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QUALITY ASSURANCE PROGRAM DESCRIPTION - DWPF (U)

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**WESTINGHOUSE SAVANNAH RIVER COMPANY
SAVANNAH RIVER SITE**

QUALITY ASSURANCE PROGRAM DESCRIPTION - DWPF

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**WESTINGHOUSE SAVANNAH RIVER COMPANY
SAVANNAH RIVER SITE**

QUALITY ASSURANCE PROGRAM DESCRIPTION - DWPF

This document describes the Westinghouse Savannah River Company's (WSRC) Quality Assurance Program for Defense Waste Processing at the Savannah River Site (SRS). It identifies and describes the planned activities that constitute the required Quality Assurance Program. WSRC is the operating contractor for the U.S. Department of Energy (DOE) at the SRS.

The work to which the Quality Assurance Program applies includes both the qualification and production of high-level waste forms. The end result of the program is to provide confidence that these high-level waste forms may be safely and acceptably used to dispose of the radioactive waste that results from activities at SRS in support of national defense.

The overall DOE Quality Assurance Program for defense waste processing is made up of many constituent programs that are or will be implemented by the many organizations that participate in the work.

The program provides a means by which the Quality Assurance Program can be managed so that it achieves its objectives. Subsequent parts of this description will identify the program's objectives, content, and application. It will also describe how the program is structured, managed, and implemented as the Quality Assurance Program for high-level waste form qualification and high-level waste form production.

The following objectives are achieved through developing and implementing the Quality Assurance Program as follows:

- (1) Ensure that the attainment of quality (in accomplishing defense high-level waste processing objectives at the SRS) is at a level commensurate with the government's responsibility for protecting public health and safety, the environment, the public investment, and for efficiently and effectively using national resources.
- (2) Ensure that high-level waste form qualification and production activities conform to defined requirements. These activities include production processes, equipment, and services; and products that are planned, designed, procured, fabricated, installed, tested, operated, maintained, modified, or produced.

PROGRAM DESCRIPTION

The Quality Assurance Program for defense high-level waste processing applies to a broad scope of activities which WSRC performs for DOE. Subsequent parts of this section are intended to provide broad identification and understanding of the scope of these activities, and the strategy, structure, and schedule for accomplishing them.

The work associated with the qualification and production of the high-level waste form includes the following:

- Testing the waste form and the production process through simulated sludge runs to verify the basic data produced at the Savannah River Technology Center (SRTC)
- Qualifying canister acquisition
- Finalizing the processes for producing and certifying the canistered waste form product for final shipment to a Federal Repository.

The qualification work associated with final canistered high-level waste form production will be conducted in the Defense Waste Processing Facility (DWPF) of the WSRC Waste Management and Environmental Restoration Division (WM&ER).

Production of final waste form products will include processing operations (in which defense waste will be transferred from existing storage facilities, treated, separated, and processed into its final product forms) and production support activities (necessary for the certification of the final waste form products and their disposition). This work will be carried out in the DWPF and other support facilities on the SRS.

PROJECT STRATEGY

Current production plans for the DWPF include having canistered high-level waste forms ready for delivery to the repository several years before it is completed. This condition has mandated that DOE devise and execute the Waste Acceptance Process to ensure that high-level canistered waste forms produced in the DWPF will be acceptable both to the repository operator and to regulatory authorities when the repository begins accepting waste packages for long-term disposal.

PROGRAM CONTENT

This Quality Assurance Program covers all waste acceptance process activities associated with qualifying and producing high-level waste forms. It is a composite of all plans and actions to be established and implemented to ensure that quality is achieved in qualifying and producing the high-level waste form.

Subsequent parts of this Quality Assurance Program description (QAPD) are intended to identify and provide a general understanding of the quality-assuring activities that make up the Quality Assurance Program; the requirements and bases for those activities; and how

those activities are organized and applied to the high-level defense waste processing work at the SRS.

PROGRAM REQUIREMENTS

Quality Assurance Program requirements that are to be applied to high-level waste form qualification and production are contained in the following:

- DOE Order 5700.6 Quality Assurance
- DOE-OCRWM Specification RW-0214, Quality Assurance Requirements Document
- DOE Order 5000.3, Unusual Occurrence Reporting System
- Westinghouse Savannah River Company Quality Assurance Management Plan, WSRC-RP 92-225
- Savannah River Site Quality Assurance Manual, WSRC-1Q

This QAPD is used in conjunction with the WSRC Quality Assurance Plan and the WSRC Quality Assurance Manual in order to ensure that full compliance with all DOE requirements is effected.

TRANSFER OF REQUIREMENTS TO PARTICIPANTS

The Quality Assurance Program activities required of organizations in the WSRC program are specified in contracts or other direction-type documents such as program letters. These contracts include the appropriate quality requirements. Requirements may be specified directly in contract scope of work statements or in program directives; or the appropriate requirement document(s) may be referenced as applicable. Participant may already have programs in accordance with ANSI/ASME NQA-1 or other nationally-recognized codes or standards. These programs are recognized to the maximum extent possible as acceptable methods of complying with the specified requirements.

WSRC High-Level Defense Waste Processing implements the Quality Assurance Program on all activities of high-level defense waste processing in accordance with agreements between WSRC and DOE/SR. This includes the broad scope of activities to be performed to quality the glass form and the process, as well as activities to be performed in high-level waste form production.

PROGRAM RESULTS

The Quality Assurance Department of WSRC ESH&QA Division, which has overview responsibility for the SRS, establishes and implements a systematic overview of quality assurance activities performed by WSRC organizations, including those organizations participating in the high-level defense waste program. This overview includes an appropriate combination of the following:

- Reviewing and approving high-level defense waste processing program participant plans
- Performing surveillance of activities affecting quality to verify compliance with requirements
- Performing quality assurance audits to verify the adequacy and effectiveness of program management
- Overseeing programs to assess compliance with the WSRC Quality Assurance Program and DOE QARD RW-0214

These activities are planned and performed in accordance with appropriate procedures, and the results are documented and reported to appropriate WSRC management.

DOE, in executing the Owner Program, performs overview functions. The overviews are performed by DOE/Savannah River Field Office, the DOE Office of Waste Operations, and by the Office of Civilian

Radioactive Waste Management in its role as licensee of the Federal Repository. These various overviews have not detected any major problems with the documentation and implementation of this QAPD.

SUMMARY

To date the program has been effectively implemented with no major problems. The program will be qualified by DOE and implemented in support of the production activities associated with HLW vitrification.

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