SRS Citizen's Advisory Board

SRS Citizens Advisory Board

Waste Management Committee

Meeting Summary

March 9, 2000
Aiken Federal Building
Aiken, SC

CAB Members	Stakeholders	DOE/Contractors
Wade Waters*	Rick McLeod	Virgil Sauls, DOE
Georgia Leverett*	Pat Hudson	George Mishra, DOE
Rebecca Gaston-Witter*	Caren Daugherty	Dale Ormond, DOE
Bill Lawless	Russ Messick	Howard Gnann, DOE
	Todd Crawford	Sonitza Blanco, DOE
	Perry Holcomb	Dawn Gillis, DOE
	Jennifer Daugherty	Elmer Wilhite, SRTC
Lola Richardson**		Jim Cook, SRTC
Karen Patterson**		Brent Daugherty, BSRI
		Peter Hudson, BNFL
		Greg Peterson, WSRC
Regulators		Sonny Goldston, WSRC
None, SCDHEC		Jack Mayer, WSRC
None, EPA		Kelly Way, WSRC
		Helen Villasor, WSRC

*Denotes Committee Member
* *Denotes Absent Committee Member

Wade Waters opened the meeting by asking for introductions.

Schedule Review: Helen Villasor provided a brief overview of upcoming scheduled agenda items; but indicated that the dates of the meetings are tentative and will be rescheduled according to the new system of bi-monthly committee meetings established by the CAB's administrator.

Low Level Waste (LLW) Disposal 1999 Review of Actual Disposal versus Performance Assessment (PA) Waste Acceptance Criteria (Implementation of CAB Recommendation 94, Item #1: Sonny Goldston addressed the participants in response to CAB Recommendation 94, where "The SRS CAB concurs with the System Plan recommendation to use the trenches for disposal of LLW meeting the trench Waste Acceptance criteria (WAC)" and present to the CAB the performance of the E-Area LLW disposal facility from available data as it compares to assumptions and results of the PA. In summarizing the Solid Waste Division response to Recommendation 94, Mr. Goldston noted that the LLW Disposal Operations were well within the WAC, the WAC limits are derived from the Performance Assessment results, and the Low Activity Waste (LAW) Vault continues to be filled with much lower levels

of radionuclides (curies) than allowed by the PA. Therefore, volume reduction through compaction and moving very low curie content waste to the trenches continues to be protective of the environment and cost effective. After 5 years of operation, 82 percent of the available physical volume of the LAW Vault has been filled with waste that contains 56 percent of the allowable radionuclide inventory. Because of volume reduction (compaction) and CAB endorsement to move waste that meets trench WAC from vault to trench disposal, the LAW Vault will not be filled for 15-20 years. Accordingly, all wastes projected for disposal in the LAW Vault can be disposed within PA limits. After five years of operation, 55 percent of the available volume of the Intermediate Level Vault (ILV) (remote handled) has been filled with waste that contains 51 percent of the allowable radionuclide (curie) inventory. As the ILV is filled with waste, the available curie inventory is being filled at the same rate. The actual plus projected curies to be disposed are less than the PA limits except for I-129 forecasted waste streams. The I-129 waste streams have been discussed as "orphan wastes" in past briefings to the CAB as wastes SRS may dispose offsite. As for trench performance, after five years of operation for one set of five trenches, 60 percent of the available volume has been filled with waste that contains 44 percent of the available radionuclide (curie) inventory. Additional volume and curie space is available for waste that meets the trench WAC. The actual disposal curies are less than the PA inventory limits. Mr. Goldston concluded by noting that CAB Recommendation 94 was extremely valuable to SRS since confirms that using scientific/technical criteria and system engineering approaches will extend the life expectancy of the existing vaults approximately an additional 15 years and at a significant cost savings.

Issues: None.

Actions: None.

Low Level Waste (LLW) Disposal Cost Savings Expected, Trench versus Vault Disposal Within Performance Assessment Limits (Implementation of CAB Recommendation 94, item #2): In its concurrence with the System Plan, CAB Recommendation 94, Item 2, requested a response from the Solid Waste Division on the operations cost and time savings expected from using trenches for disposal of LLW meeting the trench waste acceptance criteria (WAC). Mr. Sonny Goldston noted that a waste forecast through Fiscal Year 2020 had been developed that included three major waste types which were assessed against the trench waste acceptance criteria for trench versus vault disposal: non-incinerable/non-compactable, compacted, currently stored in vault. A question was raised if this included CERCLA-generated waste and Mr. Goldston said CERCLA-generated waste could come to the trench facility if it met the WAC. Mr. Goldston concluded by explaining the significant life cycle cost savings of more than $63 million and that with the implementation of CAB Recommendation 94, the vault life will be extended greater than ten years.

Issues: Reevaluate the necessity to sort and compact certain waste types prior to trench disposal since the cost to sort and compact waste costs ~$4000 per cubic meter. Determine the impact if waste does not have to be compacted; include subsidence and long-term stability in evaluation.

Actions: Using the System Plan, develop a systematic technical assessment and report back to the Waste Management Committee (CAB) in July on evaluations. Develop a draft motion on compacted versus non-compacted waste disposal in the E-Area trenches. Develop a commendation to present to the full Board in March on the significant life-cycle savings of $~63 million. Sonny Goldston was invited to provide this same presentation to the full Board at its May 28 meeting.

