRF OPs Project Coordinator | Attends project specific meetings and organizes a document review meeting. |

5.1 SRF Operations Production Capabilities and Organization

The Production Process utilizes comprehensive production facilities and equipment, organized by Groups, then Work Centers, and then Work Stations, to manufacture, process, assemble, test, and deliver products (usually SRF cavities and/or complete cryomodules) to customers either directly or through the SRF OPs Project Coordinator.

5.1.1 Work Centers

Production is organized by Work Centers, as described in the table below. Each Work Center Lead performs the tasks according to approved Travelers, assigning only workers qualified per the SRF Operations Competency Process.

[table]

5.1.2 Work Stations

Work Centers have stations where specific work tasks are performed. In general, each work station is a physical location where throughput is monitored by each Work Center Lead.

[table]

5.2 Work Control Document Development

Work Control Documents are developed by subject matter experts within each Work Center to contain all the customer requirements received from the Project Management Process. They contain imbedded or linked documents such as procedures, drawings, specifications, to provide detailed work instructions to perform an assembly, fabrication, inspection or test. Work Control Documents provide instruction to the inspector/technician when calibrated Measurement and Test Equipment is required to perform a specific inspection or test. The author of the Work Control Documents is responsible for submitting the document for review and approval as described in the Project Work Control Documents Register.

The Pansophy Team performs the administrative task of routing the Work Control Documents for review and approval, then ensures their functionality within the Pansophy System.

5.4 Production Execution

Approved Travelers and procedures are used to produce finished, qualified products. Work is performed in Work Centers and Work Stations by production staff. Group Leads and Work Center Leads ensure manpower and resources are available to perform the work according to the plan.

5.4.3 Project Specific Meetings

For MLP, CEBAF, or WFO projects, there may be routine meetings organized by the project that include discussion and review of project schedule, conformity of production in progress, changes to information or characteristics required to produce the product, customer feedback related to progress, and product delivery. The status of work control documents may be reviewed, including travelers, and associated procedures, NCRs, D3s. Attendance usually includes SRF Ops Project Coordinator, SRF Operations Planning Coordinator and representatives from applicable SRF work centers. Project-specific subject-matter experts (SMEs) may also attend as needed/requested.

5.6 Production Completion

For MLP, CEBAF, or WFO projects products or data may be recognized as ‘complete’ as major items or milestones are complete. Based on project complexity and customer expectation, the SRF OPs Project Coordinator may organize a Document Review Meeting to ensure all production activities are complete; all Travelers and NCRs are completed and closed; and all required data is ready for transmittal. Product and data are delivered to the Project Execution process for customer coordination and delivery.

Nonconforming Production Process

# SRF-12-PD-001 Nonconforming Product Program Description R2

3.2 Establishing Responding Engineers

When a project begins, the SRF Project Coordinator works with the Group and Work Center Leads to determine who is notified when an NCR is initiated, who is authorized to determine the resolution, and who is authorized to close the NCR. These assignments are listed in the project Work Control Document Register and then made within the Pansophy system.

4 Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| Initiator | Any person in SRF Operations who identifies a potentially nonconforming condition with an item. |
| Responding Engineer | Persons designated by Project Managers to evaluate and assign dispositions to nonconformance reports. |

# SRF-12-PR-002 Detours, Deviations, and Discrepancies R2

4 Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| D3 Identifier | Any person in SRF Operations who identifies a potentially nonconforming condition with a part or process. |
| Responding Engineer | Engineers designated by Project Managers to evaluate and assign dispositions to nonconformance reports. |
| SRF Project Coordinator | Maintains the project Work Control Document Register which lists Responding Engineers to address D3s. |