

**WSRC-SA-6  
Rev 37  
November 2018**

**FINAL SAFETY ANALYSIS REPORT**

**SAVANNAH RIVER SITE**

**DEFENSE WASTE PROCESSING FACILITY**

**VOLUME 7**

**NOVEMBER 2018**

## DISCLAIMER

This document was prepared by AECOM N&E Technical Services, LLC (N&E TS) under contract with Savannah River Remediation, LLC (SRR), subject to the warranty and other obligations of that contract and in furtherance of SRR's contract with the United States Department of Energy (DOE). N&E TS' findings represent its reasonable judgments within the time and budget context of its commission and utilizing the information available to it at the time. This document was prepared solely for the DOE for Contract DE-AC09-09SR22505.

Release to and Use by Third Parties. As it pertains to releases of this document to third parties, and the use of or reference to this document by such third parties in whole or in part, neither N&E TS, SRR, DOE, nor their respective officers, directors, employees, agents, consultants, or personal services contractors (i) make any warranty, expressed or implied, (ii) assume any legal liability or responsibility for the accuracy, completeness, or usefulness, of any information, apparatus, product or process disclosed herein or (iii) represent that use of the same will not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trademark, name, manufacture or otherwise, does not necessarily constitute or imply endorsement, recommendation, or favoring of the same by N&E TS, SRR, DOE, or their respective officers, directors, employees, agents, consultants or personal services contractors. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

**FINAL SAFETY ANALYSIS REPORT  
SAVANNAH RIVER SITE  
DEFENSE WASTE PROCESSING FACILITY**

**CHAPTER 10  
CONDUCT OF OPERATIONS**

**November 2018**

**CONTENTS**

---

	<u>Page</u>
10.0 CONDUCT OF OPERATIONS .....	10.0-1
10.1 ORGANIZATIONAL STRUCTURE .....	10.1-1
10.1.1 Background.....	10.1-1
10.1.2 Savannah River Remediation, LLC (SRR).....	10.1-1
10.1.3 DWPF Organization, Functions, Responsibilities, and Authorities.....	10.1-2
10.1.4 Staffing and Qualification.....	10.1-2
10.1.5 Liaison with Offsite Organizations.....	10.1-3
10.2 SAFETY REVIEW AND PERFORMANCE ASSESSMENT .....	10.2-1
10.2.1 Oversight Review Committees .....	10.2-1
10.2.2 Independent Oversight Responsibilities .....	10.2-1
10.2.3 Quality Assurance.....	10.2-1
10.2.4 Process Hazards Reviews .....	10.2-1
10.2.5 USQ Determination .....	10.2-2
10.2.6 DWPF Self-Assessment.....	10.2-2
10.2.7 Facility Operations Safety Committee.....	10.2-2
10.2.8 Occurrence Reporting .....	10.2-2
10.2.9 Lessons Learned Program.....	10.2-3

---

**CONTENTS (Continued)**

---

	<u>Page</u>
10.3 CONDUCT OF OPERATIONS .....	10.3-1
10.3.1 Shift Routines and Operating Practices .....	10.3-1
10.3.2 Control Area (CA) Activities.....	10.3-1
10.3.3 Communications .....	10.3-1
10.3.4 Control of On-Shift Training .....	10.3-2
10.3.5 Control of Equipment and Systems Status.....	10.3-2
10.3.6 Hazardous Energy Control.....	10.3-2
10.3.7 Independent Verification .....	10.3-2
10.3.8 Logkeeping .....	10.3-3
10.3.9 Shift Turnover.....	10.3-3
10.3.10 Operational Aspects of Facility Unique Processes .....	10.3-3
10.3.11 Required Reading.....	10.3-3
10.3.12 Timely Orders to Operators .....	10.3-3
10.3.13 Operator Aid Postings.....	10.3-4
10.3.14 Equipment and Piping Labeling.....	10.3-4
10.4 CONFIGURATION AND DOCUMENT CONTROL .....	10.4-1
10.4.1 DWPF Configuration Management .....	10.4-1
10.4.2 Document Control .....	10.4-1
10.5 PROCEDURES PROGRAM.....	10.5-1
10.5.1 Development of Procedures .....	10.5-1

---

**CONTENTS (Continued)**

---

	<u>Page</u>
10.5.2 Maintenance of Procedures .....	10.5-1
10.6 TRAINING PROGRAM .....	10.6-1
10.6.1 Training Program Description .....	10.6-1
10.6.2 Program Objectives.....	10.6-1
10.6.3 Training Curriculum .....	10.6-1
10.6.3.1 Development of Training.....	10.6-2
10.6.3.2 Maintenance and Modifications of Training.....	10.6-3
10.6.4 Qualification and Certification .....	10.6-3
10.6.4.1 Qualification .....	10.6-3
10.6.4.2 Certification .....	10.6-4
10.6.4.3 Requalification.....	10.6-4
10.6.4.4 Continuing Training.....	10.6-4
10.6.4.5 Medical Examination Requirements.....	10.6-4
10.6.5 Training Records.....	10.6-4
10.7 INITIAL TESTING PROGRAM .....	10.7-1
10.7.1 DWPF Startup Test Program .....	10.7-1
10.7.2 DWPF Startup Phases.....	10.7-1
10.7.3 Testing of Equipment/Facility Modifications.....	10.7-2

---

**CONTENTS (Continued)**

---

	<u>Page</u>
10.8 INSERVICE SURVEILLANCE PROGRAM.....	10.8-1
10.8.1 Provisions for Testing and Calibrations.....	10.8-1
10.8.2 Control and Calibration of Measuring and Test Equipment.....	10.8-1
10.8.3 Trending of Surveillance Test Results.....	10.8-1
10.8.4 Programmatic Review.....	10.8-1
10.8.5 Training of Surveillance Testing Personnel.....	10.8-2
10.9 MAINTENANCE PROGRAM .....	10.9-1
10.9.1 Maintenance Organization and Administration.....	10.9-1
10.9.2 Training and Qualification of Maintenance Personnel .....	10.9-1
10.9.3 Maintenance Facilities, Equipment, and Tools.....	10.9-1
10.9.4 Post-Maintenance Testing.....	10.9-1
10.9.5 Control and Calibration of Measuring and Test Equipment.....	10.9-2
10.9.6 Maintenance History and Trending .....	10.9-2
10.10 FACILITY RECORDS.....	10.10-1
10.11 DECOMMISSIONING.....	10.11-1
10.11.1 Design Features.....	10.11-1
10.11.2 Conceptual Decommissioning Plan .....	10.11-1
10.11.3 Funding.....	10.11-1
10.12 REFERENCES .....	10.12-1

---

## **10.0 CONDUCT OF OPERATIONS**

This Chapter of the DWPF Final Safety Analysis Report (FSAR) provides information that satisfies 10 CFR Part 830 (Ref. 49). These requirements pertain to Management, Organization, and Institutional Safety Provisions; Procedures and Training; Initial Testing, In-Service Surveillance and Maintenance, Quality Assurance, and Operational safety.

