SRS Citizen's Advisory Board

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Waste Management Committee

North Augusta Community Center
North Augusta, SC

March 04, 2003

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, March 4, 2003, at the Community Center in North Augusta, SC. The purposes of the meeting were to hear the successful Am/Cm Transfer, a Solid Waste update, and a salt processing update.

Attendance was as follows:

CAB Members	**Stakeholders**	**DOE/Contractors**
-Bill Willoughby	Lee Poe	Bill Brasel, DOE-SR
Jerry Devitt	Bill McDonell	Troy Donahue, WSRC
Perry Holcomb	Sam Booher	Sonny Goldston, BNFL-SW
-Murray Riley		Michael Chandler, WSRC
-Bill Lawless		Teresa Haas, WSRC
William Lawrence	Rick McLeod*	Kelly Way, WSRC
		Mike Johnson, WSRC
Regulators		Tom Tregar, DOE
		Joe Carter. WSRC
		Gerri Flemming, DOE
*CAB Technical Advisor		Elmer Wilhite, BNFL-SW
-WM committee members		Russell Muschick, BNFL-SW

Bill Willoughby welcomed those in attendance and asked for introductions.

Joe Carter, Regulatory Interface, Closure Business Unit
Salt Processing Update
Mr. Carter outlined his two meeting objectives; to highlight the Accelerated Clean up Plan and to explain the specifics of the Saltstone (SS) performance objectives and permits. He emphasized the high priority on emptying old style, high-risk tanks, removing and stabilizing waste from the tanks sooner, and getting waste in cans and shipping them sooner.

Mr. Carter showed a series of graphs illustrating the improvement from the baseline to the accelerated clean up case for removing waste from non-compliant tanks sooner and the Curie content in High-Level Waste (HLW) cans. He showed how the small increase due to Low Curie

Salt (LCS) processing is offset by the cancellation of the melt and dilute project. He emphasized that there is no shortcutting regulations or environmental concerns. From a site perspective, the accelerated cleanup plan saves time and money.

Mr. Carter outlined the tailored approach to salt processing as a method to get out of the tanks sooner. The current plan is to segregate the salt into three different streams. These are low curie salt treatment, actinide removal treatment, and Salt Waste Processing Facility (SWPF) actinide and cesium removal treatment.

In the first treatment, interstitial cesium is drained from the low curie salt and sent back to the tank farms. The salt is sent to SS for treatment then to the vaults. The Actinide Removal treatment is a two step process. The interstitial cesium is removed and sent back to the tank farm. The treated decontaminated salt solution is treated at SS and sent to the vaults. Another stream is sent to DWPF, put into cans, and (eventually) sent to the repository.

The high curie/high actinide salt is sent to the SWPF for actinide and cesium removal. The cesium and sludge go to Defense Waste Processing Facility (DWPF), and the decontaminated salt solution goes to SS.

Mr. Carter moved on to the SS production and disposal facility. He explained how the waste received from Tank 50 is mixed with flyash, slag and cement and poured in concrete vaults to solidify. He explained the engineered disposal facility and pointed out that the ground water is protected to the drinking water standards. Performance Assessments (PA) and future monitoring ensure that the drinking water has been protected and intruders on site are protected.

When asked about the concrete walls on the SS vaults, Mr. Wilhite answered that the walls have glass furnace slag to provide a chemical reduction of chrome 6. With slag, Savannah River (SR) is assured chemicals are not hazardous and technetium won't leach out. These vaults are not impermeable to moisture. SR understands the permeability, but the walls are not built to be impermeable.

A PA was issued in 1993 for current waste composition and was updated in 2002. The performance objectives evaluated in the PA and Special Analysis represent a conservative approach to analyzing and managing risk as compared to commercial nuclear standards. Mr. Carter compared the Nuclear Regulatory Commission (NRC) standards versus DOE order 435.1 and pointed out the more stringent 435.1 requirements.

Mr. Carter showed a groundwater summary and pointed out that groundwater is the most important objective/standard. The sum of the fractions for each pathway must not exceed 100%. SS performance objectives are at 82% of the maximum allowable.

Mr. Carter reiterated that all accelerated clean up plan disposal actions meet current environmental standard policies and regulations. Several South Carolina Department of Health and Environmental Control (SCDHEC) permits are required. SS is classified as a Class III because the nitrate in the leach test was greater than 30 times the drinking water standard. Wastewater landfill permits for LCS radionuclide increases were submitted to SCDHEC March

25, 2002. SCDHEC has indicated that the Waste Incidental to Reprocessing (WIR) lawsuit must be resolved before a permit can be issued. A wastewater permit for Tank 50 solids slurried in Tank 23 waste is required to allow the use of Tank 50 for LCS Program. DOE-SR concurrence is required to use Tank 23.

