

Savannah River Site

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May 24, 2000

Mr. Greg Rudy, Manager
U.S. Department of Energy
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P.O. Box A
Aiken, S.C. 29808

Savannah River Site
Citizens Advisory Board

Building 742-A
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Steve Zappe
New Mexico Environmental Dept.
Hazardous & Radiological Materials Bureau
24044A Galesteo Street
Sante Fe, New Mexico 87505

Dear Mr. Rudy:

On behalf of the SRS CAB, I am pleased to forward you the following five recommendations adopted on May 23, 2000, at our meeting held in Savannah, Ga:

- No. 112 Amended - Selection of HLW Salt Processing Alternative
- No. 122 Total Maximum Daily Load
- No. 123 Whole Effluent Toxicity Testing Impacts on SRS Wastewater Outfalls
- No. 124 DWPF Canister Storage
- No. 125 WIPP RCRA Permit Modification-Miscertification Rate

Your assistance in forwarding Recommendation 125 to the appropriate DOE personnel and the New Mexico Environmental Department would be greatly appreciated. Recommendations 122 and 123 are also being provided to Mr. John Hankinson of the Environmental Protection Agency for response.

Our next meeting is July 24-25, 2000 in Augusta, Ga. We look forward to receiving your responses prior to this meeting.

As always, your thoughtful consideration of this advice is appreciated.

Sincerely,

Karen Patterson
Chairperson

cc: Dr. Carolyn Huntoon, EM-1
Tom Heenan, DOE-SR
Fred Butterfield, EM22
Naomi Weigler, EM22
SSAB Chairs

John Hankinson, EPA Region IV
Steve Zappe, NMED
Lewis Shaw, SCDHEC



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Savanna River Site

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May 24, 2000

Mr. John H. Hankinson, Jr., Regional Administrator
U.S. Environmental Protection Agency- Region IV
61 Forsyth Street, SW
Atlanta, Ga. 30303-3415

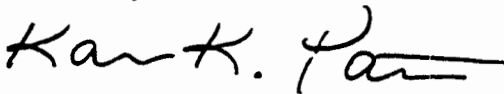
Dear Mr. Hankinson:

On behalf of the SRS CAB, I am pleased to forward you two recommendations adopted at our May 23, 2000, Board meeting held in Savannah, Ga.

Recommendation No. 122 regarding the Total Maximum Daily Load for mercury and No. 123 regarding Whole Effluent Toxicity Testing Impacts on SRS Wastewater Outfalls are enclosed for your response.

We would appreciate your written response prior to our next meeting on July 24, 2000, to be held in Augusta, Ga. We appreciate your thoughtful consideration of the enclosed advice.

Sincerely,



Karen Patterson
Chairperson

Enclosures

cc: Julie Corkran

Savannah River Site

Citizens Advisory Board

Recommendation No. 112 (Amended)

Selection of HLW Salt Processing Alternative

Background

As part of the Waste Management (WM) Committee, a public stakeholder Focus Group (FG) was formed on April 27, 1998 to evaluate the process used by DOE to select alternatives for salt waste processing and to examine in more detail the final four alternatives. A FG report was presented to the WM Committee in October 1998. Subsequently, the SRS CAB supported the process used by DOE for evaluating the alternatives (Ref. 1). The FG has been meeting monthly on the WM Committee's behalf to review technical details of the four alternatives and associated HLW Tank Space Management, understand the progress made to resolve outstanding technology issues, evaluate the management approach utilized to select a preferred alternative, and ensure an adequate budget and schedule for decisions and implementation.

On January 11, 2000, the FG briefed the WM Committee on their concerns about the risks to public safety and the environment, costs, regulatory commitments, and schedule impacts if a timely and cost effective solution is not made expeditiously. These concerns and recommendations lead to SRS CAB Recommendation #112 which addressed these issues. Since the January 11, 2000 briefing, there have been modifications to the Salt Waste Processing Program Management Concept. These modifications include more involvement from DOE-HQ in the Salt Processing Technology decision process through their involvement in the Technical Working Group and two support groups, a Tank Focus Area and a Technical Advisory Team (Ref. 2). The FG is concerned that the additional management overlay may cause unanticipated delays in the project schedule (Ref. 3). In addition, the current Salt Processing Project schedule has no contingencies for schedule slippage and is considered to be very optimistic. The FG review indicated two significant dates must be met by the salt processing to prevent significant additional risk, cost, and regulatory commitment changes.