The information presented in this chapter follows the guidance of DOE-STD-3009-94 (Ref. 50).

## 10.1 ORGANIZATIONAL STRUCTURE

This section contains information regarding management, organizational structure, and conduct of operations of the DWPF, which ensures continued implementation of the safety related administrative and operational controls. DWPF organizational structure meets the requirements of the applicable DOE Orders stated in the Standards/Requirements Document (S/RID) (Ref. 17).

### 10.1.1 BACKGROUND

Currently the management of SRS is performed by two entities. The M&O portion is managed by Savannah River Nuclear Solutions, LLC (SRNS) and Liquid Waste (LW) is managed by Savannah River Remediation, LLC (SRR).

Washington (formerly Westinghouse) Savannah River Company (WSRC) assumed responsibility for SRS management and operation from E. I. du Pont de Nemours and Company. WSRC had been responsible for the management and operations of SRS since April 1, 1989. The term WSRC represented a partnership and all the partners basically work under a single set of site policies and procedures. The design and construction functions of the DWPF became the responsibility of WSRC with BSRI as the design engineering and construction management subcontractor.

### 10.1.2 SAVANNAH RIVER REMEDIATION, LLC (SRR)

The L W is the parent organization of DWPF Facility. The LW organization is managed by its President. LW includes the following project organizations:

- Engineering
- Environmental, Safety, Health, and Quality Assurance
- Projects, Design and Construction
- Operations
  - DWPF/Saltstone
  - Tank Farms
  - Tank Closure

The DWPF Project is managed by the Facility Manager, who reports to the Waste Treatment Manager, who reports to the Executive Vice President of Operations, who reports to the LW President. The LW organization is supported by Engineering, Maintenance, Quality Assurance and other support groups as necessary to safely manage DWPF.

### 10.1.3 DWPF ORGANIZATION, FUNCTIONS, RESPONSIBILITIES, AND AUTHORITIES

The Liquid Waste Operations (LWO) organizational charts identify the organizational structure and lines of communication for activities affecting quality for the DWPF. The following paragraphs briefly describe the key positions.

The DWPF Facility Manager has overall responsibility for managing the safe operation and maintenance of DWPF including modifications to DWPF. This responsibility includes the design, procurement, testing, repair, modifications, costs, and operation of DWPF processes, equipment, and facilities; the safety, planning, training, and development of employees in DWPF; and communication between DWPF, SRS Management, and DOE. The DWPF Facility Manager is responsible for DWPF compliance with SRS Standards as mandated in the Safety, QA, Security, Service, Industrial Hygiene, and Procedures Manuals. Various staff/sections/groups within LWO support the DWPF Facility Manager, which includes the Operations, Engineering, Maintenance, Operations Support, Projects, and Quality Assurance.

Managers/Individuals from other organizations or sub-organizations also support the DWPF Facility Manager. Managers/Individuals supporting the DWPF Facility Manager report administratively and technically to their identified parent organization. They are responsible for implementing the SRS programs and procedures within the DWPF using written procedures and instructions. Their reporting independence accommodates quick resolution of comments or conflicts where necessary.

### 10.1.4 STAFFING AND QUALIFICATION

The staffing level and knowledge, skills, and abilities of personnel in organizations covered in this chapter contribute to the safety basis of DWPF. This section discusses sitewide and DWPF training, qualification, and fitness-for-duty requirements and the programs and provisions for monitoring staff safety performance.

Key operations and technical related positions in the various departments of DWPF are staffed by personnel with technical degrees and/or several years of industrial experience. The education and experience requirements for personnel involved in the operation, maintenance, training, and technical support of DWPF have been established to ensure that qualified personnel are selected and assigned to positions, which have a functional impact on safety and reliability. The education and experience requirements for the personnel assigned to these positions are based on the requirements of Manual 4B (Ref. 22).

The shift manning requirements for normal operation of DWPF are determined based upon the operational activities and support required for the Emergency Response Organization. These requirements are approved by the DWPF senior management. The minimum shift manning requirements for various modes of DWPF operation are identified in the Technical Safety Requirements for DWPF (Ref. 51). Chapter 11, Derivation of Technical Safety Requirements, provides the basis for the minimum shift manning requirements.

Training and qualification requirements for personnel involved with organizations and programs referred to in this chapter are specified in the following site documents:

- Policy Manual, WSRC-1-01, Management Policies (Ref. 38)
- Procedure Manual 1B, Management Requirements and Procedures (U) (Ref. 4)
- Program-specific manuals, as discussed in Chapter 8 of the FSAR

SRS training program is established per Policy Manual, 1-01, Procedure MP 1.18, “Employee Training” (Ref. 38); implemented through the 4B Manual (Ref. 22); and described in section 10.6. On-shift training is addressed in section 10.3.

Procedure 2.6 of Manual 5B (Ref. 57), “Fitness for Duty,” establishes the responsibilities and requirements for the implementation of the SRS fitness-for-duty program. The DWPF managers are trained in this program as directed by Manual 4B (Ref. 22). This program is implemented at DWPF through the 2S Manual (Ref. 8).

#### 10.1.5 LIAISON WITH OFFSITE ORGANIZATIONS

DWPF has no direct interface with offsite organizations. Environmental and effluent-related matters with South Carolina Department of Health and Environmental Control (SCDHEC) are handled through the designated organizations. Similarly, other health, safety, and environment matters with offsite organizations are handled through the applicable department of the designated organizations. Interface with Nuclear Regulatory Commission (NRC) regarding the radioactive canistered waste is handled through DOE. During emergencies at DWPF, interface and interactions with offsite emergency response organizations (Federal, State, and/or Local) are handled by the Site Emergency Response Organization and is described in the SRS Emergency Plan, SCD-7 (Ref. 31).

## 10.2 SAFETY REVIEW AND PERFORMANCE ASSESSMENT

This section describes the oversight functions in program-specific areas such as industrial safety, fire protection, and hazardous material control. These programs are addressed more fully in the program-specific chapters 8.0, 12.0, and 13.0. The oversight functions at DWPF are based upon the requirements of applicable DOE Orders, codes, standards, and regulations as stated in the Standards/Requirements Identification Document (S/RID) (Ref. 17).

### 10.2.1 OVERSIGHT REVIEW COMMITTEES

The SRS provides company-level independent oversight for the DWPF. The Procedure Manual 12Q (Ref. 48), defines the structure, principles, responsibilities, associated requirements, and procedures for conducting independent assessments through this program.