When asked if the WIR lawsuit holds up the low curie process, Mr. Carter answered that potentially it does. The lawsuit is scheduled to be heard in April. If there were no issues, it is reasonable that SR can remain on schedule. This WIR is different from the tank closure WIR. These are the two major WIRs.

The lawsuit challenges DOE's authority to declare HLW as "waste that is incidental to reprocessing." DHEC may not issue a permit until the lawsuit is resolved. The lawsuit does not challenge any specific disposal action but rather challenges the WIR process.

The time line is mid July 2003; SR will be impacted in the mid August time frame. Beyond that, SR is in suspension mode. This will eventually impact the closure of the next two tanks. When Mr. Booher asked about the lines that carried the waste, Mr. Carter told him that the lines would be cleaned, flushed, cut, and capped.

A WasteWater permit modification may be required to allow the disposal of Tank 50 solids. WSRC expected solids in the waste stream, but not the accumulation of solids in Tank 50. The plan is to slurry them and move material to salt stone. The solids have to be removed before low curie salt can be put in the tank. The material in Tank 23 (mostly Receiving Basin for Off Site Fuels (RBOF) water and DWPF recycle) is being considered, which requires the waste to be low-level waste. Both the department and DHEC will have to concur with that position. Mr. Carter told the group that this was the first time people realized how much solid had accumulated and pointed out that SR took the problem seriously enough to get slurry pumps installed in two months.

Mr. Lawless questioned the problems caused by the aqueous purex. Mr. Carter answered that the purex complicates the situation because there is a flammability problem. The addition of the aqueous doesn't look promising.

Mr. McCleod questioned the Waste Acceptance Criteria (WAC) and the site's progress. Mr. Carter responded that the WAC requires revision because S RS is changing the baseline. SR takes the most restrictive condition, introduces "As Low As Reasonably Achievable" (ALARA) concerns, safety basis and other concerns, and includes all of this in the WAC. The loading of cesium is low because of this shielding restraint. Since the WAC is an internal document, it is easier than a permit to change. The WAC can be changed as long as the most restrictive portion is retained.

The permits today are the very low radioactivity levels. The State is concerned with the chemical content. This is a source-based permit, and they have control over the source. The permitted waste comes from In tank precipitation (ITP) and effluent treatment facility (ETF).

Mr. Poe pointed out the significant risks associated with the WIR and the lawsuit. He pointed out that actions would be halted in HLW and SS as early as July. He believes that the CAB ought to take a position. He would hate to see all work in HLW processing deferred to a later date. He suggested having a presentation from someone to explain the lawsuit and the risk to SRS.

Mr. Willoughby made two observations. First the CAB could recommend that DOE get these problems answered quickly so that work could proceed or secondly, the CAB could recommend that SR proceed with work up to a point that it would not interfere with the lawsuit.

Mr. Lawless added that there is great merit in the site doing what it can to continue work without interfering with the lawsuit, such as continuing to remove waste from the tanks and clean them, without grouting and closing them. He added that the NRDC appears to want to keep lawsuit open. He continued by agreeing with Mr. Poe on the need for a recommendation to push ahead with cesium 137 to SS.

Troy Donahue, Project Manager PE&C Division
Americium/Curium Disposition
Mr. Donahue briefed the committee on the successful transfer of the AmCm material, as requested by the WM committee. The program goals were to safely reduce the risk, to immobilize the AmCm material in the Defense Waste Processing Facility (DWPF) and to safely transfer the material from F-Canyon to tank 51H for early immobilization.

The program had to make sure the transfer wasn't interrupted so that all AmCm material would be transferred to Tank 51H as planned. Mr. Donahue stated that the following observations had been made: the Readiness Assessment (RA) set the standard for future evolutions, the coordination and communication during transfer was outstanding, there was much attention to detail, and there was an extremely high level of desire to be successful.

Mr. Donahue outlined the Initial transfer results, problems encountered, trouble shooting employed and the repairs that were done. Finally, for the final transfer results. The water flow was started on the tank at 10:39AM on Tuesday, January 28. The AmCm material was introduced to waste header #3 at 12: 15 PM and the 41-gallon flow rate achieved was exactly as expected. By Wednesday, the 29th, the transfer of the AmCm material was completed, and the canyon vessels were flushed by 5:39AM. The HLW flushing was completed by 6:09AM, there were no interruptions, and the transfer was deemed a success. The transfer procedure was terminated at 10:14 PM.

