



**Savannah River Site  
Citizens Advisory Board**

**Recommendation 205  
3116 Implementation – Salt Waste Processing**

**Background**

The National Defense Authorization Act for (NDAA) fiscal year 2005 was signed into law by the President on October 28, 2004. Section 3116 provides the Secretary of Energy, in consultation with the Nuclear Regulatory Commission, the authority to determine that certain waste does not require disposal in a geologic repository as high level waste. There is no definition of what “in consultation” means in the Act and the Department is currently trying to determine the roles. Section 3116 only applies to SRS and the Idaho sites. All other sites in the DOE complex and some operations at SRS does not fall under 3116 and will continue to follow DOE Order 435.1 (Ref. 1).

The Senate, at the request of Senator Lindsey Graham (R-SC), inserted Section 3116 giving the Department of Energy the authority to reclassify high-level waste in the South Carolina tanks providing an exception to the Nuclear Waste Policy Act and allowing waste to remain in the tanks encased in a cement/grout mixture. The House bill did not include similar language, favoring instead to have the National Academy of Sciences to study the issue further.

Section 3116 requires the Nuclear Regulatory Commission (NRC) to monitor the disposal actions taken by the DOE and "if the NRC considers any disposal actions by DOE to not be in compliance with the requirements set forth in this section, the NRC shall inform DOE, the covered State, and the appropriate congressional committees. Section 3116 includes language to state that the provision "does not modify the full implementation of any Federal Facility Agreement and Consent Order or other applicable consent decree" for a DOE site. Nothing in the provision "establishes any precedent or is binding on the State of Washington, the State of Oregon, or any other State not covered" by the provision. Other restrictions include not amending the definition of transuranic waste or regulations for TRU disposal so that disposal requirements at the Waste Isolation Pilot Plant are not changed, and not amending the West Valley Demonstration Act so that the tanks at West Valley remain unaffected. One other qualification, the provision's authority does not extend to plutonium shipped to SRS for disposition.

The Defense Nuclear Facilities Safety Board (DNFSB) has statutory responsibilities associated with the Department's defense site acceleration completion activities. Although this provision establishes new responsibilities for the NRC, nothing in this section is intended to alter the existing statutory authority of the DNFSB in any area. Prior to the approval of the NDAA, the DNFSB stated that “disposal of wastes as contemplated in Section 3116 can be accomplished safely and should enable efficient disposition of the radioactive waste” (Ref. 2).

The House-recommended National Academy of Sciences (NAS) study is included as Section 3146. The study requires the Secretary of Energy to enter into an agreement with the National Research Council of the NAS to "carry out a study of the plans for the Department of Energy to manage waste, from reprocessed spent nuclear fuel, which exceeds the concentration limits for Class C low-level waste... " at the three affected sites. The study is to evaluate the DOE's understanding of the "physical, chemical, and radiological characteristics of the waste" and evaluate current plans for monitoring disposal sites to verify compliance with the performance objectives.

Based on Section 3116 and as its first priority, DOE-EM is currently preparing a “Waste Determination” document for the salt waste treatment and disposition program. This document will provide DOE’s technical evaluation of a waste stream against each of the requirements of

Section 3116 and will be used to support the Secretarial approval. Concurrently, DOE-EM is working on a MOU (Memorandum of Understanding) with NRC to define and provide for their "consultation". They are also working with NRC and SCDHEC to ensure the requirements and expectations associated with implementing Section 3116 are met. The critical path is to have all elements of the modified salt processing strategy implemented in order to initiate disposal of salt waste via Low Curie Salt (LCS) process in October 2005 (Ref. 3).

#### **Comment**

The Savannah River Site (SRS) Citizens Advisory Board (CAB) is anxiously waiting to see a formal timeline from DOE-EM to accomplish Section 3116 associated activities with the salt waste treatment and disposition program and a descriptive narrative of the roles and responsibilities of all of the agencies involved in the process. Based upon a review of Section 3116, the SRS CAB has tentatively identified the following roles and responsibilities of each agency:

**DOE-HQ** – Approval authority for Section 3116 determinations

**DOE-EM** – Lead agency working with NRC and SCDHEC, Developing NRC MOU, Developing Waste Determination Document, Developing Program Execution & Review Plans

**DOE-SR** – Developing Site Integrated Project Schedule (with WSRC, DOE-EM, NRC, & SCDHEC/EPA) and Execution Plan and Implementation

**NRC** – Consultation Authority for Waste Determination and Disposal Action Monitoring

**SCDHEC** – All Associated Permit and Report Reviews and Decisions

**NAS** – Prepare Study of DOE's Plans to Manage Waste above Class C

**DNFSB** - Statutory Authority Associated with DOE's defense site acceleration completion activities

It is the CAB's understanding that all associated waste in the salt waste processing program will not exceed Class C. Therefore, a study by NAS may not be required; however, the CAB has questions regarding the role of NAS in salt waste processing program.