### 10.2.2 INDEPENDENT OVERSIGHT RESPONSIBILITIES

Environment, Safety, & Health and Quality Assurance Performance Assurance Services has responsibility for developing site centralized policy and procedures for QA activities. Environment, Safety, & Health Services has responsibility for developing site centralized policy and procedures for environmental, safety, health, radiological controls, and fire protection. Quality services within DWPF are provided by area QA personnel. Effective independent oversight is accomplished by providing a sufficient and appropriately trained oversight staff capable of preparing and maintaining site-wide policies, standards, procedures, practices, guidelines, and instructions.

### 10.2.3 QUALITY ASSURANCE

The QA personnel within the LWO monitor the Quality Assurance program through overview activities in accordance with the requirements of the QA Manual 1Q (Ref. 15).

### 10.2.4 PROCESS HAZARDS REVIEWS

The Process Hazards Reviews of DWPF processes were performed as part of the SRS Process Safety Management (PSM) program. The principal objective of the program was to provide a systematic review of each SRS process that had the potential to result in a catastrophic accident, in order to eliminate injuries and minimize property damage resulting from process-related hazards. The program was constructed around the Process Hazards Review (PHR), which was an organized effort to identify and evaluate the hazards associated with various SRS processes per SRS Process Hazards Management Manual, WSRC-IM-90-135 (Ref. 56). This program has been replaced by the Consolidated Hazards Analysis Process (CHAP). The CHAP provides an integration of several hazards analyses (process hazards analysis, fire hazard analysis, emergency protection hazards analysis, etc.), and is performed in accordance with the methodology given in the Consolidated Hazards Analysis Process (CHAP) Program & Methods Manual, SCD-11 (Ref. 59).

### 10.2.5 USQ DETERMINATION

Unreviewed Safety Question (USQ) determinations are used in considering whether or not a proposed change, test, or experiment involves a USQ as defined in 10 CFR Part 830, Subpart B, Safety Basis Requirements (Ref. 43). Technical reviews verify the compatibility of a change with facility design and ensure that the proposed change will not adversely affect facility safety, reliability, or operation.

The USQ determination process is established at DWPF per Procedure Manual 11Q (Ref. 1), Facility Safety Document Manual (U). DWPF Cognizant Engineers are qualified in the USQ process and perform USQ determinations during the Design Authority Technical Review of the proposed activity.

### 10.2.6 DWPF SELF-ASSESSMENT

DWPF performs self-assessments in accordance with the Procedure Manual 12Q. The DWPF Self-Assessment Program provides DWPF Management the necessary confidence that good safety practices, environmental protection, plant configuration control, product quality, and overall discipline in plant operations are being achieved. This program is developed and performed on a graded approach, with depth of inquiry and frequency of review being dependent on the importance to safety (personnel, public, and environment), regulatory compliance, and operational integrity.

### 10.2.7 FACILITY OPERATIONS SAFETY COMMITTEE

The Facility Operations Safety Committee (FOSC) advises the DWPF Facility Manager on matters affecting the operation of the facility and associated activities that affect safety. FOSC function, responsibilities, membership and qualification of members are established in accordance with Manual 1B (Ref. 4), Procedure 4.19. FOSC meetings are routinely scheduled as per the requirements of Manual 1B (Ref. 4), Procedure 4.19. This procedure also describes FOSC responsibilities, which include review of the proposed changes to TSRs, USQ Evaluations, and plant changes with SC and SS classification.

### 10.2.8 OCCURRENCE REPORTING

Occurrence Reporting is implemented through Manual 9B (Ref. 40). This manual includes a system of procedures referred to as the Site Item Reportability and Issue Management (SIRIM) process. Manual 9B specifies the overall process for selection and analysis of information for occurrence reports. The conduct of operations program establishes the process for notifications; the reporting of events, conditions, concerns, and occurrences; and the management of issues at SRS facilities. The program also specifies the responsibilities and activities required in the process of investigating and documenting events, conditions, or concerns. DWPF performs follow-up review for events, conditions, or concerns in accordance with the requirements of Manual 9B.

#### 10.2.9 LESSONS LEARNED PROGRAM

The Management Requirements and Procedures (MRPs) Manual 1B (Ref. 4), Procedure MRP 4.14, "Lessons Learned Program," establishes the specific responsibilities and actions required for implementing the site lessons learned program.

### 10.3 CONDUCT OF OPERATIONS

SRS has established and maintains a conduct of operations program to enhance the safe operation of its facilities at the Savannah River Site (SRS). Conduct of operations requirements apply to the programs and functions of SRS operations that may have an impact on the safety of the public, environment, and site personnel.

Conduct of operations is defined here as the minimum acceptable level of performance expected of operations and support personnel, which may affect safety. These activities may vary widely, from the performance of a chemical analysis of ground water samples to the operation of the Defense Waste Processing Facility. Regardless of the degree of complexity, the same quality level of performance is expected. Conduct of operations also requires a commitment to continuously improve operations by using total quality principles.

The site conduct of operations program is implemented at DWPF through Procedure Manual 2S, Conduct of Operations Manual (Ref. 8). The Conduct of Operations program contains the following features, and the Manual 2S provides details of these features.

#### 10.3.1 SHIFT ROUTINES AND OPERATING PRACTICES

The conduct of operations program specifies the shift routines and operating practices that apply to facility operations and support personnel. The program includes standards for professional conduct, good watch standing practices, equipment monitoring, and management responsibilities that are fundamental to safe operation. The shift manager directs the overall operation of the DWPF. The shift manager is promptly notified of changes in facility status, abnormalities, or difficulties encountered in performing assigned tasks.

General overtime guidelines are provided for operations and support personnel. Additional restrictions for overtime control and ensuring personnel are alert and fit for duty are specified in Procedure Manual S16 (Ref. 62).

#### 10.3.2 CONTROL AREA (CA) ACTIVITIES

The conduct of operations program establishes guidelines and requirements for performance of Control Area (CA) activities to ensure that the activities are conducted in a businesslike manner and that distractions, such as nonessential personnel traffic, is minimized. The Vitrification Control Room and the Crane Control Room are the Control Areas at DWPF. The guidelines and requirements for CA activities are provided by the 2S Manual (Ref. 8) and apply to facility operations and support personnel and to activities conducted in the CAs.

#### 10.3.3 COMMUNICATIONS

The 2S Manual (Ref. 8) provides guidance and requirements for communications within the facility during normal, abnormal, and/or emergency conditions, including guidance and requirements for both individuals sending communications and individuals receiving communications.