- The first and earlier date is 2010, the date the HLW Tank Space Management Plan projects there will be insufficient space in the HLW tanks to support additional canyon or DWPF operations. This date is derived from the most recent reviews of High Level Waste Tank space management and is important because if this date is missed either new tanks will have to be built, reuse of old tanks initiated, or curtailment of SRS DWPF and material stabilization operations implemented. This assumes that the six actions identified in "High Level Waste Tank Space Management Team" Final Report (8/26/99) are all implemented. The most recent HLW System Plan Rev. 10 called "updated" discusses incorporation of these actions and states they will be included in the next revision of the System Plan. (Rev. 11 of this System Plan is currently in the final approval and should be issued soon.)
- If salt processing is not started by 2012 or the process begins by then but the salt processing rate falls below an average of 5 to 6 million gallons per year, the design rate for salt processing, HLW regulatory commitments will not be met. The closure schedule for all Type I, II and IV tanks is 2022. This commitment was made by SRS on 5/21/96 and is incorporated in the approved Federal Facilities Agreement (FFA). The present schedule (System Plan Rev 10) projects emptying and closing all Type III tanks by 2028. The System Plan shows that it requires 10 years to empty and close Type I, II, & IV tanks and requires 16 years to empty and 2 additional years to close the Type III tanks. Salt processing must be started by 2012 to meet these commitments.

In addition to the previous recommendations of SRS CAB Recommendation #112, the FG believes an amendment is needed to address this contingency issue.

Comments

The CAB continues to be concerned that slippage of this project may require construction of new HLW Tanks or delay closing existing HLW Tanks.

The SRS CAB supports the conclusion of the FG that the schedule for selecting, designing, and implementing a salt processing alternative must not impact other HLW management issues at SRS and that it is overly optimistic and will slip. The CAB considers it prudent for DOE to consider contingencies that will be required as a result of schedule delays. However, the SRS CAB believes that an exhaustive effort to develop an all-encompassing contingency plan by DOE is not required at this time to meet the objectives of the FG group. The SRS CAB feels that the main focus must be to select a Salt Processing Alternative technology as quickly as possible. However, it is imperative that at the same time, potential impacts from delays be addressed as real possibilities and contingencies identified and discussed now. Therefore, the SRS CAB proposes to modify item 3 in Recommendation #112 to include a fifth stipulation.

Recommendation

The SRS CAB recommends in the amendment below that DOE (see SRS CAB Recommendation #112):

3. Provide information to the CAB on a continuous basis on the following topics:

- e. Develop a decision tree that outlines how and when schedule slippage will be addressed. A discussion of how schedule slippage can be accommodated and when contingency initiatives need to be implemented should be presented to the Focus Group by 7/30/00. The goal would be to ensure that any schedule slippage would not affect HLW tank space needs, regulatory commitments, or other SRS activities (e.g. Materials Stabilization).

Related Recommendations

SRS CAB Recommendation 112, Selection of HLW Salt Processing Alternative, January 25, 2000

References

1. SRS CAB Recommendation 69, Selection of HLW Salt Disposition Alternatives, November 17, 1998
2. Presentation by John Reynolds of DOE-SR on High Level Waste Salt Processing Project Path Forward to WM Committee, April 25, 2000
3. Presentation by Lee Poe of Salt Processing Focus Group on Salt Processing Status and Focus Group's Conclusions and Recommendations to WM Committee, April 25, 2000

Savannah River Site

Citizens Advisory Board

Recommendation 112

Selection of HLW Salt Processing Alternative

Background

There are about 34 million gallons of highly radioactive High-Level Waste (HLW) material in tanks that hold about one million gallons each. HLW consists of separate sludge and salt materials. Most of the radionuclides are in the sludge but some, primarily Cesium-137, are in the salt. Sludge materials are currently being vitrified in the Defense Waste Processing Facility (DWPF). The salt material was planned for separation into a high-activity fraction that would be vitrified in the DWPF and a low-activity portion that would be disposed of as saltstone in the Z-Area vaults. The separation process had originally been planned to be done in existing one million gallon HLW tanks using a process called In-Tank Precipitation (ITP) where cesium was precipitated by Sodium Tetraphenylborate and separated by filtration.