Comparison of SRS Performance Assessment and Composite Analysis Methodology with Other Programs in the Scientific Community: In response to CAB Recommendation 94, Item 3, Jim Cook presented a comparison of PA and CA results from the scientific community. Citing that the CAB encouraged SRS to perform additional Independent Scientific Peer Reviews (ISPRs) of the PA and the CA on a regular basis to continue assuring the public and the scientific community of the robustness of these models, Mr. Cook discussed other processes, including the Nuclear Regulatory Commission (NRC) 10 CFR Part 61 Process and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). In simpler terms, Mr. Cook mentioned that CERCLA looks at what already exists while

DOE and the NRC run a model before putting curies in the ground. In addition, CERCLA does not have periodic reviews. Mr. Cook said that in general, the DOE system (PAs and CAs) has more data and resources and tends to use 2- and 3-dimensional models for groundwater analysis. This system allows for more accuracy since it more accurately represents the facility and the setting. EPA regulated facilities tend to use simpler 1-dimensional models for their smaller, less well characterized sites. Mr. Cook concluded his presentation by noting that the goals and overall methodology in both the DOE PA process and the EPA CERCLA process are very similar. However, the DOE system tends to use more complex computer models than is typically found in the CERCLA process. This is a function of the resources and data available. Methods and models used in the PA/CA process at SRS are of equal or greater robustness than those used in the scientific community involved with predicting long-term waste disposal facility performance.

Issues: None.

Actions: None.

Expediting TRUPACT II Safety Analysis Reports (SARs): Mr. Brent Daugherty provided a briefing on the status of the TRUPACT II SAR revision submittals to the Nuclear Regulatory Commission (NRC) as requested by the CAB in Recommendation 97, Item 1. Mr. Daugherty first discussed some of SRS's shipping constraints. Two of these restrictions include four levels of containment, and the maximum target of 80 grams of transuranic waste per each loaded TRUPACT II container. Mr. Daugherty informed the attendees that the original SAR is at Revision 18, with Revision 19 expected to be submitted on March 31, 2000. SAR Revision 20 is projected to be ready for submittal by September 30, 2000 and will include performance requirements for getters (materials that have an affinity for hydrogen), a technology proven to be effective in reducing hydrogen buildup in transuranic drums. Mr. Daugherty also discussed the TRUPACT fleet status that currently has 15 units. Twelve additional units are on order and delivery begins mid-summer, Fiscal Year 2000. The expected total fleet, which is owned by Carlsbad, will be comprised of 60-70 units. New activities under evaluation include re-engineering the Waste Isolation Pilot Plant (WIPP) Pipe Line, evaluating rail shipments of the TRUPACT II, assessing the feasibility of a TRUPACT III. SRS is on track to begin shipping to WIPP in September 2000, with four shipments in 2001 and 12 shipments per year thereafter.

Issues: Current litigation with New Mexico Environmental Department could affect shipment dates.

Actions: A recommendation could be made to change laws to begin rail car shipments earlier.

Defense Waste Processing Facility Canister Storage: Soni Blanco outlined the current plan for Defense Waste Processing Facility (DWPF) Canister Storage, which is to build a second Glass Waste Storage Building (GWSB #2) that would be almost identical to the present GWSB. On a parallel path, DOE is looking at and developing an Environmental Assessment (EA) for an alternative to canister storage that could benefit more than one program. An aboveground dry storage unit using depleted uranium oxide (DUO) currently stored at the SRS is also being studied. Several benefits of this alternative are as follows:

- DUO acts as an excellent shielding agent
- The alternative would be a useful purpose for the DUO
- The storage units would be smaller
- The vendor would be responsible for building and removing the units

A Notice of Intent (NOI) was issued in July 1999 and a Request for Proposals (RFP) went out March 2, 2000. The RFP contains two firm requirements; the vendor must develop a disposal plan and must maintain an escrow account with money available to dispose of anything they create. Several vendors have expressed an interest in the project. The vendor would have the lead on the design, i.e., the storage unit size and the number of canisters the unit would hold.

Ms. Blanco explained that this storage would be temporary until a Federal Repository is opened. The costs have not been determined yet. The benefits arise from the $70 – $90 million savings resulting from not having to dispose of the depleted uranium. The proposals are due back May 1, 2000, and a comparison can then be made of this storage and the GWSB #2. The EA will go out to the state at the end of March. Bill Lawless expressed concern over how fast this study and the EA seems to be proceeding. Dawn Gillas (DOE) pointed out that since depleted uranium is new to the vendors, they must have time to develop a prototype by June 2002; therefore, they have only two years for development. Howard Gnann assured the group that the RFP would be readily available to the CAB and the public. Beckie Witter asked that the public be involved in any decisions to be made.

Issues: None.

Actions: The draft motion developed on this issue is to be tabled until a later date. Soni Blanco was invited to provide the Committee with an update in June. Jack Mayer is to provide the Committee with copies of the EA. Howard Gnann to provide copies of the RFP at the March CAB meeting.

Public Comment: Beckie Witter expressed her sincere appreciation to Mr. Goldston for presenting technical information in a format that was easily understood by members of the public.

Wade Waters adjourned the meeting at 9:00 p.m.

Meeting handouts may be obtained by calling 1-800-249-8155.