#### 10.3.4 CONTROL OF ON-SHIFT TRAINING

The conduct of operations program specifies requirements for control of on-shift training by facility personnel. On-shift training is the portion of a qualification program where the trainee receives training, within the work environment, with as much hands-on experience as possible. The requirements apply to operations personnel training and qualifications performed in the facility as part of the shift or normal work routine. The Control of On-Shift Training requires that operation of equipment by trainees must be carefully supervised and controlled and that the trainee satisfactorily meets the training objectives and receives maximum benefit from the experience.

#### 10.3.5 CONTROL OF EQUIPMENT AND SYSTEMS STATUS

To satisfy design bases and operational limits, the proper component, equipment, and system configurations must be established and maintained. The conduct of operations program (Ref. 8) provides instructions for system alignments, locking of components, verification of TSR compliance for operating mode changes, authorization to remove or restore equipment to service, documentation of equipment deficiencies, and use and maintenance of facility status board(s). The program applies to facility operations and support personnel responsible for administrative controls, procedures, and requirements that govern equipment and systems status.

#### 10.3.6 HAZARDOUS ENERGY CONTROL

The 2S Manual (Ref. 8) specifies the use of lockouts and tagouts for the purpose of hazardous energy control for the protection of site personnel. This is accomplished through the isolation and restoration of equipment and systems to protect personnel from injury, protect equipment from damage, and prevent the release of hazardous material to the environment during maintenance, inspections, tests, and abnormal activities. The lockout/tagout program is implemented at DWPF in accordance with requirements of the 8Q Manual (Ref. 29). Lockouts and tagouts for the purpose of hazardous material control are performed in a similar manner.

#### 10.3.7 INDEPENDENT VERIFICATION

The conduct of operations program provides uniform requirements for the site operations independent verification program and establishes a high degree of reliability in ensuring correct facility operation and correct positioning of components such as valves, switches, and circuit breakers. The requirements apply to facility operations and support personnel involved in the performance of independent verifications.

Independent verification is performed in those cases where a reasonable potential exists for component mis-positioning or where the consequence of error is great. The application of the program is dependent upon the safety and operations considerations of each process, system, or facility.

### 10.3.8 LOGKEEPING

The conduct of operations program specifies the requirements for establishing and maintaining operating logs for key operations positions in order to fully record the data necessary to provide an accurate history of facility conditions. An operating log is defined as a narrative sequence of events or functions performed by a specific shift position. Operating logs provide a system for ensuring that pertinent information is passed from one shift to the next, allows the history of a key position to be reviewed in event reconstruction, and supports trending analysis.

Managers identify operations and support positions that are defined as key positions requiring log keeping. Personnel making entries in operating logs fully document all data necessary to provide an accurate shift history. The types of information that should be recorded in operating logs are delineated in the 2S Manual (Ref. 8).

### 10.3.9 SHIFT TURNOVER

The conduct of operations program defines the site shift turnover process. This process ensures that relief personnel are provided with the knowledge required to accomplish their shift assignment responsibilities. The program describes the controls necessary for conducting an orderly and accurate transfer of information regarding the overall status of the facility at shift turnover. The shift turnover process applies to those facility operations that will be continued by an oncoming or relief shift without interruption of the operation.

### 10.3.10 OPERATIONAL ASPECTS OF FACILITY UNIQUE PROCESSES

Operational monitoring of DWPF-unique data and parameters ensures that parameters are properly maintained. Monitoring parameters is important to verifying system operation in accordance with design expectations. In order to enhance proper process control of systems, operations personnel must have an understanding of DWPF processes and must effectively coordinate operations activities with DWPF Engineering.

DWPF managers are responsible for ensuring that all operations-specific responsibilities are defined through approved operations procedures and specific process training is appropriately addressed. The managers shall also ensure that process requirements within the facility are properly identified and implemented.

### 10.3.11 REQUIRED READING

The Required Reading (RR) program is a method for ensuring that individuals are kept informed of important information that will enhance their ability to effectively perform their job assignment. The 2S Manual (Ref. 8) provides the guidance and requirements for documentation, responsibilities, and the reading material that can be included in the RR program.

### 10.3.12 TIMELY ORDERS TO OPERATORS

Shift orders are issued to communicate short-term information and administrative instructions to shift personnel. Information such as special operations, increased frequency in monitoring

certain parameters, classification of administrative instructions, etc., should be conveyed in shift orders.

Standing orders are issued to communicate long-term information and administrative instructions to shift personnel. The 2S Manual (Ref. 8) provides the guidance and requirements for the approval, issuance, and maintenance of both standing and shift orders. Standing and shift orders are not to be used in lieu of approved operating procedures or as a means to circumvent necessary procedure changes. If the orders cannot be followed or completed as written, they should be revised only after approval by the issuing authority or designated alternate.

#### 10.3.13 OPERATOR AID POSTINGS

The operator aid posting program describes the requesting, authorization, documentation, placing, and reviewing required to ensure operator aids are current, complete, and necessary. The 2S Manual (Ref. 8) provides the guidance and requirements for the operator aid posting program.

#### 10.3.14 EQUIPMENT AND PIPING LABELING

The equipment and piping labeling program provides the general guidelines required to establish and maintain a standardized and consistent labeling program for permanent identification of plant equipment, valves, instruments, and piping. The 2S Manual (Ref. 8) provides details concerning this program including responsibilities, labeling requests, temporary label approval and installation, label ordering, label installation, and program maintenance.

## 10.4 CONFIGURATION AND DOCUMENT CONTROL

Configuration control at DWPF is achieved through implementation of the E7, Conduct of Engineering (Ref. 13) requirements. Document control activities are conducted in accordance with the site QA program described in FSAR Chapter 12.

### 10.4.1 DWPF CONFIGURATION MANAGEMENT

The DWPF Configuration Management (CM) program is a facility lifetime program that assures the facility is maintained and operated within its design and safety envelopes. CM program is an integrated and systematic process to define the physical and functional requirements of the facility and to document how they are implemented. The program is implemented using a graded approach based on a System, Structure, or Component's (SSC) significance. The physical and functional requirements of the SSCs are defined and essential attributes/critical functions are identified, verified, documented and maintained. The change controls are in place to ensure proper documentation, reviews, and approval of the changes.

DWPF Engineering is responsible for maintaining the configuration control of the DWPF technical baseline. The physical and process changes to the baseline configurations are properly proposed, evaluated, implemented, verified, and incorporated in the affected documents in accordance with the requirements of the Manual E7, Conduct of Engineering (Ref. 13).

### 10.4.2 DOCUMENT CONTROL

SRS document control activities are conducted in accordance with the Management Requirements and Procedures (MRPs) contained in 1B Manual (Ref. 4). These activities includes: identification of the documents (both working documents and historical records), control, tracking, storage, preservation, and retrieval of documents in an effective and timely manner. The Document Control and Records Management Program is further discussed in Section 10.10.