The ITP commenced operation in 1995 but was shut down in 1996 because of the production of larger volumes of flammable benzene than expected. A chemistry research program was conducted to establish a comprehensive understanding of the problem. In January 1998, SRS decided that the current ITP process could not cost effectively meet both the safety and production requirements and initiated a systematic search for alternatives. Since then, DOE has identified and evaluated 140 alternatives for salt waste processing. Finally, four alternatives were selected for development and evaluation: Small Tank Tetraphenylborate Precipitation, Crystalline Silicotitanate non-elutable Ion Exchange, Caustic-Side Solvent Extraction and Direct Disposal in Grout.

At the April 27, 1998, Environmental Remediation and Waste Management (ER&WM) Subcommittee meeting of the SRS Citizen Advisory Board (CAB), a public stakeholder Focus Group was formed to evaluate the process used by DOE to select alternatives for salt waste processing and to examine in more detail the final four alternatives. A final report was presented to the Subcommittee in October 1998. Subsequently, the Board supported the process used by DOE (Recommendation #69; November 17, 1998).

In June 1999, the National Research Council of the National Academy of Science (NAS) was asked by DOE to review the alternative options for salt processing being pursued to replace ITP. Since then, NAS has held two public meetings and has published an interim report. In October 1999, responding to emerging issues regarding the process to select alternatives as well as consideration about the contractor who would develop, implement, and operate the new process; the ER&WM subcommittee requested that the Focus Group continue to follow the replacement technologies for salt waste processing and the Supplemental EIS being developed.

Comments

Determining a timely and cost effective solution to disposal of cesium-bearing salt solutions is of critical importance to DOE, the CAB, and the communities surrounding the Savannah River Site because:

1. HLW salt solutions have a large potential for contaminating the off-site environment and affecting public safety.
2. Developing and implementing an effective alternative may divert over \$1 billion from DOE activities, causing a significant impact on other SRS operations.
3. Delay in identifying and implementing the replacement technology may cause the following.
 - radioactive salt wastes to remain in forty plus-year old underground waste tanks

- another \$500 million to be spent on interim HLW management
- the continued use of waste tanks that do not meet secondary containment FFA requirements and are scheduled to be emptied; thus jeopardizing regulatory commitments to the EPA and SCDHEC.
- require construction of new waste tanks

4. There is no certainty that SCDHEC will permit the construction of new HLW tanks at SRS. Additionally, the SRS CAB may not support construction of new HLW tanks.

Recommendation

The SRS CAB recommends that DOE:

1. Commit to a salt waste processing alternative technology selection schedule which assures that regulatory commitments to EPA and SCDHEC (Federal Facilities Agreement and Federal Facilities Compliance Agreement/Site Treatment Plan) and National Environmental Policy Act (NEPA) are met.

2. Select a preferred salt waste processing technology at the earliest possible date, but no later than September 2001 (this may entail that DOE establish a technology management process that includes and balances at a minimum the incremental cost of delay, incremental risk to public safety resulting from delay, technical uncertainty and achievement of regulatory commitments).

3. Provide information to the CAB on a continuous basis on the following topics:

a. An overall schedule for implementing the salt processing alternative technology to include the schedule in item 1; for item 2, highlight the scheduled technology selection date, the implementing facility operational date, the date for removing HL liquid waste from all old tanks, and the date for removing HL liquid waste from all tanks with the first update by 3/15/00.

b. A schedule for preparation of the Supplemental EIS with the first update by 3/15/00..

c. An assessment of the incremental risks and benefits associated with an early technology decision based on one acceptable technology versus a late technology decision potentially based on multiple acceptable technologies that cause significant delays in the removal of the HL waste from the underground tanks at SRS with the first update by 3/15/00.

d. An Interim HLW management activity plan, including the need to build new HLW tanks or reuse old tanks. If additional tanks are required, discuss the rationale for new versus reuse of old tanks and the likelihood of receiving regulatory approval to build new HLW tanks.