Mr. Donahue outlined all of the risk mitigators that were used to ensure accomplishment of an uninterrupted transfer. He continued by illustrating the long-term benefits of the program. The risk mitigators that were adopted and installed will continue to be used. Some of these include transfer flexibility due to the jumpers installed in F- Diversion Box 3, the heaters in the valve boxes and the high point, the raincovers on the diversion boxes, the leak check procedures, and the spectrum analyzers for F and H tank farms. The transfer removed the largest remaining obstacle to the F-Canyon Closure plan.

Welford "Sonny" Goldston, Solid Waste Division
Solid Waste Update

Paper pellets
Mr. Goldston introduced an alternative fuel program or "paper pellets" to the group. This project replaces a significant amount of coal (about 30%) with a renewable fuel made from waste paper products that were previously disposed of at great expense. He stated that savings of $250,000 a year would be recognized.

Mr. Goldston stated that tests have not yet been run to confirm with DHEC that Solid Waste (SW) can burn the pellets. The site hopes that the tests will be run in next 60 days (around March 19). The minor boiler problems have been corrected. Savannah River anticipates that DHEC will grant permission to burn the pellets. Mr. Goldston stated that DHEC required SR to remove the plastics and now the waste stream consists of only paper products.

When asked about the variation in color, Mr. Goldston responded that the paper originates from different sources. One is an unbleached natural product from Kimberly Clark and the other is bleached/colored paper. The colored paper won't cause a problem because the colored inks no longer have metals in them.

The committee and Mr. McLeod questioned the status of a Paper Pellet recommendation that had been written in the past. Ms. Way noted this and responded that she would check on this issue. The committee discussed the feasibility of writing another recommendation on Paper Pellets, if the original recommendation had been tabled.

Transuranic (TRU) waste definition
Mr. Goldston stated that SRS is shipping TRU waste to the Waste Isolation Pilot Plant (WIPP). He said that the National Academy of Sciences (NAS) is looking into difficulties with these shipments. Mr. Goldston described various activities required to ready a shipment. First, the site would have to develop "Acceptable Knowledge" data packages for every waste stream. Next, the SW project group would have to do a headspace gas analysis, x-ray interrogation and a non-destructive assay. If a "prohibitive item" were found, it would have to be removed. SR does not have the facilities to do this at a fast rate or for certain types of material. Upon opening the drums, SR has discovered that the x-rays interrogation has correctly shown exactly what was in a drum. The process requires that several drums are opened and the waste removed to verify the x-ray interrogation. The x-ray interrogation has been correct in every case.

He stated that in order to accelerate the TRU program, the site has to ship in something other than 55-gallon drums. Just today (March 4), Mr. Goldston watched employees load in 10 drum over packs.

The status of the shipments to date is as follows: 74 cumulative to 2-24-03; 51 this year. The goal for FY03 is 144. Mr. Goldston anticipates the actual as being 150.

Mr. Goldston pointed out the role that the CAB played in accelerating the shipments. He stated that because the site was able to bring in the Mound waste and mobile vendors, twice as much

TRU was shipped. The site has accelerated from 12 shipments a year to 12 a month, and is trying to accelerate from 2034 to 2014. This is all legacy TRU waste that is in storage. It is low and high activity. SR has not shipped any high activity waste yet. At this point, SR has shipped more waste to WIPP than we expected to ship until 2006. It's a tremendous accomplishment. It takes 2 ½ months to get this into the process and get it shipped.

Mr. Goldston outlined some of the challenges. One ..large containers can't be shipped in TRU Pact II. Another is the "prohibitive item" restriction. The national group of CAB's is working to remove these capricious restrictions. For example, SR just undertook the first removal of prohibitive items. It took four people four hours to remove an aerosol can. Mr. Goldston hopes that this obstacle can be overcome with changing the standards. The permit from New Mexico will have to be revised.

Mr. Poe pointed out that 40% of drums that have been inspected prior to shipment have been put aside because of prohibitive items. He asked if this were consistent with the site's accelerated rate. In addition, he questioned SW predicting an accelerated forecast that couldn't be met.

Mr. Goldston stated that when he explained the Low Activity (Pu-239) TRU Accelerated program that Mr. Poe's questions would be answered. He stated that SR couldn't continue to use the existing visual exam facility to sort and segregate because the rates of segregation are too low. He showed a picture of the Los Alamos National Lab (LANL) glovebox that will increase the rates. The glovebox will replace HandSS 55, which would not work for SR because it was too complex and did not meet the SRS schedule. Mr. Goldston showed pictures and diagrams of the LANL glovebox described the process to the committee.

