SRS Citizen's Advisory Board

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Waste Management Committee

Community Center, North Augusta SC
April 27, 2004

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on April 27, 2004, 5:00, at the Federal Building, Aiken, SC. The purposes of the meeting were to discuss Tank Farm Safety Basis, Salt waste disposition, the WIPP Permit Modification, and to receive public comment.

Attendance was as follows:

CAB Members	**Stakeholders**	**DOE/Contractors**
- Jerry Devitt	Bill McDonell	
- Perry Holcomb	Mike French	Joe Carter, WSRC
-Bill Lawless	Lee Poe	Bill Clark, DOE
-	Russ Messick	Neil Davis, WSRC
-	Martin McCrum	Ginger Dickert, WSRC
		Sonny Goldston, WSRC
Bob Meisenheimer		Teresa Haas, WSRC
-Darryl Nettles		Robert Hinds
-Karen Patterson	Rick McLeod *	Greg Johnson, DOE
-Harold Rahn		Virginia Kay, DOE
-Murray Riley		David Little, WSRC
		Michael Mikilanis
Jean Sulc		Bill Spader, DOE
Regulators		Tom Temple, DOE
		Tom Treger, DOE
		Kelly Way, WSRC
*CAB Technical Advisor		Elmer Wilhite, WSRC
-WM committee members		
+Facilitator		
^Press		

Harold Rahn called the meeting to order at 5:00. Bill Lawless welcomed those in attendance and asked for introductions. He noted a change in the agenda and introduced the first speaker.

Salt Waste Disposition-Bill Clark
Mr. Clark outlined for the committee the points he would cover in this presentation. He explained the waste disposition end states based on the Environmental Management (EM) Performance Management Plan (PMP). He told the group that the end states are straightforward, and SRS is on schedule with vitrification. Mr. Clark added that the site has closed two tanks, but

because of the waste incidental to reprocessing (WIR) lawsuit uncertainties, the next two high level waste (HLW) tanks scheduled for closure are not going to be closed on time. The critical path is salt waste treatment and disposal.

Mr. Clark showed the committee a timeline of SRS's previous EM PMP strategy of HLW vitrification, HLW tank Closure, and Salt waste treatment. According to the chart, the site was to treat and dispose of 84M gallons of salt by 2019. Mr. Clark explained that the original salt processing strategy was to process a third of the total salt waste as low curie salt directly through Saltstone, a third was to go through actinide removal in Buildings 512-S, and 241-96H before going to Saltstone; and the last third was to go through the Salt Waste Processing Facility (SWPF) for actinide/strontium and cesium removal. This strategy met the PMP goal of waste removal from the tank farms by 2019. This strategy could have resulted in 20 million curies of radioactivity disposed of in the Saltstone vaults as a low activity waste. Stakeholders and regulators voiced their concern that this was too much material left in the state of SC without adequate justification and demonstrated benefit via accelerated risk reduction.

Because of the WIR lawsuit, technical difficulties, and stakeholder comment, SRS developed a modified strategy. This new and better strategy maximizes the amount of radioactivity prepared for disposal in a deep geological repository and lessens the amount of curies of radioactivity disposed of in the Saltstone vaults as a low activity waste.

Mr. Clark told the group that the site had met with the Governor's Nuclear Advisory Council to explain this strategy in November and February. The modified strategy entails a large capacity SWPF that can process greater than 5 million gallons a year. The site will continue to pursue the use of 512-S, 241-96H, and a modular Caustic Side Solvent Extraction (CSSX) unit for limited processing prior to the startup of SWPF. The modified strategy will result in fewer than 5 million curies of radioactivity disposed of in the Saltstone vaults as a low activity waste on a similar schedule and for similar life cycle cost as the original strategy.

One idea that is not presently being pursued is the use of low activity waste melters to replace Saltstone and stabilize decontaminated salt waste into a different waste form for final disposal. If the site did pursue this idea, it would have to go through the NEPA reviews.

Mr. Clark mentioned that SRS has the opportunity to meet the 2019 end state goals if implementation starts soon and if the WIR legal issues are satisfactorily resolved. Also, the FY 2005 budget that has been held back would have to be recovered. Mr. Lawless asked about resolution of the WIR legal issues. Mr. Clark stated that DOE is pursuing appeal through the court system. The Natural Resources Defense Council (NRDC) has filed their response to DOE's appeal, and DOE will file their response shortly. Another avenue at HQ is some type of legislative change that would clarify the Department's authority. Those discussions are at the Deputy Secretary level. No one has a knowledge of when a resolution may be reached, but for planning purposes, SR assumes that salt disposal can begin in October 2005.

Mr. Poe asked if the 5 million curies in Saltstone was the legal issue. Mr. Clark responded that the WIR lawsuit challenges the Department's authority to dispose of waste from the high level

waste system as something other than high level waste, for example low level waste or transuranic waste.