## 10.5 PROCEDURES PROGRAM

The 2S Manual, Conduct of Operations, (Ref. 8) provides requirements and methods for developing and writing, reviewing, approving, revising, canceling, controlling, and using technical and response procedures. The 1B Manual, Management Requirements and Procedures (Ref. 4) provide requirements and responsibilities for preparation, review, approval, revision, and cancellation of program-specific administrative procedures.

### 10.5.1 DEVELOPMENT OF PROCEDURES

The 2S Manual and S25 Manual, Procedure Manual (Ref. 61), provides guidance on the required content and format of technical procedures. These guidelines ensure uniformity in procedures by providing guidance to procedure writers on how to clearly and concisely develop a procedure. These guidelines apply to technical procedures, including System Operating Manuals (SOMs), maintenance procedures, test procedures, surveillance procedures, and other procedures, which provide step-by-step instructions for the performance of an activity or evaluation and response procedures, including Abnormal Operating Procedures (AOPs), Emergency Operating Procedures (EOPs), and Alarm Response Procedures (ARPs). The 1B Manual (Ref. 4) governs the generation of program-specific administrative procedures, which define the communication and coordination activities necessary to carry out a facility's technical programs.

The emergency plan-related procedures, such as Emergency Preparedness Administrative, Implementing and Program Procedures, are distinct from ARPs, EOPs, and AOPs, and are developed and controlled in accordance with the requirements of Manual SCD-7, SRS Emergency Plan (Ref. 31). Procedures are developed, reviewed, validated, approved, revised, deactivated, and cancelled per 2S Manual (Ref. 8). Engineering and operational personnel are involved in the procedure development and maintenance process. The training organization, when required, reviews procedures to determine impact on training. This ensures the training program is maintained current with the procedures. Procedures maintain compliance with the Safety Basis of the facility.

### 10.5.2 MAINTENANCE OF PROCEDURES

The 2S Manual provides guidance regarding the maintenance and control of procedures to assure proper dissemination and utilization of facility procedures. In addition, the 2S Manual establishes the responsibilities and requirements for the revision and cancellation of procedures. A Procedure Change Request (PCR) is submitted when the need for a revision, cancellation, deactivation, or reactivation of a procedure is identified. If a change is needed quickly to continue work, an Immediate Procedure Change (IPC) is initiated. The 2S Manual (Ref. 8) provides the guidelines for the use, review, and approval of PCRs and IPCs.

To ensure the technical accuracy and proper consideration of human factors issues in procedures, periodic reviews are scheduled for procedures. This review is performed in accordance with and at a frequency specified in the 2S Manual (Ref. 8).

The 1B Manual (Ref. 4) establishes the responsibilities and methods for control, distribution, revision, and cancellation of controlled distribution documents. These methods ensure that the correct procedure revision is available for use to perform work.

## 10.6 TRAINING PROGRAM

### 10.6.1 TRAINING PROGRAM DESCRIPTION

Successful completion of a prescribed training program is required for DWPF Operations, Maintenance, and Engineering personnel. This program includes (1) basic indoctrination in General Employee Training (GET)/Consolidated Annual Training (CAT) and Facility Training, and (2) applicable specific job-related training to fully qualify each employee to perform the assigned work. Evidence that the employee is qualified to perform the work in a competent and safe manner is a prerequisite for assignment to perform the assigned work independently. The Training and Qualification Program Manual, 4B (Ref. 22) establishes the requirements for training and qualification/ certification of employees and subcontractor personnel at SRS. These requirements ensure that properly qualified and competent personnel are assigned to positions that have a functional impact on DWPF safety and operation.

A systematic approach to training is used to establish the training programs. This is a methodology that provides a total approach for the development and conduct of training programs and consists of five phases. The first four phases: Analysis, Design, Development, and Implementation are sequential. The output of one phase provides the input to the next. The fifth phase, Evaluation, is interactive and is applied throughout the process.

Line management is ultimately responsible for the indoctrination and training of personnel. Line management shall ensure that personnel receive the necessary indoctrination and training to fulfill the requirements of their assigned positions. The training manager is responsible for leading and managing the analysis, design, development, implementation, and revision of training, as well as assuring line management that requirements are met.

### 10.6.2 PROGRAM OBJECTIVES

The training program for DWPF personnel ensures that personnel have the knowledge and skills to operate and maintain the equipment and facilities in a safe and efficient manner. These objectives are achieved through the development and implementation of a comprehensive training program that is administered by DWPF Training with the support of management at all levels.

### 10.6.3 TRAINING CURRICULUM

The general curriculum is designed to provide the training necessary to familiarize the trainee with basic departmental functions, practices, and requirements and the job specific requirements. The selection, qualification, records and the training requirements for DWPF personnel are specified in Manual 4B (Ref. 22). Detailed training, qualification and certification requirements are specified in Qualification Program Descriptions (QPDs) for DWPF operations personnel. These QPDs are developed and approved in accordance with the requirements of Manual 4B (Ref. 22). The combination of education, experience, and training provides assurance that employee's actions and decisions during normal and off-normal conditions will result in the facility being operated in a safe and efficient manner.

Personnel regularly assigned to SRS areas are also required to receive General Employee Training (GET). GET is included in continuing training program called Consolidated Annual Training (CAT) for facility personnel. In addition to GET, DWPF personnel are required to receive facility specific training depending upon the job position.

Specific areas for which training is developed and implemented at DWPF are summarized below:

- Criticality Training - Section 8.5 of the FSAR describes the Nuclear Criticality program and training requirements for this program at DWPF.
- Radiation and Hazardous Material Protection Training - Section 8.1 and 8.2 of the FSAR describes the Radiation and Hazardous Material Protection program and training requirements for these programs at DWPF.
- Surveillance Testing and Maintenance Training - Training requirements of maintenance personnel at DWPF is described in section 10.9.2. The surveillance program, the maintenance program, and related training requirements are addressed in section 10.8 and 10.9.
- Fire Protection Training - Section 8.4 of the FSAR describes the Fire Protection program and training requirements for this program at DWPF.
- Quality Assurance Training - Chapter 12 of the FSAR describes the Quality Assurance program and training requirements for this program at DWPF.
- Emergency Preparedness Training - Chapter 13 of the FSAR describes the Emergency Preparedness program and training requirements for this program at DWPF.
- Waste Acceptance Training - Waste Acceptance Program and required training associated with this program is described in the Waste Form Compliance Plan (WCP), WSRC-IM-91-116-0 (Ref. 37).

