



SRS Citizens Advisory Board

Waste Management Committee

Meeting Summary

July 11, 2001
North Augusta Community Center
North Augusta, SC

The Waste Management Committee (WMC) of the Savannah River Site (SRS) Citizens Advisory Board (CAB) met at the North Augusta Community Center on July 11, 2001 Attendance was as follows:

CAB Members

Wade Waters*
Bill Willoughby*
Murray Riley
Beckie Dawson*
Gerald Devitt*
Perry Holcomb*
William Lawrence*
Karen Patterson*
Vera Jordon*

Stakeholders

K. Overcash
Lee Poe
Dusty Houser
Bill McDonell
Jim Pope
Rick McLeod

Regulators

None

DOE/Contractors

Virgil Sauls, DOE
Larry Ling, DOE
Gerri Flemming, DOE
Gail Whitney, DOE
Steve Piccolo, WSRC
Mark Phifer, WSRC
Elmer Wilhite, WSRC
Sonny Goldston, WSRC
Len Collard, WSRC
Shawn Reed, WSRC
Tim Coffield, WSRC
Ken Crase, WSRC
Ed Stevens, WSRC
Don Gordon, WSRC
Jim Moore, WSRC
Helen Villasor, WSRC

***Denotes members of the WMC**

Wade Waters opened the meeting promptly at 6:00 p.m. by inviting introductions and thanking everyone for coming. Mr. Waters announced that copies of the minutes from the first Alternative Technologies to Incineration Committee (ATIC) meeting were available. The ATIC is a subcommittee of the Environmental Management Advisory Board (EMAB). Three members of the Savannah River Site (SRS) Consolidated Incineration Facility (CIF) Focus Group have been appointed to serve on the ATIC.

Mr. Waters noted that there was a change in the agenda with Larry Ling making the first presentation. Mr. Ling announced that he was leaving for Washington, DC immediately after the

meeting to attend to the Salt Process Environmental Impact Statement which was scheduled for distribution the next day.

Public Comment

There were no public comments.

Tank Space Management Update

Larry Ling opened his presentation by providing an outline on Tanks 5 and 6, and noting he would discuss the high-level waste (HLW) evaporators lastly.

Beginning with Tank 6, Mr. Ling said that the annulus conductivity probe alarmed on January 12, 2001, and approximately 90 gallons of HLW leaked into the secondary containment. During inspections of the tank wall, six leak sites were identified, with the lowest leak site at 129 inches. The level in Tank 6 was lowered to approximately 124 inches. Mr. Ling said that as a result of the Tank 6 issues, camera inspections are now required before and after tank transfers.

In Tank 5, camera inspections did not identify any potential leak sites prior to the transfer of Defense Waste Processing Facility (DWPF) recycle water from Tank 2, Mr. Ling said. Approximately 100 inches of material was transferred to Tank 5 from Tanks 22 and 40. Mr. Ling noted that subsequent camera inspections revealed 15 leak sites, with the lowest leak site at 31 inches. The current level of Tank 5 is at 123.6 inches. Mr. Ling added that in order to get below the latest leak site, HLW has a plan to initiate transfer of 270 thousand gallons of material to Tank 46 by the end of July 2001.

In closing his presentation, Mr. Ling said that the 3H Evaporator was operating better than expected despite operational temperature constraints on Tank 30. As a result, approximately 300 thousand gallons of space was gained last month. When asked how much space is being gained per day, Mr. Ling responded that it is approximately 20 thousand gallons per day. Work is progressing on converting Tank 37 to become a drop tank for the 3H Evaporator and is expected to be available to 3H in October 2002. Mr. Ling said that the 2H Evaporator is expected to be back in service by fall 2001 and the 2F Evaporator is down for the replacement of the feed pump.