Ms. Dickert stated that if the site were to process everything into glass, it would make between 110 and 186 thousand canisters at a cost of $50 billion through the year 2300. This estimate doesn't include the cost of removing the high level waste tanks. Mr. Poe asked that this information be made clear to the public, so that the public could better understand and work with/for the site.

Mr. Clark added that theoretically, the legislation could make the lawsuit moot. Mr. Poe stated that, at this point, the site is at a standstill, unless the tanks were exhumed. Mr. Clark added that the cost, worker radiation exposure, and the extent of work for that alternative is unknown.

Mr. Clark explained the modified PMP strategy. With certain assumptions, such as resolution of the WIR legal issues by 1/1/05 and restoration of the SRS FY05 budget, the site can still finish in 2019 with the same life cycle costs. He explained the design, construction, and start-up of the actinide removal process (241-96H & 512-S), the modular CSSX unit, low curie salt processing, SWPF, and the Saltstone facility and vault modifications for 0.5 ci/gal.

Next, he outlined the risks that the strategy faces. He talked about the decreasing Type III tank working space. He mentioned that in order for processing salt through SWPF to "hit the ground running" in 2009, some salt waste must be processed to make tanks available. Also, this window of opportunity closes after 10/05. If this happens, the 2019 HLW cleanup mission will not be met.

Mr. Clark explained that 512-S is the former late wash that has been modified to remove the actinides from salt waste. 241-96-H is the old filter stripper building. Two large feed tanks will be installed to feed to 512-S which will allow processing of 3-4 gallons of waste per minute.

Mr. Willoughby understands that money slated for SRS had been transferred to the Hanford program. He questioned Hanford's receiving the support that SRS wasn't. Mr. Clark stated that if the WIR were resolved, then that money would be requested and returned to the 2005 budget. He added that Hanford's process is similar to SRS's SWPF, and that the Department had decided not to impact their progress in the long term. The department hasn't decided to proceed with the design of SWPF at this point.

Ms. Sulc told the group that this issue was raised by several sites at the last Site Specific Advisory Board (SSAB) chairs' meeting. At this SSAB meeting, Jessie Roberson went on record to say that the department was working on alternatives to designate the $188M for other activities. She has requested all of the sites to look at alternatives to spend this money, as long as it's not WIR related.

Mr. Clark added that anything that results in SRS's disposing of salt waste is affected by the WIR lawsuit. Ms. Dickert stated that the construction of the processing facilities is not directly limited by the WIR. SRS could construct new buildings and modify existing facilities without impacting the WIR lawsuit. Mr. Carter added that the site is designing waste removal and

transfer equipment and proceeding with other plans. Mr. McLeod asked how the site could move forward if funds are tied to the $188M that is being withheld. Mr. Carter clarified that the $188 million affects the FY 05 budget.

Mr. Poe asked about critical decision (CD) 1 in regards to the SWPF. Mr. Clark explained that the department is considering the implications of the lawsuit. It may not make good business sense to proceed with the design and construction of a $400 million facility, when disposal of the product hasn't been resolved. Mr. Carter added that timing comes into play here as well. The other projects that the site is working on are ongoing.

Mr. Clark continued his presentation by explaining the compliant Tank Inventory. The site has produced more salt cake and the unconcentrated supernate has been reduced. The site strives to maintain available working space in the tanks, at least until the SWPF comes on line.

Mr. Clark detailed how the site manages tank farm space. He explained how because of the influents versus the effluents, there will be insufficient space to continue sludge feed preparation for DWPF by about 2008. It is an ongoing process to try to save space when and where possible. The tank farms must always protect 1.3M of emergency tank space.

Mr. Clark continued by discussing the 2005 budget uncertainties. He explained the $188.6M dollars that are included in the President's budget as a "HLW Proposal". This funding is tied to resolution of the lawsuit. $84M of this money would be used for SWPF, and the remaining money would be used for other SRS salt program activities. If this funding is not restored in FY2005, a re-evaluation of the entire salt program will be necessary.

When asked about progress, the site representatives had several responses. Theoretically, the site could assume that this money is going to be restored and more forward; however, if the site reaches certain points and their assumptions aren't met, where would they go from there? Would they scrap the work completed thus far and start over? The money spent would have been wasted. What is a workable strategy? The site has to have an idea of what it is and is not allowed to do. Mr. Clark added that there are options that haven't been fully explored. The department's decision is that the WIR lawsuit has impacted the site's ability to proceed.

Mr. Poe stated the stakeholders need to bring political influence to whoever is holding this up at headquarters. The forum has to be a strong cry by the affected people to bring these points to HQ attention. Mr. Holcomb added his discomfort with the WIR lawsuit. He added that the federal judges in the 9th circuit are highly liberal. He offered a hope that DOE-HQ is approaching this appeal from both a legalistic point of view and a scientific point of view.

Mr. Poe continued. He purposed evaluating the consequences of the strategies.

He would like to invite DOE HQ, specifically Jesse Roberson, to Aiken to express stakeholder concern and anger over the fact that nothing is happening and waste removal/disposal is at a standstill. He proposed involving the regulators, as well.