The types of training mentioned may include, and are not necessarily limited to, onshift, simulator, and classroom training. Additional details regarding the responsibilities of individuals involved in the development of training programs are contained in the 4B Manual.

#### 10.6.3.1 Development of Training

The technical content of DWPF training programs is developed, reviewed, and approved in accordance with Manual 4B (Ref. 22). Training developed using these guidelines applies to various aspects of DWPF training including conduct of normal, abnormal, and emergency operations. This manual establishes a systematic process for the training program. This includes job task analysis, design of training, development of training materials, instructor training and qualifications and implementation of training in various training settings.

### 10.6.3.2 Maintenance and Modifications of Training

DWPF training and training materials are updated in accordance with Manual 4B (Ref. 22) to ensure that training programs reflect actual plant conditions and current procedures. The DWPF training department receives new procedures, revisions to procedures, design changes, and modifications that may have an impact on training to implement, when applicable. The DWPF training materials are reviewed by applicable departments within DWPF to ensure that actual plant conditions are reflected in the training materials.

## 10.6.4 QUALIFICATION AND CERTIFICATION

At DWPF, several positions require qualification; however, none of these positions have been designated as requiring certification. The Training Implementation Matrix (TIM), WSRC-RP-92-226 (Ref. 24), provides the key positions requiring qualification. The education, experience, qualification, and training requirements for DWPF personnel are specified in the Qualification Program Descriptions. The Qualification Program Descriptions are approved by the applicable line manager.

### 10.6.4.1 Qualification

Operations candidates must successfully complete training and examinations (written and oral) as well as operational evaluations and performance demonstrations as applicable to their position. The candidates must also meet other specified requirements (e.g., medical examination) to obtain qualification. The methods, criteria, and setting for the evaluation process and the standards for evaluation are specified in DWPF Operations Qualification Program Descriptions.

Operators or supervisors who are required to qualify in specific areas are not to be assigned to, or assume, any duty in an area for which they are not qualified unless they are designated “unqualified trainee” and have qualified personnel supervising. Section 10.3.4 provides more details regarding control of on-shift training.

The following positions have been determined to perform functions, which could directly affect the safe operation of DWPF and are required to be qualified:

#### Operations Department-

Shift Manager	Vitrification Building Operator
Vitrification Control Room Manager	Control Room Operator
Balance of Plant Manager	Balance of Plant Operator
Vitrification Building Manager	Crane Operator



## 10.7 INITIAL TESTING PROGRAM

This section summarizes the initial testing programs that ensured operability of the DWPF construction/modification prior to service. Sections 10.7.1 and 10.7.2 contain historical descriptions of the startup organization, the preoperational testing, test phases of DWPF, and testing activities that existed to support DWPF startup. Section 10.7.3 discusses the testing program other than the startup testing. This topic is covered from the standpoint of a modification to a piece of equipment and its related return-to-service requirements.

### 10.7.1 DWPF STARTUP TEST PROGRAM

The DWPF had established a Startup Test Group to conduct the testing specific DWPF startup. The administrative controls required to support a disciplined testing program, similar to the testing environment found during the startup phase of commercial nuclear power plants, were specified in a Startup Manual. The Startup Manual (Ref. 16) described the organizational structure of the Startup Test Group, the controls on the preparation of the test plans, test procedures, test deficiencies, conduct of testing, review and approval of Startup test activities. This included the specification of testing requirements in Test Plans prepared by engineering to ensure that testing included the necessary elements to substantiate the Operational Safety Requirements (OSRs) and Process Requirements (PRs) existed at the time of DWPF startup. The organization and responsibilities of the Joint Test Group (JTG) were also specified in the DWPF Startup Manual (Ref. 16), which included the review and approval authority of Test plans developed by engineering, startup test Procedures, Test Results reports and other startup issues. The Startup Test Group was comprised mainly of individuals with startup testing experience in the commercial nuclear industry. The performance of Startup tests were directed by Startup Test engineers, who were certified in accordance with ASME NQA-1, which paralleled the requirements of RW-0333P. During the conduct of Startup testing, operations personnel operated the affected component/system under the consent of Startup personnel using the approved startup/operating procedures with the exception of emergencies. The scope of the requirements for the DWPF Startup Test Program was detailed in the “DWPF Startup Test Program (U),” OPS-DTD-890004 (Ref. 21), which was approved by DOE. The Test Plans provided the scope of each test and were approved by DOE-SR. The Startup Test program incorporated the requirements of the DOE Office of Civilian Radioactive Waste Management Quality Assurance Requirements and Description RW-0333P for High Level Waste Form Production.

### 10.7.2 DWPF STARTUP PHASES

The startup of the DWPF was managed in four distinct phases, each having well-defined objectives with respect to demonstrating readiness to operate:

- Integrated Water Runs (IWR), the first phase, was directed toward verifying the basic operability and performance of the designated systems and process steps. Water was used as the test fluid to obtain basic performance data.

- Cold Chemical Runs (CCR), the second phase, provided the first opportunity to operate the processing facility using actual process chemicals and simulants to establish baseline process data. This phase identified deficiencies in materials of construction, process flow sheets, operating procedures, training, and performance of operating personnel.
- Waste Qualification Runs (WQR), the third phase, was primarily for demonstrating the ability to produce a quality glass product and encase the glass in a stainless steel canister, while meeting product requirements defined in the Waste Acceptance Product Specifications (WAPS) over the range of expected chemical and radiological properties expected in the radioactive waste.
- Radioactive Operation (RO), the fourth phase, started with the introduction of a small amount of radioactive sludge together with simulated sludge to confirm melter off-gas decontamination capability. After operation and analysis with this small amount of radioactive sludge, actual radioactive feed was introduced into the process, and final operating conditions and waste compliance criteria were confirmed. RO also included containerization and interim storage of the radioactive glass.

The readiness review/assessment was performed by DWPF, SRS, and DOE and deficiencies identified during any phase of the startup were evaluated and dispositioned before entering the next phase of startup.

During CCR and WQR the Safety Envelope (SE), WSRC-RP-92-975 was used to describe and analyze the hazards posed by the particular phase. The SE for CCRs was approved by DOE. SE was revised as necessary for each test phase to address additional hazards introduced by the upcoming test phase. For the RO phase, the FSAR replaced the SE.

### 10.7.3 TESTING OF EQUIPMENT/FACILITY MODIFICATIONS

Procedure Manuals 1Y (Ref. 11) and S4 (Ref. 7) contain requirements for post-maintenance testing and post-modification testing, respectively. These tests are conducted in accordance with written instructions or formal procedures and include performance of various functions that may have been affected by the maintenance or modification. DWPF Operations is responsible for coordinating testing following maintenance or modifications. The performance and results of the testing activity are recorded as specified in the work package or post-modification test procedure, including any rework resulting from unsatisfactory testing. The results of testing and requirements for returning equipment to service are recorded in the applicable work controlling document or work package. Operations provides the final review of the equipment returned to service before it is placed in operation. These activities are performed in accordance with approved procedures.