Savannah River Site
Citizens Advisory Board

Recommendation No. 122

Total Maximum Daily Loads (TMDLs)

Background

Under Section 303(d) of the Clean Water Act, States are required to identify water bodies for which water quality standards are not being met and establish priorities for action among the listed water bodies. In addition, the States must establish the total maximum daily loads (TMDLs) for pollutants that exceed the water quality standard that a listed water body can receive and determine needed restrictions in pollutant loads from point and nonpoint sources to achieve the TMDL. Therefore, the TMDL program is actually a two phased process – identification of polluted waters and restoration of the health of these waters.

A TMDL is in effect a “pollution budget” for an impaired waterbody. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meets water quality standards. It is the total allowable load for a single pollutant from all contributing point and nonpoint sources, and includes a margin of safety and consideration of seasonal variations.

Dissatisfied with the way that the States and EPA were implementing the 303(d)/TMDL program; environmental groups (i.e. Sierra Club) instituted legal action in 34 states, including Georgia. EPA is now under a consent decree per the Sierra Club’s lawsuit to establish TMDLs for each of Georgia’s watershed basins. On February 8, 2000, EPA issued the TMDL development document for mercury in the middle/lower Savannah River basin. This section of the river includes the Savannah River Site (SRS). The public comment period for this document closed on April 10, 2000 and the proposed TMDL will become effective on June 7, 2000 unless EPA can obtain an extension through the court system.

EPA used the State of Georgia’s fish advisory for mercury to identify the seven segments of the middle/lower Savannah River basin as being impaired. EPA based the mercury TMDL for point sources on whether permit limits for mercury were set to adequately protect water quality criteria protective of fish consumption. Due to the complexity of nonpoint sources of mercury, inadequate data and difficulty in quantifying nonpoint source loads, nonpoint sources were not considered. One such nonpoint source not evaluated at this time, which provides a major source of mercury entering the Savannah River, was atmospheric deposition (dry and wet).

The target concentration of mercury for point sources is 1 part per trillion (ppt). EPA using data on bioaccumulation rates from EPA’s Mercury Report to Congress, two fish consumption rates, and a conservative methylation translator calculated this target concentration for mercury. The current SRS permit limit for mercury is based upon the water quality standard of 12 ppt. This standard is based upon EPA’s aquatic life freshwater final residue value for methylmercury presented in the 1984 Ambient Water Quality Criteria for mercury document and also in the December 1992 National Toxics Rule (NTR). Because some data from both Georgia and South Carolina indicate some fish samples with tissue values exceeding the U.S. Food and Drug Administration (FDA) action level of 1 mg/kg, EPA determined that the 12 ppt permit water quality standard was not protective for fish consumption. Therefore the 1 ppt TMDL was proposed.

Comment

The SRS CAB is highly concerned that excessive taxpayer money will be spent to meet the new proposed TMDL with little or no improvement in the overall quality of the water in the middle/lower Savannah River basin. This statement is based upon the fact that even EPA believes that air deposition is a major source of mercury in the Savannah River but has decided to ignore this complex issue when establishing point source permit limits.

Furthermore, the use of the fish advisory to formulate the basis of the TMDL seems to be flawed. Just because some of the fish tissue data exceed the FDA action level does not mean that the existing mercury limit for permitted sources (NPDES) is not protective of human health, since other outside sources of mercury were not considered (i.e., air deposition and other non-point sources). No qualitative or specific analytical data has been presented as a reason to lower the existing permit limit.

The SRS CAB also has doubts that the proposed limits can be achieved by today's treatment technology. The SRS CAB can not justify transferring funds from projects and missions, currently, which are actually being protective of human health, safety, and the environment to a project (i.e., WET), which is being imposed, based upon a hasty response to a court ordered consent decree

Recommendation

The SRS CAB recommends the following actions by the two agencies (EPA and DOE) be undertaken:

1. EPA in coordination with the State of Georgia use more river specific data, not the FDA's fish advisory data to evaluate whether the middle/lower Savannah River Basin needs to be placed on the impaired waters body list. EPA should take at least six to twelve months to collect new analytical data from the Savannah River to decide whether a TMDL is appropriate for the Savannah River and DOE provide any technical support as required.
2. By July 25, 2000, DOE identify and provide a briefing to the CAB on: (a) which SRS outfalls can currently meet the proposed TMDL limit with out further treatment and which ones will require further treatment and/or upgrades; (b) potential treatment technologies currently available that might be used to meet the proposed TMDL; and (c) the anticipated budget required to comply with the proposed TMDL including analytical, installation, and operating costs.
3. DOE track the progress of the EPA pilot project to determine background mercury levels derived from airborne deposition and when complete, present the findings of the report and its applicability to mercury levels in the Savannah River Basin to the SRS CAB.
4. EPA formally request an extension of no less than six to twelve months to the court imposed effective TMDL date of June 7, 2000, and if appropriate, after new data have been analyzed, reissue a new Savannah River Basin TMDL development document based upon a more practical TMDL, and issue new phased implementation dates.

References

1. Total Maximum Daily Load (TMDL) Development Document, EPA, February 8, 2000.
2. Testimony of Carol Browner Administrator US Environmental Protection Agency before the Committee on Agriculture, Nutrition, and Forestry United States Senate. February 23, 2000 and May 6, 2000.
3. Public Comment Period Letter from Jim Mackey to Ms. Yvonne Martin, EPA Region 4, Water Management Division, April 10, 2000,
4. Total Maximum Daily Load (TMDL) for Mercury in the Savannah River Basin, presentation to the CAB ER Committee Bill Payne, April 25, 2000.
5. Draft EPA Mercury Action Plan, November 16, 1998.

Savannah River Site
Citizens Advisory Board

Recommendation No. 123

Whole Effluent Toxicity (WET) Testing Impacts on SRS Wastewater Outfalls

Background

The federal Clean Water Act (CWA) sets up the basic requirements for regulating toxic substances discharged to waters of the United States. The CWA states that the discharge of such substances in toxic amounts is prohibited. To protect water quality, EPA recommends an integrated approach for controlling toxic pollutants that uses whole effluent toxicity (WET) testing to complement chemical-specific analyses as a means to protect both aquatic life and human health. The South Carolina Department of Health and Environmental Control (SCDHEC) has incorporated this approach in its administration of the wastewater permitting process called the National Pollutant Discharge Elimination System (NPDES).

As part of the NPDES program, wastewater dischargers, like SRS, are required to perform WET tests. In WET tests, aquatic organisms are exposed to various dilutions of effluent for a specific time period, in order to predict at what levels the effluent may cause harm to the organisms. The organisms used in the SRS WET test is commonly referred to as a "water flea". Its scientific name is *Ceriodaphnia dubia*, which belongs to a group of freshwater invertebrates that are a major component of freshwater zooplankton. A test pass or fail depends on the comparison (e.g., at what level death, reproductive impairment, or growth inhibition occurs) between field samples and a control sample.

For several years, the WET test has come under scrutiny because of its variability. The textile industry has found that hardness, salinity, alkalinity, and specific causes of alkalinity can influence the survival and reproduction of the *Ceriodaphnia dubia*. Other studies have found that the test can generate up to 40% false positives on clean water samples. In 1999, seven of the ten NPDES exceedances at SRS were toxicity testing failures. Because of these failures, SRS is required to conduct a Toxicity Identification Evaluation (TIE) to determine the specific agent(s) causing the toxicity. TIEs are complicated and expensive and often do not provide a definitive answer to the toxicity source.

SRS has concerns with the WET test method since some scientific evidence indicates that the test may be unreliable and inaccurate. Furthermore, they have experienced that the test organism has a difficult time surviving and reproducing in the "soft waters" at SRS. They would prefer to use a test organism that is native to the local environment. Presently, SRS is in the process of developing an Alternate Species Investigation Plan and is proposing to use the organism *Daphnia ambigua*. Both EPA and SCDHEC are aware of this alternative species investigation.

Comment

The SRS CAB is very interested in the outcome of this alternative species investigation and the Toxicity Identification Evaluation (TIE) project. The CAB's concerns cover both the technical aspects and the cost of each initiative.