Tank Farm Safety Basis -Tom Temple, DOE-SR
Mr. Temple explained the reason the WM Committee had asked him to speak on this topic. In the Tank Farm Documented Safety Analysis (DSA), there were two assumptions in which the Committee was interested. They were as follows: 1.) It was assumed that the top 40 inches of slurried sludge would not retain hydrogen (H2) bubbles, and 2.) The fraction of hydrogen that is generated from radiolysis and is trapped in the sludge was a constant value of 50% (i.e., ½ is retained and ½ is released into the vapor space of the tank). SRS found new information that questioned the adequacy of these assumptions.

To explain the purpose of these two assumptions, Mr. Temple first provided background information regarding the generation of hydrogen and the fate of this hydrogen. This background discussion recognized that liquid radioactive waste generates H2 primarily from radiolysis of water. This generated H2 could be retained as dissolved H2, could be retained as trapped bubbles within the sludge or saltcake, or could be freely released into the tank vapor space. Mr. Temple explained that as the waste temperature increased, the H2 solubility decreased and dissolved H2 is released into the vapor space. The hydrogen that is trapped within the sludge or saltcake can be released due to several mechanisms such as agitation of the sludge or dissolving the saltcake. If the waste reaches its gas retention saturation point, free release of H2 into the vapor space occurs. A loss of ventilation for an extended time and/or a release of too much trapped H2, could lead to the tank vapor space reaching the lower flammability limit (LFL).

Based on data obtained during additional slurry pump runs since the Tank Farm DSA was implemented in April 2003, it was discovered that the top 40 inches of slurried sludge retains some H2. Also, the fraction of retained H2 is not a constant, but varies with sludge height. Based on these conclusions, SRS declared a Potential Inadequacy in the Safety Analysis (PISA), and subsequently declared an Unreviewed Safety Question (USQ). SRS then promptly implemented compensatory measures.

Based on the data from the additional pump runs and discussions with Hanford Tank Farm personnel, SRS prohibited the use of the assumption that no H2 could exist in the top 40 inches of slurried sludge. SRS also prohibited transfers which could cause sludge heights greater that 90 inches. This second compensatory measure was modified to allow sludge greater that 90 inches, but if done, the Tank Farm must assume a H2 retention value at 100%.

The Defense Nuclear Facilities Safety Board (DNFSB) site representative summarized these WSRC findings in the Board's weekly report. In their research, SRS found that out of all 49 tanks, only six were potentially affected. The analyses and controls for five of these tanks were found fully adequate. One tank (Tank 11 in H-Area) had not initiated slurry pump operation, so the analyses for this tank were revised consistent with the PISA compensatory measures prior to initiating slurry pump operation.

Mr. Temple answered various questions to the WM Committee's satisfaction, and provided the group with the status of this issue. A technical report has been issued establishing a revised technical baseline, and the Tank Farm DSA has been formally revised and approved by DOE to incorporate this new baseline. This new baseline removes the 40 inch exclusion assumption and

replace the 50% retention rate assumption with the assumption that the retention rate is 50% for sludge heights up to 90 inches, and 100% for sludge heights greater than 90 inches.

Wipp Permit Mod-Sonny Goldston
Mr. Goldston explained that the state of Mexico has responded that they have authority over the hazardous portion of waste. They have responded that they can limit the amount of waste coming to Waste Isolation Pilot Plant (WIPP) based on the 1995 Baseline Inventory Report (BIR).

In Mr. Goldston's opinion, the legal arguments that have been submitted thus far don't appear to be technical in nature. He told that group that DOE's argument is that the inventory can not be limited as long as it meets the WIPP Waste Acceptance Criteria (WAC). Mexico responded that they could and are limiting the chemicals being sent. Mr. Goldston stated that it appears as if Hanford is going to withdraw their request to have WIPP accept their waste. It was this request that started the permit modification process.

Mr. Goldston told the group that obviously the comments the WM Committee have made and contine to make are making a difference. The group discussed the WIPP Permit modification public hearing process. They agreed to send Rick McLeod by Tuesday, May 4, any additions to the letter that Jean Sulc plans to send on behalf of the SRS CAB.

Recommendations-Rick McLeod
Mr. McLeod outlined the three motions he plans to write- Salt Waste, Risk Based End State (RBWS) and PMP. Harold Rahn would be the motion manager for Salt Waste, Darryl Nettles for the PMP, and Bill Voegle for the RBES. Mr. McLeod asked that the committee reads the documents and sends any comments to him.

Mr. Willoughby asked that the group read his CIF Focus Group final report and send comments to Mr. McLeod.

Mr. Lawless then asked for public comment. Mr. Poe responded. He would like to see an informal meeting in which stakeholders who have read DOE documents, such as the PMP or the RBES, can sit and discuss these documents in an unstructured environment.

Receiving no further comment, Mr. Lawless adjourned the meeting at 7:20