



SRS Citizens Advisory Board

Waste Management Committee

Meeting Summary

September 10, 2002
North Augusta Community Center
North Augusta, SC

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, September 10, 2002 at the North Augusta Community Center in North Augusta, SC. The purpose of the meeting was to hear presentations on Compacted Versus NonCompacted Waste/Soft-Sided Bags; Transuranic Waste Update; High Level Waste Update; discuss a recommendation review; and hear public comment. Attendance was as follows:

CAB Members

Bill Willoughby
Gerald Devitt
Perry Holcomb
Murray Riley
William Lawrence

Judy Barnett

Meryl Alalof
Wade Waters

Stakeholders

Lee Poe
Bill McDonell
Mike French
Karen Patterson
Richard Herold
Rick McLeod, CAB Tech.
Advisor

Regulators

None

DOE/Contractors

Gerri Flemming, DOE-SR
Virgil Sauls, DOE-SR
Howard Pope, DOE-SR
Bill Spader, DOE-SR
Virginia Kay, DOE-SR

Colin Austin, BSRC

Peter Hudson, BSRC
Elmer Wilhite, SRTC
Mark Phifer, SRTC
Teresa Haas, WSRC
Kelly Way, WSRC
Sonny Goldston, WSRC
Mike Johnson, WSRC
Mike Chandler, WSRC
Helen Villasor, WSRC

Bill Willoughby welcomed those in attendance, asked for introductions, and then requested public comments. Hearing no public comments, Mr. Willoughby introduced Sonny Goldston.

Compacted Versus Non Compacted Waste

Sonny Goldston opened his presentation by showing pictures of the E-Area vaults and Engineered Trench No. 1, facilities where low-level waste (LLW) is disposed. Noting that LLW has been supercompacted since June 1991, Mr. Goldston said that much of SRS's LLW is disposed in B-25 steel boxes and then placed in the vaults or trenches. Mr. Goldston said that the supercompactor was obtained from the West Valley facility at no cost by capital asset. Mr. Goldston then showed a series of photos that depicted supercompactor operations and the resulting supercompacted drum, commonly known as a puck.

Mr. Goldston emphasized the importance of CAB Recommendations 119 and 143 and how they led to providing support to a study that was conducted to determine the need to compact waste planned for trench disposal of LLW and if alternatives to B-25 LLW disposal containers might be a more cost effective option. Noting that the CAB had been briefed several times during the study, Mr. Goldston said he was here today to provide the WMC with the following conclusions of the study:

- Cost for post closure subsidence repair dominates total cost and represents the greatest opportunity for optimization and long-term savings
- The use of B-25 boxes results in large inherent subsidence potential that cannot be totally eliminated
 - By changing to a container with less structural integrity should help (CAB Recommendation 143)
 - Or waiting until boxes have degraded before performing dynamic compaction
- Should reduce subsidence potential and long-term repair costs

Referring to a graph depicting the cost comparison of two best cases from the study, Mr. Goldston said that while long-term costs for continuation of compaction versus direct disposal are about equal, there would be a short-term cost savings by eliminating compaction now for trench wastes. Therefore, Mr. Goldston said a decision was made to discontinue compaction of wastes destined for trench disposal; however, compaction of legacy wastes destined for vault disposal would continue by campaign.

Next, Mr. Goldston discussed the use of soft-sided bags (SSBs) that was a part of the study. An evaluation was conducted to investigate replacing B-25 boxes as LLW disposal containers with the soft-sided bags that would have a lower cost than the boxes as well as less inherent subsidence than the B-25 boxes. Mr. Goldston said that Phase 1 of the two-phased evaluation concluded that SSBs containing low-density waste are self compacting, resulting in less subsidence potential than stacked B-25 boxes; however, in Phase 2 of the study, operational issues such as a fire hazard potential and worker contamination control potential were identified. Mr. Goldston noted that the CAB had been briefed on Phase 1, but not on Phase 2.

Addressing the fire hazards, Mr. Goldston said that there would not be a fire hazard if the SSBs were loaded and shipped inside B-25 boxes. The SSBs represent increased available combustible load in the disposal trenches. However, the risk acceptable from a fire hazards perspective is due largely to the very low radionuclide content and distance of the trenches from buildings and the site boundary. The study concluded that there are no fire hazard issues. In terms of worker contamination control, the bags tested were single-layer, water resistant, woven polypropylene with ultra-violet protective coating; not waterproof; could experience liquid exchange during rain; air exchange occurrence between the bag and the atmosphere (movement of bags); and would require personnel protective equipment, air monitoring, and designation as a radiation control area.

Mr. Goldston stated that while the tested prototype bag was not acceptable because of worker contamination control concerns, a bag with a liner may (or may not) resolve these concerns, but added that they would be far more expensive than the tested bag. With this conclusion in mind, Mr. Goldston said that the program has been discontinued at this time. However, Mr. Goldston added that a more global evaluation of possible alternatives to managing inherent subsidence versus lifecycle cost including closure will be planned in the future, but at this time is not a high priority item.