When asked how the rate of influent keeps up with the gain, Steve Piccolo said that it's staying about 10 percent ahead. Responding to a question on whether there is a possibility to put the DWPF stream in Tank 50 and then send it to Saltstone, Mr. Piccolo said there is an ongoing evaluation of the tanks that contain low-activity waste. Bill Willoughby asked that with the recent loss of two tanks in the last six months, what contingency plans are in place to address the problem of more leaking tanks? Mr. Piccolo said that Tanks 49 and 50 are being worked to come back into service and current evaluations have predicted that no more tank space capacity should be lost. Mr. Piccolo also discussed sludge batches and said that HLW will not be out of sludge in August. Additionally, Mr. Piccolo said that Sludge Batch 2 would be ready for the November-December timeframe.

Before leaving the podium, Mr. Ling was asked if the preferred alternative for the Salt Process had been identified. Mr. Ling said that he had just received word that the preferred alternative would be noticed in the *Federal Register* on July 27, 2001.

First Shipment of Low-Level Waste (LLW) to Nevada Test Site (NTS)

Before opening his presentation, Sonny Goldston announced that a significant SRS achievement had occurred earlier in the day - - the first shipment of 21 Sealand containers of LLW left SRS for

disposal at the NTS. Mr. Goldston said an amended Record of Decision (ROD) to the Waste Management Programmatic EIS had made the shipment possible. However, Mr. Goldston duly noted and thanked the SRS Citizens Advisory Board (CAB) for its participation in helping to achieve the ROD through the various recommendations it had made to DOE. Mr. Goldston then shared photographs of the event with the members of the WMC. Virgil Sauls, DOE-SR Manager of Waste Operations Division also expressed his appreciation to the CAB for its support of this achievement. Mr. Sauls said that there had been much joy over the first shipment of transuranic waste to the Waste Isolation Pilot Plant, now there was great satisfaction in seeing the first shipment of LLW leave for NTS, and before the end of the year, SRS would be making its first shipment of mixed LLW to a commercial vendor in Utah. Mr. Sauls said these are truly significant achievements for SRS.

Low-Level Radioactive Waste (LLW) Disposal Components-In-Grout

Mr. Goldston then opened his presentation by providing background information on how SRS disposes of LLW in vaults and trenches and uses the Solid Waste Division's (SWD) Waste Acceptance Criteria (WAC), which is specific to each waste type. The disposal unit limits the types of waste and allowable amounts (curies) of radionuclides for the vaults and trenches. Mr. Goldston said the WAC limits are based on the Radiological Performance Assessment (PA) that provides assurance that DOE performance objectives are met, i.e., to ensure drinking water standards are not exceeded in the groundwater. The DOE-approved Disposal Authorization Statement requires that the PA derived WAC be enforced for disposal.

Mr. Goldston explained that Revision 1 of the PA was approved by DOE last year and the analysis of the performance of the Disposal of Waste Form(s) Encapsulated in Grout: "Components-in-Grout" was included in the revision. Mr. Goldston emphasized that the analysis, along with the CAB's interaction of endorsing disposal of LLW in trenches that meet the trench WAC (CAB Recommendation #94, "Solid Waste Division System Plan Low-Level Radioactive Waste Disposal"), allowed SRS to prepare for disposal of legacy large equipment in a cost-effective and environmentally sound manner. The first components-in-grout disposal, which consisted of an old trailer used to transfer PUREX solvent from the canyons to waste storage tanks, was completed in September 2000. The "spent solvent trailer" had been emptied of radioactive PUREX solvent; however, residual contamination remained on its interior surfaces. The trailer had been sampled to ensure that the contamination was less than that required to meet the WAC derived from the PA, and to enable design of the disposal to begin. Mr. Goldston said the disposal design consisted of pouring grout that has a compressive strength of 2000 psi or more to encase the under carriage. The tank interior was filled with cementitious backfill of controlled low-strength material (CLSM); the annular space between the tank and trailer body was filled with 2,000-psi grout; and the entire trailer was encased in the trench by the CLSM.

In closing, Mr. Goldston noted that the function of grout encapsulation provides the cementitious barrier that surrounds disposed waste; inhibits water flow to the radioactivity in the waste by providing a low-permeability envelope; provides the structural support for the overlying future closure cap; and provides a physical barrier to inadvertent intrusion. Because of the success of the components-in-grout disposal, future plans are in place to allow large equipment items to be disposed in trenches, remove stored legacy wastes to disposal, and provide a future path for failed large components.