Site programs on testing, which are defined in Procedure Manual 1Q (Procedure 11.1) (Ref. 15), are implemented in the Procedure Manual S4 (Ref. 7).

## 10.8 INSERVICE SURVEILLANCE PROGRAM

In-service surveillances and inspections at SRS are performed in accordance with Manuals S4, 1Q, and 1Y (Ref. 7, 15, 11). These require periodic inspections, ranging from management walkthroughs to detailed facility inspections, to ensure that proper condition, cleanliness, and housekeeping are maintained to support safe and reliable facility operations.

### 10.8.1 PROVISIONS FOR TESTING AND CALIBRATIONS

The surveillance, inspection, and testing activities verify that equipment needed for safe and reliable facility operation performs within required limits and that the functional tests of installed equipment and/or systems should be conducted and documented. Any abnormalities found during these surveillances should be reported immediately to management. The effectiveness of the maintenance surveillance program should be evaluated periodically by management with the results of the evaluations being used to identify any necessary program improvements.

Procedure Manual 1Q (Ref. 15) provides the requirements and responsibilities for planning, performing, and documenting surveillance tests and other types of tests. Consistent with the above-stated requirements, Manual 1Q states that the type and extent of test controls applied to systems, subsystems, components, and items are based on the functional classification assigned to it.

### 10.8.2 CONTROL AND CALIBRATION OF MEASURING AND TEST EQUIPMENT

Measuring & Test Equipment (M&TE) and Installed Process Instrumentation (IPI) are used and controlled in accordance with the requirements of Manual 1Q (Ref. 15). Section 10.9.5 discusses the control and calibration of M&TE, as well as IPI.

### 10.8.3 TRENDING OF SURVEILLANCE TEST RESULTS

Trending data is acquired as part of the maintenance surveillance program for long-term performance evaluations. Section 10.9.6 discusses trending of historical data obtained from various sources, including surveillance tests. The guidelines described in that section also apply to trending of surveillance test data for various uses in improving the maintenance program.

### 10.8.4 PROGRAMMATIC REVIEW

Inspections, audits, reviews, investigations, and self-assessments are performed per Manuals 1Y, 1Q, and 12Q (Ref. 11, 15, 48) to assure an effective maintenance program. Senior managers periodically review and assess elements of the maintenance program to assist line managers and supervisors in identifying and correcting program deficiencies. Management also conducts periodic inspections of equipment and facilities to ensure that excellent facility condition and housekeeping exist. Section 10.2 of this FSAR discusses formal self-assessment and facility programmatic review processes in more detail.

Procedure Manual 1Q (Ref. 15) provides guidance for conducting In-Service Inspections (ISIs) of specified SSCs. The Inservice Inspection (ISI) program at DWPF is called the Structural

Integrity (SI) program. The SI program provides a program for the conduct of inservice inspection of critical Structures, Systems, and Components (SSCs) and their supports. The critical SSCs covered in the SI program are identified in chapter 4.0 of the FSAR. SI is a process to determine those inspections/measurements that need to be performed on the SSCs to ensure that the SSCs will perform their intended design functions under operational and accident conditions. This program provides reasonable assurance that the evidence of structural or functional degradation during services is detected to permit corrective action before the function of the SSC is compromised. The SI program is also a predictive maintenance activity that complements the overall preventive maintenance program and defines the requirements and responsibilities for initiating, preparing, reviewing, approving, issuing, and controlling SI datasheets, as well as reporting and trending of the resultant information.

Manual 1Q provides additional details regarding performance of inspections, qualifications and authority of inspection personnel, reporting of inspection results, and final review and acceptance of independent inspection activities.

#### 10.8.5 TRAINING OF SURVEILLANCE TESTING PERSONNEL

Section 10.9.2 discusses training of maintenance personnel. The guidelines of Procedure Manual 1Y (Ref. 11) described in that section also apply to training used for in-service surveillance personnel.

## 10.9 MAINTENANCE PROGRAM

Nuclear Maintenance Management Program (NMMP) Description Document is the single site document that identifies the policies, programs, procedures, and processes that provide the requirements for planning and executing maintenance activities to ensure SSCs are maintained and operated within the approved safety basis for each division and facility (Ref. 60).

Maintenance at SRS is performed in accordance with Procedure Manual 1Y, Conduct of Maintenance (Ref. 11), which provides implementing procedures for site-wide consistency to perform cost-effective maintenance and repairs and is controlled by the NMMP. This section addresses the DWPF implementation of the requirements in Procedure Manual 1Y (Ref. 11), as described in the NMMP Description Document (Ref. 60).

### 10.9.1 MAINTENANCE ORGANIZATION AND ADMINISTRATION

Procedure Manual 1Y (Ref. 11) establishes the requirements and responsibilities for the maintenance organization and administration of the DWPF maintenance program. The DWPF maintenance department is responsible for maintenance activities at DWPF. The maintenance manager reports to the DWPF Facility Manager.

The Work Management System provides the programmatic method of work control within DWPF. Maintenance activities are requested or identified by Work Request (WR) or other appropriate approved documents. Physical work is approved, performed, and documented using a Work Request Package (WRP), which contains validated WR, applicable instructions, procedures, permits, safety requirements, quality requirements, and post maintenance testing as required.

### 10.9.2 TRAINING AND QUALIFICATION OF MAINTENANCE PERSONNEL

Maintenance management is responsible for helping to select high quality personnel for maintenance responsibilities. The management is involved in defining entry-level criteria. A maintenance training and qualification program is required by Manual 1Y (Ref. 11) to develop and maintain the knowledge and skills needed by maintenance personnel to effectively perform maintenance activities. Procedure Manual 4B (Ref. 22) provides the details of Training and Qualification program for maintenance personnel.

### 10.9.3 MAINTENANCE FACILITIES, EQUIPMENT, AND TOOLS

Adequate maintenance facilities, equipment, and tools are available to support facility maintenance and maintenance training. To determine the adequacy of maintenance facilities, equipment, and tools, periodic assessments of the maintenance facilities are performed in accordance with the requirements of Manual 1Y (Ref. 11).