In closing, Mr. Goldston suggested that based on the information provided in his presentation, the status CAB Recommendations 119 and 143 should be moved from pending status to closed. Emphasizing that the CAB's input has reinforced the value to pursue long-term closure plan, Mr. Goldston said that SRS will ensure that efforts are maintained to study closure technology and cost improvements as it proceeds through the Revision Process for the Closure Plan. Several comments were raised regarding the emphasis that was placed on cost in the study and it was suggested that instead of cost, SRS should

follow safety issues more closely. Discussion then ensued regarding the closure of the two recommendations and a suggestion was made to develop a new recommendation instead to address a global investigation of possible alternatives. However, it was voted and agreed upon by the committee to close Recommendation 119, but to leave Recommendation 143 pending so that the Solid Waste Division can continue to report back to the Waste Management Committee regarding disposal alternatives and Closure Plan developments.

Transuranic Waste Update

Before beginning his presentation on Transuranic (TRU) Waste, Mr. Goldston briefed the committee on two recent accidents involving TRU shipments to WIPP. In his report, Mr. Goldston stated that two vehicle accidents involving TRUPACT transporters had occurred within a two-week period. While there were no injuries, Mr. Goldston said it was important to remember that the integrity of the containers had not been compromised and there was no release of contaminants in either case.

Mr. Goldston then opened his presentation by saying that in order to understand the scale of the legacy TRU waste that SRS has in its inventory, it was important to understand the different types of TRU waste and the grades of plutonium and other contaminants in each type. Referring to PU-238 and PU-239, Mr. Goldston explained that PU-238 is TRU waste that SRS classifies as space grade plutonium since it consisted of waste that resulted from making nuclear batteries for deep space exploration such as the Cassini space mission. Most of the PU-239 waste contains waste consisting of protective clothing, booties, wipes, tools, and other materials used in other plutonium production processes at the site. The PU-239 wastes resulted from production of weapons grade plutonium.

Mr. Goldston introduced the National Transuranic Waste Performance Management Plan (PMP) and spoke of the recent development that SRS has accelerated its TRU Program. The accelerated program means that not only will the fiscal year 2002 commitment of making 12 shipments be met, but possibly exceeded by an additional four or five shipments. Before the TRU PMP became a national plan, Mr. Goldston said that each site within the DOE complex that has TRU waste would deal with the Waste Isolation Pilot Plant (WIPP) separately. Now with the national PMP in place, SRS, which was a "bit" player in the national program, is now a major player in the TRU waste program. Surprised by this rapid turn of events, Rick McLeod asked what caused the significant changes for SRS? Noting that SRS had just a few months ago submitted a recommendation to DOE requesting additional program support and TRUPACT-II transporters, Mr. McLeod said that suddenly SRS was accelerating processing and shipping its TRU waste to WIPP. Mr. Goldston responded that one of the reasons is the SRS CAB, its continuous support of SRS's TRU waste program, and the numerous recommendations made to DOE-HQ and Carlsbad that resulted in a major impact on accelerating the program.

Mr. Goldston then discussed the major low activity TRU milestones and actions that are currently in place. For example, Mr. Goldston said that culverts with stored TRU waste are now being opened, a second characterization train is underway, Acceptable/Knowledgeable (A/K) reports are being used, and initial sort and segregation capability has been increased to manage the acceleration. In addition, Mr. Goldston noted that support for final sort and segregate capability is being provided by Los Alamos National Laboratory (LANL), and the ten-drum overpack and standard waste box loading is being added. With these actions in place, Mr. Goldston said that 90 percent of the TRU drums will be complete by 2007 instead of 2009, the date that had been originally forecast.

Mr. Goldston addressed the specific Pu-238 challenge as follows:

- SRS stores approximately 80 percent of the curies of DOE-complex Pu-238 inventory
- Waste from producing Pu-238 oxide product is varied isotopic and chemical form
- Waste originally packaged for eventual disposal without future intervention or processing
- Internal packaging integrity uncertain because of outdoor storage
- Radiological challenges

In closing his presentation, Mr. Goldston said that the high activity path forward includes the following:

- Documentation/characterization of waste forms
- Identify processing alternatives (complex-wide Best Practice)
- Define functional requirements of lowest cost/shortest schedule process – joint approach with expertise from the National TRU program
- Design processing capability/modules

In response to a question as to whether a modification of the definition of TRU waste is under consideration (increasing the limits of the TRU waste threshold), Mr. Goldston said that the study by a DOE complex team is still underway. Mr. Goldston also fielded a question on the HANDSS-55 slipped schedule and said that currently the support from LANL on final glovebox sort and segregate capability will help SRS to process its high activity TRU in order to meet the accelerated schedule.