Recommendation

To address these concerns, the SRS CAB recommends the following:

1. By July 25, 2000, DOE provide to the SRS CAB a cost estimate for conducting the Alternate Species Investigation Plan and the Toxicity Identification Evaluations. If the Alternate Species Investigation Plan is successful, the SRS CAB assumes that the Toxicity Identification Evaluations will not be required to comply with the WET testing. The SRS CAB would like to evaluate the cost between these two efforts.
2. By September 26, 2000, EPA is requested to provide the SRS CAB with an update of the referenced technical information regarding the validity of the WET test for variations in wastewater pH, TDS (total dissolved solids or salts), and other variables that could affect the test outcome. The SRS CAB would like to evaluate the overall usefulness of the WET test if false positives are a chronic problem.
3. By November 14, 2000 or sooner if additional information becomes available, DOE provide an update to the SRS CAB on the status of the Alternate Species Investigation Plan and the Toxicity Identification Evaluation project. Included in the Alternate Species Investigation Plan update, should be a discussion on: (a) how successful the new organism is in predicting whole effluent toxicity (WET) testing that is protective of both aquatic life and human health; (b) the commercial availability of the new organism; (c) the cost provided in recommendation number one above and (d) the regulatory standardization (EPA approval) of the new organism.

References

1. Society of Environmental Toxicology and Chemistry (SETAC) Webpage, www.setac.org.
2. EPA Office of Wastewater Management Whole Effluent Toxicity (WET) Program Webpage, www.epa.gov/owm/wetest.htm.
3. Consortium on Competitiveness for the Apparel, Carpet, and Textile Industries (CRACTI) Baseline Toxicity Studies on Textile Effluent 1997 project report, www.fcs.uga.edu/tmi/news/ccacti/projects.html.
4. Toxicity Testing Challenges at SRS Wastewater Outfalls, presentation to the CAB ER Committee by Don Gordon, April 25, 2000.

Savannah River Site
Citizens Advisory Board

Recommendation No. 124

DWPF Canister Storage

Background

Currently, canisters of vitrified High Level Waste (HLW) produced by the Defense Waste Processing Facility (DWPF) are stored on-site in a dedicated interim storage building called Glass Waste Storage Building #1 (GWSB#1). This building is a below-grade seismically qualified concrete vault that contains support frames for vertical storage of 2,286 canisters. The storage vault is equipped with forced ventilation cooling to remove radioactive decay heat from the canisters. An industrial steel frame building encloses the operating area directly above the storage vault. A 5-foot thick concrete floor separates the storage vaults from the operating area.

A device, called the Shielded Canister Transporter (SCT), moves one canister at a time from the DWPF vitrification process area to the GWSB#1. This device transports the canisters into the operating area. It also removes the shielding plug from the pre-selected storage location, lowers the canister into the storage vault, and replaces the shielding plug. Due to a problem with the shielding plug being out of round with the floor liner, 572 canister storage positions are currently unusable. In addition five canisters are occupied by test canisters and can not be used. SRS estimates that the plugs in 450 of the canister storage locations can be repaired economically. The 122 others will be abandoned in place (Ref 1). This leaves the current working capacity of 2,159 usable storage locations in GWSB#1. As of March 10, 2000, 804 of the storage locations have been filled, which leaves 1,355 empty storage spaces (Ref 2).

If DWPF production proceeds at the current rate of 250 canisters per year, GWSB#1 will reach capacity in FY05. Therefore, conceptual design preparations are under way for a GWSB#2. The GWSB#2 design will be similar to GWSB#1 with a total estimated cost between 75 -100 million dollars. A parallel path is also being pursued to study an alternative above ground dry storage unit (Ref 3). This planned storage unit would include a concrete or gravel storage pad, a cask interface facility, the storage casks, and a cask transport vehicle. It is also planned to utilize depleted uranium oxide (DUO) in the construction of the storage casks. This could reduce the required concrete wall thickness due to the shielding properties of the depleted uranium oxide.