Mr. Devitt told the group that WIPP ships it back to the generator if there is something there they can't handle. When Mr. McLeod questioned the tabling of the HandSS 55 project, Mr. Goldston responded that it was not available to SR when it was needed.

Mr. Goldston continued. The WIPP Permit is a New Mexico (state) permit. In order to change the permit, the state would have to go through a series of public meetings and a public comment period. He added that the prohibitive item might be a Department of Transportation (DOT) requirement instead of DOE requirement. Mr. Holcomb commented that changing the WIPP Waste Acceptance Criteria (WAC) might be more complicated than previously believed.

Mr. Goldston continued. The site has 108 large boxes. Inside of these boxes are plywood boxes and some remote manipulator sleeves. SW does not want to open these boxes, remove the items, and repack them in another shipping container. These bulk containers can't be shipped in a TRUPACT II. There is currently under development a "TRUPACT III" that would enable SR to ship these big boxes. If SR can get relief on opening these boxes to verify the x-ray, then SR can put these big boxes in a TRUPACT III and ship them. The licensing is currently being prepared.

Concurrently there is a high activity TRU Pu-238 challenge. SR needs an "ArrowPak" shipping container for high activity drums to mitigate the hydrogen concerns.

Mr. Goldston continued with an update of the CAB recommendation #155 "TRU Waste Shipment Acceleration". The recommendation stated that DOE/WSRC would report to the SRS CAB on the possibility and expected ramification of raising the TRU waste threshold level. Also, SR would report on available disposal paths for this newly defined waste streams and any potential disposal paths for current TRU Waste besides WIPP that are environmentally acceptable with no increase in risks to SRS workers or the public.

This recommendation was discussed at the January workshop at WIPP, and it will be presented to the full board for endorsement in March. In addition, recommendation #155 is covered under the national motions.

Mr. Goldston explained the Carlsbad workshop and the recommendation issues to the group. He stated that several issues from the SRS CAB recommendation #155 got included in the recommendations that came out of the Carlsbad workshop. We all anticipate that the Carlsbad recommendations will be approved by all the Site Specific Advisory Boards. Also, these particular issues are coming from SR and a joint workshop of all of the CAB's, so our chances of getting something done will be greater.

When asked about the LANL gloveboxes, Mr. Goldston responded that LANL is building these for all the sites instead of each site reinventing the wheel. Mr. Poe asked for copies of the technical report from the workshop.

Mr. Goldston concluded his presentation, and Mr. Willoughby took the floor. He informed the group that all requirements of Recommendation #146 had been met and, he asked permission to close the recommendation. Mr. Lawless stated that this recommendation could be closed, but not the aqueous and organic Purex Solvent Recommendation.

Sam Booher asked to make a public comment. He discussed the proposal letter he had received to change the bylaws concerning CAB applicants. The letter recommended changing the number of applicants required to fill a position from three to "two or more" because the CAB isn't getting very many applicants for each vacant position. Mr. Booher suggested to the CAB not to change the by-laws, but instead deal with the reason behind the low applicant number.

Mr. Devitt asked if he could address Mr. Booher's comment, since he was the one who proposed the change to the by-laws. He added that when the by-laws required at least three people to apply, the CAB "kills two people trying to get one elected." He asked, "Why run three people for one office? That means two lose. That is the logic behind the recommendations. There must be three candidates for every office. Only requiring two increases the availability of candidates by 33%." Mr. Booher asked that his comment be noted.

Mr. Willoughby took the floor to discuss the cause and remedy of long running meetings. He believes that the reason for long meetings would have to do with the number of questions that come up in the meeting. Mr. McDonell reminded the group that it is the committee's job is to involve stakeholders and to afford them the opportunity to speak on site issues. Much discussion followed and several members made suggestions.

These are as follows:

- Schedule longer meetings
- Have fewer agenda items
- Have more frequent meetings with fewer presentations at each one.
- Cut off the questioning.
- Hold meetings as needed…we don't want to harm the input from our public.
- We have talented people from the public. I don't want to lose these discussions.
- I'm content with number of topics.
- I like to say what I have to say and listen to everyone else. I don't see a need for changes.
- I don't see a problem with three-hour meetings.
- Comments of committee are meant to be helpful to the speaker. I wonder if I am helping the speaker at all.
- The speakers are used to contending with the audience and we are used to contending with the speakers.
- This is a serious problem. We are going to be much more limited. The Chair has to be selective in what is on the agenda.
- Interrupting speakers is not way to do it. Dialog is the essence of these committees.
- Consider longer meetings and more frequent meetings.

Mr. Willoughby thanked everyone and adjourned the meeting at 8:30