The following is the SRS CAB's current projection for a timeline to begin salt waste treatment and disposal by October 2005:

February 2005 – Draft Salt Waste Processing Waste Determination Document

February 2005 – Signed MOU between DOE and NRC

March 2005 – Distribute Salt Waste Processing Document for Public Review/Comment

August 2005 – Receive NRC comments on Waste Determination Document

September 2005 – DOE Revise Waste Determination Document per NRC Comments

September 2005 – SCDHEC Issues Permit Decision for Saltstone Disposal Facility

October 2005 – Signed Agreement & Permits and LCS Process Begins

This timeline is very aggressive and the SRS CAB is skeptical that it can be met. The SRS CAB would like to see DOE's backup plan and the impacts associated with a schedule slippage. The SRS CAB is also concerned that all phases of the process could be delayed or slowed down by DOE-HQ legal and other reviews delaying public review and comment. Any slow down could jeopardize the Salt Waste Processing start-up date of October 2005.

Based upon the need to expedite other elements of the salt waste processing program, the SRS CAB questions the need for the Actinide Removal Process and Modular Caustic Side Solvent Extraction treatment. Both of these processes will only operate for approximately 1 year and treat only 2 million gallons of waste, roughly 2% of the total waste volume. At a cost of \$100 million, this does not seem to

be a very good business decision. There is a large potential to save taxpayer money if this treatment can be conducted in the proposed Salt Waste Processing Facility and any tank space management improvements can be accomplished by accelerating the SWPF startup schedule. In addition, it appears that the salt waste processing program could be expedited if SCDHEC could go ahead and provide its review and decision on the Saltstone Disposal Facility instead of waiting on DOE and NRC concurrence on the waste determination document for the entire

salt waste processing program.

### **Recommendation**

The SRS CAB recommends the following:

1. DOE-SR working with SCDHEC provide a formal timeline and a fuller description of the roles and responsibilities of all of the agencies involved in the Section 3116 implementation to the SRS CAB by March 29, 2005. In addition, describe contingencies for the potential schedule slippage and the expected impacts to the salt waste processing program.
2. DOE-SR working with SCDHEC involve stakeholders in the Section 3116 implementation process as early and as often as possible for any documentation transmitted between agencies (DOE, NRC, NAS, SCDHEC, etc.) and not wait until formal public comment periods. (Moreover the SRS CAB has already requested a public forum on this topic in Recommendation 193.) Include these early briefings in the proposed formal timeline (see # 1 above).
3. DOE-HQ assure adequate funding is available, without impacting other SRS programs, to implement the Modified Salt Waste Processing Facility per the timeline above (see Recommendations #186 and #191).
4. DOE-SR accelerate the design and construction of the proposed Salt Waste Processing Facility to replace the Actinide Removal Process and Modular Caustic Side Solvent Extraction treatment processes and brief the SRS CAB by April, 2005.
5. SCDHEC conduct its review on the Saltstone Disposal Facility in parallel with DOE and NRC schedule for the concurrence of the waste determination document.
6. DOE SR provide to the SRS CAB by March 29, 2005, the anticipated scope of work for an NAS study per Section 3146 related to the salt waste processing program.

### **References**

1. National Defense Authorization Act, Section 3116 Implementation, presentation to the Waste Management Committee by Doug Hintze (DOE-SR), January 11, 2005.
2. Nuclear Safety Consequences of Section 3116 letter from John T. Conway, Chairman, DNFSB to the Honorable Spencer Abraham, Secretary of Energy, May 14, 2004.
3. Savannah River Site Salt Processing Project Status, presentation to the Waste Management Committee by Jim McCullough (DOE-SR), January 11, 2005.
4. SRS CAB Recommendations 186, 191 and 193.

### **Agency Responses**

[Department of Energy-SR](#)