It is proposed that an offsite commercial vendor would design and fabricate both the dry storage casks and the transport vehicle. SRS would lease the storage casks and transport vehicle for the life of the project, projected to be 20-30 years. SRS would design and build the interface facility and the storage pad. The vendor would take title to the DUO and be responsible for removal of the DUO from SRS to the vendor's cask manufacturing facility. The vendor would also be responsible for the removal and disposition of the casks after the HLW canisters are removed and shipped to a final repository. In addition, the vendor must establish an escrow account to ensure funding for final disposal of the casks. A vendor Notice of Intent (NOI) was issued in July 1999 and a Request for Proposals (RFP) was available on March 2, 2000. Originally, response to the RFP was due back by May 1, 2000 but an extension has been approved until August 1, 2000 (Ref 4).

SRS believes the above ground storage units allows them to distribute the cost over a longer period of time compared to the significant up front capital required for the construction of the GWSB#2. Other advantages include the use of a waste product (the depleted uranium oxide) in the construction, greater flexibility to meet changes in DWPF production rates should they increase (i.e., lease more or less storage casks), and provides an economical short term storage need if Yucca Mountain meets a FY10 shipping date. The Environmental Assessment (EA) for the above ground storage units was made available for public comment on March 28, 2000. In order to receive comments from the SRS Citizens Advisory Board (CAB) and concerned stakeholders, a formal request was made to extend the EA comment period until after May 23, 2000.

The SRS CAB can understand the benefits of using temporary storage casks, which are portable and flexible, to meet increase DWPF production rates. The use of DUO in the construction of the storage casks may help solve some of SRS's disposal issues related to this source material.

However, the SRS CAB and the public have both specific comments on the EA and general comments about the alternative above ground dry storage concept. Many of the general comments focus on the escrow account and the ability of the vendor to revert disposal responsibility back to DOE. These general comments form the basis of the Board's recommendation and the specific EA comments are addressed below.

Comments

1. The EA should include the estimate of the environmental impacts associated with the construction of the storage casks by the vendor.
2. The EA should include the environmental impacts of disposal of the storage casks and restoration of the lands on which they were stored by the vendor.
3. The EA should discuss the environmental impacts the surface loading from the storage pad has on the groundwater under the proposed facility. Will the loading cause a perched water table in the vicinity of the storage pad? If so, what impacts will it have on the monitoring or remediation of groundwater adjacent to the storage facility?
4. The EA should include an analysis of the chemical toxicity of the DUO used in making the casks and in the cask failure scenario.
5. The EA should summarize the environmental impacts from the supplemental EIS for the second GWSB (the No Action Alternative), so the public and decision-makers can evaluate and compare the environmental impacts from this alternative.
6. The EA should address the alternative of DOE owning the casks and being responsible for their final disposition.

Recommendations

Before deciding which approach (GWSB #2 or dry above ground storage), DOE states in the EA that it would compare cost, schedule, and technical considerations along with environmental impacts in making their decision. The SRS CAB and the public want to be fully informed about these comparisons and involved in the decision process. Therefore, the SRS CAB recommends the following:

1. Reevaluate the scope of the EA as a result of these comments and report DOE's conclusions and intentions for the changes to the EA in a briefing to the WM Committee by September 26, 2000.
2. By September 26, 2000, DOE provide the most current information on the cost, schedule, and technical comparisons between the GWSB #2 and the above ground dry storage alternative.
3. Involve the SRS CAB and the public in the decision making process to chose the preferred alternative for interim storage of vitrified HLW.

References

1. Savannah River Site High Level Waste System Plan, Westinghouse Savannah River Company, Report HLW-99-008, Revision 10, June 1999 with October 1999 Update.
2. Draft Environmental Assessment to Evaluate an Alternative Approach for the Defense Waste Processing Facility Glass Waste Storage Facility at the Savannah River Site (Rev.1). March 28, 2000.
3. Defense Waste Processing Facility Canister Storage, presentation to WM Committee by Sonitza Blanco, March 9, 2000.
4. Defense Waste Processing Facility Canister Storage EA Update, presentation to WM Committee by Howard Gnann, May 9, 2000.
5. Citizens Advisory Board Recommendation No. 13 (adopted November 26, 1995), "High Level Waste Storage Building".
6. Citizens Advisory Board Recommendation No. 109 (adopted January 25, 2000), "DOE and South Carolina Agreement on Removal of High Level Vitrified Waste from SRS".