In response to operational questions, Mr. Goldston said that the project costs were approximately \$60K, and that site personnel performed the work. Lee Poe said that it appeared to him that a critical factor of this project is that it can be applied to other similar disposal operations. Another example of component-in-grout disposal that was discussed is the failed evaporator pot. Mr. Goldston explained that this is a large unit that cannot be shipped anywhere for disposal, nor would it be a candidate to occupy expensive and valuable SRS vault space. Therefore, Mr. Goldston said that the evaporator pot would make an ideal candidate for the components-in-grout

process. In response to a question on the limits for cesium, Elmer Wilhite said that a set of 730 radionuclides is evaluated in the PA. Lee Poe requested a copy of the report on the limits for radionuclides that are used in the PA.

Effects of Eliminating Compaction of Job Control Waste

Elmer Wilhite opened his presentation by explaining first, the Technical Basis for DOE Authorization of LLW Disposal, and showing a photograph of the Engineered Trench that is now operational at the E-Area Waste Management Disposal Facility. Mr. Wilhite reiterated what Mr. Goldston said earlier in his presentation that Revision 1 to the PA was approved by DOE last year, and it included an analysis of the disposal of LLW in trenches in the revision. Mr. Wilhite also commended the CAB for its interaction to endorse disposal of LLW in trenches that meet the trench WAC (Recommendation #94, "Solid Waste Division System Plan Low-Level Radioactive Waste Disposal"). Mr. Wilhite said that this recommendation allowed SRS's Solid Waste Division (SWD) to expand the use of trenches to more cost-effectively dispose of LLW while ensuring protection of the public and the environment.

Speaking in terms of waste compaction, Mr. Wilhite said that LLW has been compacted in the SRS Super Compaction Facility (SCF) since June 1999. The waste is first sorted in the Waste Sort Facility (WSF) and then loaded into 55-gallon drums for compacting. The compacted drums, or "pucks" as they are commonly known, are then loaded into B-25 boxes for disposal. The B-25s containing the compacted waste that meets the trench WAC are disposed in both slit and engineered trenches located in E Area.

Mr. Wilhite said that he was here today in direct response to CAB Recommendation #119 ("Compacted Versus Non-Compacted Waste Disposal in the E-Area Trenches"), which had been adopted March 28, 2000. Through the recommendation, the CAB asked SWD to come back and report on its evaluation of whether waste compaction prior to trench disposal was necessary to identify the need for compaction; identify technical concerns including subsidence potential and impact to PA/Composite Analysis (CA); and compare trench performance with and without compaction with different strategies to reduce subsidence and impacts on a closure cap.

In response to the CAB's question if SWD should continue compacting waste for trench disposal, Mr. Wilhite said that it is important to remember that SRS must stay within the authorization basis (i.e., PA/CA); the PA assumes maintenance of the cap for 100 years; cap maintenance will be driven by subsidence repair; the decision must assess the cost of cap maintenance as a function of waste compaction; and either option (compacting or not) is bounded by the PA/CA.

Mr. Wilhite continued by noting that a cost study of treatment versus long-term cap maintenance needs to include estimating subsidence potential with and without compaction; estimating subsidence potential reduction by pre-capping treatment, i.e., standard dynamic compaction or tertiary (improved) dynamic compaction; estimating closure cap maintenance costs; and developing a recommendation as to cost-effectiveness of waste compaction.

Mr. Wilhite then presented a flow diagram that assumes the waste would eventually compact to the density of the soil (~1.5 grams per cubic centimeter) and discussed the results of prior studies. The prior studies demonstrated that the placement of an interim soil cover results in the lid of the top box collapsing about 1.5 feet. Standard dynamic compaction will result in about 3.2 feet of subsidence potential reduction; however, tertiary (improved) dynamic compaction results in about 6.4 feet of subsidence potential reduction.