Recommendation Review

In the essence of time, Bill Willoughby said that the recommendation review scheduled for the evening would have to be postponed until the next meeting. However, Mr. Willoughby asked the attendees to review the suggested open and pending CAB recommendations pertaining to the Solid Waste Division on the handout and to provide any comments/suggestions/recommendations before the next meeting.

High Level Waste Update

Mike Johnson, High Level Waste (HLW) Deputy Manager, updated the committee on the HLW program. Mr. Johnson began with an Americium-Curium (Am/Cm) disposal update. The field modifications are complete, and the Authorization Basis (AB) changes are being developed for implementation. The last simulatant transfer to Tank 33 will meet the last three criteria for the cold run in late September. The readiness assessment begins December 2002, and the Am/Cm transfer to Tank 51 is scheduled for a mid-January completion.

Mr. Johnson then provided a Salt Processing update, and noted that actinide removal is proceeding very well. However, some deficiencies were identified and corrected. The filter test completed in August went well, and the low curie salt (LCS) processing from Tank 41 is going smoothly. The supernate has been removed from above the saltcake. A pump was inserted to the bottom of the tank and the interstitial liquid is being pumped out. The minor pumping problems that were encountered have been addressed and solved. This salt will be permitted for disposal at Saltstone. Mr. Johnson emphasized that Saltstone is key to carrying out the LCS project.

Bill McDonnell asked about the *Energy Daily Report* and the Inspector (IG) implications that all salt may be sent to Saltstone. Bill Spader responded that SRS is continuing forward with the current plan and will respond to the IG report. Mr. Willoughby pointed out that one of the (unselected) alternatives in the Tank Closure Environmental Impact Statement (EIS) was direct disposal to Saltstone of all the tank wastes.

Continuing with a status of the evaporators, Mr. Johnson said that 3-H is down for feed evaluation and temperature concerns. The 2-H evaporator has recovered two million gallons of overhead since cleaning and startup last October. Tank space has not shown the progress expected from the HLW aggressive plan; however, improvements in flexibility have allowed a number of important additions to the tanks, which were not in the original System Plan, including the Am/Cm cold run, the H-Canyon disposition, and the acceleration of emptying non-compliant tanks.

Mr. Johnson continued with the Glass Waste Storage Building (GWSB) update. The strategy is to duplicate the GWSB #1. SRS needs the building by 2005-2006. HLW is looking at various scope reductions. Mr. McLeod asked the length of time required for building GWSB #1. Mr. Johnson offered to

get that information back to the WM Committee. Mr. Willoughby also pointed out that the committee suggested a peer review in CAB Recommendation #13.

Mr. Johnson next discussed waste removal. Pointing out that the HLW goal is to remove waste from multiple tanks at once, Mr. Johnson said that according to the current schedule, this process has started. Tank 19 waste removal is complete. Tank 7 is scheduled to begin operations in October 2002, and Tank 18 is scheduled to begin operations in November 2002. The next tank scheduled for waste removal is Tank 11 in 2004. Mr. Johnson talked about some of the new technology being deployed in these tanks.

Tank Closure was the next topic that Mr. Johnson covered. SRS is delaying closure of Tank 19 and accelerating the closure of Tank 18 so they both can be closed at the same time. This schedule will save money without adding risk. Tank 19 has had its waste removed.

Mr. Poe voiced his concern with the newspapers recently printing the articles on the waste that SRS is leaving in the waste tanks. Including himself, Mr. Poe emphasized that stakeholders would like to take a position, but without informed briefings from DOE, stakeholders can not make positive responses to the press in defense of SRS. Mr. Willoughby added that the press misinterpreted the ambiguous language in the Tank Closure Record of Decision (ROD), and stated that DOE needs to have public meetings to solicit public input. Mr. Spader responded that SR is continuing with its original plans, but looking for more cost-effective solutions in closing the tanks. Mr. Spader also committed to provide an update on tank closure at a future committee meeting.

Mr. Johnson closed with the Defense Waste Processing Facility canister production status. The fiscal year 2002 projection is 160-170 cans. The future projection is 230 cans a year, but with the new frit, increased pour height, and more waste in the canister, this is equivalent to 280 cans per year. Explaining how the new frit melts faster and pours better, Mr. Johnson said it makes a better quality glass.

In response to a question from Mike French as to when melter replacement would cause the next major shut down, Mr. Johnson replied that the new melter is waiting to be installed and that Melter 3 is in the procurement stage.

Action Items

- Provide information to Rick McLeod regarding the time it took to build GWSB #1.
- Provide a copy of the Am/Cm Safety Evaluation to Lee Poe.
- Include a discussion on tank closure at an upcoming WM Committee meeting.
- Include a discussion at an upcoming WM Committee meeting on the newspaper articles and Waste Removal.
- Include updates on Transuranic Waste and the HLW Program at the next CAB meeting scheduled for October 22-23, 2002.

Public Comment

With there being no public comment, Mr. Willoughby adjourned the meeting at 9:25 p.m.

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