### 10.9.4 POST-MAINTENANCE TESTING

Post-maintenance testing is performed to verify that components and systems are capable of performing their intended function when returned to service following maintenance and to ensure

that the original deficiency is corrected and that no others are created. A post-maintenance test is performed after corrective maintenance activities and after some preventive maintenance activities. The test performed is commensurate with the maintenance work performed and the importance of the equipment to safe and reliable operations. The post-maintenance testing is conducted in accordance with Manual 1Y (Ref. 11). At DWPF, Facility Operations is responsible for maintaining the status of incomplete post-maintenance testing and for coordinating post-maintenance testing performance. The Operations organization reviews completed post-maintenance test results and approves the work package closure to document satisfactory completion of the maintenance/modification work.

#### **10.9.5 CONTROL AND CALIBRATION OF MEASURING AND TEST EQUIPMENT**

Procedure Manual 1Q (Ref. 15) states that a program for the control and calibration of M&TE should be instituted to ensure the accurate performance of facility instrumentation and equipment for testing, calibration, and repairs. M&TE includes devices or systems used to inspect, test, calibrate, measure, or troubleshoot in order to control or acquire data for verifying the conformance of an instrument or piece of equipment to specified requirements. A similar program exists for the control and calibration of Installed Process Instrumentation (IPI).

#### **10.9.6 MAINTENANCE HISTORY AND TRENDING**

An equipment repair history and vendor information program has been established per Manual 1Y (Ref. 11) and is maintained to provide historical information for maintenance planning and to support the maintenance and performance trending analysis of facility systems and components. The equipment repair history is used to support maintenance activities, upgrade maintenance programs, optimize equipment performance, and improve equipment reliability.

## **10.10 FACILITY RECORDS**

There are two major components of records management - a document control system and a records retention system. Records are written, recorded, or photographic information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, or results. Documents include, but are not limited to, procedures, instructions, plant manuals, reports, drawings, standards, specifications, basic data, vendor supplied data, and controlled correspondence.

Approved procedures, and drawings for DWPF are controlled and readily available from document control. The Procedure Manuals 1Q (Ref. 15) and 1B (Ref. 4) provide details of identification, control, distribution, and maintenance of manuals, procedures, correspondence, and procedure changes required for the safe operation of the Defense Waste Processing Facility (DWPF). Necessary reference documents such as Site/Division Manuals/Procedures, TSRs and SARs are also available from document control and/or on the network ShRINE (Savannah River Information Network Environment). Any classified document is handled according to Department of Energy classification procedures.

Retention of records is based upon categories and retention periods established by the Sitewide Retention Schedule Matrix (RSM) (Ref. 55). The RSM ensures that DOE retention requirements are met. Maintenance of training records for employees is described in Section 10.6, and maintenance of Radiological Control information records (such as TLD records) is described in Chapter 8 of the FSAR.

## **10.11 DECOMMISSIONING**

Preliminary planning for the decommissioning of the DWPF is included in process design, facility design, and operational planning. Policy Manual, WSRC-1-01, Procedure MP 5.24, Facility Disposition (Ref. 38) establishes policy, requirements, and responsibilities for facility disposition (decommissioning). The disposition of DWPF begins when the DOE terminates facility operations and declares the facility excess (including process equipment and all associated assets) to the department's needs.

### **10.11.1 DESIGN FEATURES**

Design of the DWPF incorporated several features/criteria to enhance decommissioning. These design features/criteria are described in Section 5.1.4 of the FSAR.

### **10.11.2 CONCEPTUAL DECOMMISSIONING PLAN**

The planning and execution for the disposition of DWPF and/or associated equipment will be conducted using project management principles with a graded approach through the various life cycle phases like transition from operations, deactivation, safe storage, awaiting decommissioning, and decommissioning. The disposition process through these life cycle phases will be documented. Manuals, WSRC-1-01 (Ref. 38) and 1C, Facility Disposition Manual (Ref. 47) provide details of life cycles phases and requirements for facility disposition.

### **10.11.3 FUNDING**

The DWPF is a DOE facility. DOE retains ownership of the facility and is responsible for future decisions regarding the mode and methods of decommissioning and the funding of these activities.

## 10.12 REFERENCES

1. Facility Safety Document Manual. 11Q Manual.
2. Deleted.
3. Deleted.
4. Management Requirements and Procedures. 1B Manual.
5. Deleted.
6. Deleted.
7. LW Conduct of Organization and Administration. Manual S4.
8. Conduct of Operations. Manual 2S.
9. Deleted.
10. Deleted.
11. Conduct of Maintenance. Manual 1Y.
12. Deleted.
13. Conduct of Engineering. Manual E7.
14. Deleted.
15. Quality Assurance Manual. 1Q Manual.
16. DWPF Startup Manual. SW4-3.
17. Standards/Requirements Identification Document (S/RID). SRR-RP-2009-00558-000.
18. Deleted.
19. Deleted.
20. Deleted.
21. DWPF Startup Test Program (U). OPS-DTD-890004.
22. Training and Qualification Program Manual (U). 4B Manual.
23. Deleted.

24. DWPF Training Implementation Matrix. WSRC-IM-92-226.
25. Deleted.
26. Deleted.
27. Deleted.
28. Deleted.
29. Employee Safety Manual. 8Q Manual.
30. Deleted.
31. SRS Emergency Plan. SCD-7.
32. Deleted.
33. Deleted.
34. Deleted.
35. Deleted.
36. Deleted.
37. DWPF Waste Form Compliance Plan (WCP). WSRC-IM-91-116-0
38. Policy Manual. Management Policies. WSRC-1-01
39. Deleted.
40. Site Item Reportability and Issue Management (SIRIM). Manual 9B.
41. Deleted.
42. Deleted.
43. Safety Basis Requirements. 10 CFR Part 830, Subpart B.
44. Deleted.
45. Deleted.
46. Deleted.
47. Facility Disposition Manual. Procedure Manual 1C.

48. Assessment Manual. Procedure Manual 12Q.
49. Nuclear Safety Management. 10 CFR Part 830.
50. Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports. DOE-STD-3009-94.
51. DWPF Technical Safety Requirements (U). WSRC-TS-95-0019/S-TSR-S-00001.
52. Deleted.
53. Deleted.
54. Deleted.
55. Retention Schedule Matrix. WSRC-EM-96-00023.
56. SRS Process Hazards Management Manual. WSRC-IM-90-135.
57. HR Policies. Practices and Procedures. Manual 5B.
58. DOE Correspondence from Allison to Pedde, DB-04-011 dated 2/26/04, Proposal to Change Liquid Waste Disposition/Waste Solidification Project Operation Position from Certified to Qualified.
59. Consolidated Hazards Analysis Process (CHAP) Program & Methods Manual. SCD-11.
60. Nuclear Maintenance Management Program (NMMP) Description Document. SRNS-C-1600-2011-00001.
61. LW Procedure Systems Administrative Procedures Manual. Manual S25.
62. LW Human Resources Manual. Procedure Manual S16.
63. Deleted.