Mr. Wilhite concluded his presentation by emphasizing that the current study is still in progress; however, it would be reasonable timeframe to review the complete study results at the CAB's August 28, 2001 Combined Committee meeting. By then, Mr. Wilhite said there would be enough

information available to issue a report with draft recommendations on whether the elimination of compaction of job control waste is the appropriate step to be taken.

Burning of Paper Pellets as Alternate Fuel Co-fired with Coal in A-Area Boilers

Don Gordon said the purpose of his presentation was to respond to the WMC's request for an update on the status of SRS's proposal to the South Carolina Department of Health and Environmental Control (SCDHEC) to burn paper pellets in the A-Area boilers.

Mr. Gordon indicated that SRS had submitted the proposal to SCDHEC last year requesting permission to co-fire paper pellets with coal in A-Area boilers. The three regulatory options are 1) to declare pellets as fuel and modify the existing boiler permit; 2) declare pellets as waste and apply industrial boiler regulations (Standard 2, Section J); or 3) declare pellets as Municipal Solid Waste (MSW) and apply municipal waste combustor regulations (Standard 3, Section F).

Mr. Gordon noted that SRS determined there was flexibility in Standard No. 3 under Waste Combustion and Reduction, Section III A., Case-by-Case Limitations, which states that "Emission limitations other than those stated below, determined in part by material being incinerated or burned and/or by source testing, may be set on a case-by-case basis." SRS concluded that stack tests would provide data to allow limitations other than, and perhaps exemption from, the requirements in Standard 3. Mr. Gordon said that in recent discussions with SCDHEC, the regulators said they would prefer not to go the MSW route because the case-by-case limitations would allow a less restrictive application of Standard 3 requirements and might set a precedent they would like to avoid.

An agreement in principle between SRS and SCDHEC has been reached in that only paper, cardboard, and plastic container bags would be compacted into paper pellets. Therefore, to meet this agreement in principle, Mr. Gordon emphasized that SRS will have to modify waste management practices on site for collecting paper, cardboard, and all other materials. Mr. Gordon said the next step in the process is to obtain regulatory approval to conduct stack tests to gather data on co-fired burning of paper pellets and coal. Then the A-Area boiler permit will have to be modified as the final step in the process.

Concluding his update, Mr. Gordon said that the proposed alternate fuel initiative makes good environmental and economic sense and SRS has agreed to comply with SCDHEC's requirements to convert only paper in plastic bags and cardboard into paper pellets for burning in the A-Area boiler. Mr. Gordon said SRS is nearly 95 percent complete with the application process and the project appears to have made significant process. Mr. Gordon thanked the WMC for its continued interest in the project and said that he would be pleased to provide the update to the CAB as they had requested at the last Board meeting.

Wade Waters briefly discussed the paper pellets draft motion that had been tabled from an earlier meeting. Given that there appeared to be an agreement in principle between SRS and SCDHEC, Mr. Waters recommended that the draft motion be terminated.

Release of Scrap Metals Update on Notice of Intent

This issue was a scheduled agenda item for the meeting; however, Sonny Goldston noted that while the Notice of Intent (NOI) on the release of surplus and scrap metals had been signed by DOE on July 6, 2001, it was not scheduled to appear in the *Federal Register* until July 12, 2001, the day after the WMC meeting. The only pending information Mr. Goldston had available until the *Federal Register* notice appeared, was that public scoping meetings in preparation for the EIS were being scheduled to be held at the North Augusta Community Center on July 31, 2001. Mr. Waters asked Helen Villasor to send the published NOI out to the WMC via e-mail the next day.

In closing the meeting, Mr. Waters asked the attendees to provide any comments on the two draft motions, "Status of Low Level Radioactive and Mixed Waste Shipments" and "Consolidated Incineration Facility (CIF) Closure Schedule Alternatives", to Rick McLeod, the CAB's technical advisor. The draft motions will be presented to the full Board at its meeting on July 24, 2001.

Public Comment

There were no public comments.

Wade Waters adjourned the meeting on schedule at 8:35 p.m.

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