Savannah River Site
Citizens Advisory Board



Recommendation No. 125

**WIPP RCRA Permit Modification
(Miscertification Rate on a Waste Stream Basis)**

Background

In April of this year, DOE requested that New Mexico Environmental Department (NMED) revise its Waste Isolation Pilot Plant (WIPP) RCRA Part B Permit in two separate modification requests. Of particular interest to the SRS Citizens Advisory Board (CAB), is the second modification request submitted on April 20, 2000. This request petitioned NMED to modify specific permit provisions that guide waste characterization and certification (Ref. 1 and Ref. 2).

The SRS CAB is interested in this modification because it directly relates to the Board's attempt to modify the WIPP RCRA Part B Permit via two separate recommendations. These recommendations requested a more realistic approach to Transuranic (TRU) waste drum visual examination requirements and the miscertification rate (Ref. 3 and Ref. 4). The number of drums that must undergo visual examination is statistically based on a miscertification rate. This miscertification rate is based on the number of miscertified drums. In the last recommendation (Ref. 4), the SRS CAB requested that NMED:

"Modify the RCRA Part B permit's TRU waste visual examination requirement from an assumed miscertification rate of 11 percent to the DOE's requested one percent. The current requirement will force DOE to open and visually examine an excessive number of TRU waste drums with no significant increase in waste characterization accuracy, but with a significant, and unnecessary increase in risk to the worker's health and safety."

The current WIPP Part B Permit states in Section B-1b that: "Once a waste stream has been delineated, generator/storage sites will assign a Waste Matrix Code to the waste stream based upon the physical form of the waste. Waste streams are then assigned to one of three broad Summary Category Groups: S3000 - Homogeneous Solids, S4000-Soils/Gravel, and S5000-Debris Wastes. These Summary Category Groups are used to determine further characterization requirements". DOE contends that the Permit intends for the Summary Category Groups to take precedence over specific waste stream definition. Furthermore, in DOE's petition to modify the Permit, DOE believes that using miscertification rates based on the Summary Category Group designation provides assurances that waste forms that are likely to be miscertified will be subject to more visual examination than those that are less likely to be miscertified.

Therefore, DOE is requesting that sites may establish a site-specific miscertification rate by characterizing a lot of no less than fifty containers in a single Summary Category Group at the initial 11% miscertification rate in stead of "a waste stream or waste stream lot". DOE has not requested a change in the initial assumed 11% miscertification rate. It is believed that TRU wastes at SRS would be classified in the S5000-Debris Wastes Summary Category Group. This requested modification would provide some relief to the number of drums requiring visual examination after the initial inspections. Visual examinations will still have to be performed on all drums in the initial shipments to WIPP.

Comments

The Board is pleased to see that DOE has requested this modification and has incorporated some of its previous concerns. However, the SRS CAB does not believe that the current DOE permit modification request goes far enough in its attempt to rectify the miscertification and visual examination issue. The SRS CAB would still like to see DOE request a change in the initial assumed miscertification rate of 11 percent to DOE's originally requested 1 percent. The CAB remains concerned that the RCRA Permit requires too much visual, and intrusive examinations to assay the container contents. These assays are unnecessary and pose a danger to SRS workers.

Recommendation

Therefore, the SRS CAB recommends the following:

1. The SRS CAB supports the requested modifications to the miscertification rate on a waste stream basis.
2. DOE request an additional WIPP Part B Permit modification to change the initial assumed miscertification rate of 11 percent to DOE's 1 percent as soon as possible.

References

1. WIPP RCRA Documents - Class 2 Mods for Comment, May 1, 2000, WIPP Homepage: www.wipp.carlsbad.nm.us
2. Transuranic Waste Update: Waste Isolation Pilot Plant (WIPP) Resource Conservation & Recovery Act (RCRA) Permit, presentation to the CAB WM Committee by Sonny Goldston, May 9, 2000
3. SRS CAB Recommendation No. 77, (adopted January 26, 1999), "WIPP RCRA Part B Permit"
4. SRS CAB Recommendation No. 111, (adopted January 25, 2000), "WIPP RCRA Part B Permit/Transuranic (TRU) Waste"