



SRS Citizens Advisory Board

Waste Management/Nuclear Materials Committees

Meeting Summary

June 18, 2002, 1:00 p.m.
North Augusta Community Center
North Augusta, SC

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) and Nuclear Materials Committee (NMC) met for a combined meeting on Tuesday, June 18, 2002 at the North Augusta Community Center in North Augusta, SC. The purpose of the meeting was to hear the Draft Performance Management Plan Overview; the Cleanup Reform Initiative Proposals; and hear public comment. Attendance was as follows:

CAB Members

Bill Willoughby
Jerry Devitt
Perry Holcomb
Beckie Gaston-Dawson
William Lawrence

Stakeholders

Lee Poe
Bill McDonell
Howard Dawson
Dusty Houser
Russ Messick
Gerard Voos
John Meyers
Richard Smalley

Regulators

None

DOE/Contractors

Gerri Flemming, DOE
Bill Johnson, WSRC
Sonny Goldston, WSRC
Susan Cathey, WSRC
John Dickinson, WSRC
Chuck Hayes, WSRC
Teresa Haas, WSRC
Lyddie Broussard, WSRC
Kelly Way, WSRC
Helen Villasor, WSRC
Peter Hudson, BNFL
Todd Davis, DNFSB

Bill Willoughby welcomed those in attendance, asked for introductions, and then requested public comments. Hearing no public comments, Mr. Willoughby introduced Teresa Haas, who provided a brief overview of the Draft Pre-decisional Performance Management Plan (PMP). Ms. Haas explained that a series of DOE Workshops and CAB meetings have been scheduled or were being conducted in order to gather public input that will be factored into the final PMP. Ms. Haas said that the Savannah River Site (SRS) was interested in knowing what is most important to the public in terms of risk reduction; are there certain aspects of the programs being presented that are most important to the public; and what would the public like the SRS to keep in mind when setting priorities for the programs? Ms. Haas noted that the High Level Waste Division (HLW), Solid Waste Division (SWD), and Nuclear Materials Management Division (NMMD) would be presenting information on each program and discussing the program-specific Cleanup Reform Initiative Proposals that are contained in the PMP.

High Level Waste Division

Susan Cathey opened her presentation by discussing the HLW mission of safely managing HLW, removing waste from tanks, immobilizing liquid HLW into safe forms, and closing HLW tanks. Ms. Cathey then discussed the HLW system, describing to the group the waste path from the canyons to Saltstone

vaults or to the Glass Waste Storage Building (GWSB). Ms. Cathey noted that eventually the glass-filled canisters would be sent to a federal repository.

Ms. Cathey showed that when compared with the rest of the Department of Energy (DOE) complex, Savannah River (SR) has about 60 percent of the total radioactivity. Explaining the waste inventory within the canisters, Ms. Cathey said the two salt components, salt supernate and salt cake, contain about 47 percent of the radioactive curies. While the stored sludge waste has the highest radionuclides and causes the most concern, Ms. Cathey said the salt waste is stored in three forms: supernate, concentrated supernate, and salt cake, with the radionuclide of concern being Cesium-137.

Ms. Cathey emphasized that the one issue of importance to the HLW system is to get large volumes of waste out of the tank farms and the three tools to improve the HLW system flexibility consist of three different evaporators, returning tanks to service, and salt processing. The goal is to immobilize this waste either into grout or into glass. The base schedule shows completing waste immobilization by 2027.

Explaining the HLW Cost Reduction Initiatives (CRA), Ms. Cathey said that HLW focused on risk reduction and risk elimination. Risk reduction for HLW is to eliminate mobile waste by making the waste into grout or glass. This process reduces the risk of release. When asked where savings would be involved in these initiatives, Ms. Cathey said that if the base load were deleted, then the tank farms would be out of business; therefore, there would be no cost to run them. In response to a question about a HLW program after 2017, Ms. Cathey answered that the other programs would have their own waste elimination capabilities. Ms. Cathey went on to discuss the expedited cleanup schedule and the improved risk profile.

Ms. Cathey explained that HLW has studied a specialized frit that allows an increased canister production rate to 250 canisters/year and allows more waste to be put in each canister. Other improvements under consideration include accelerating sludge production, streamlining waste removal methods, and eliminating materials that do not require vitrification. Ms. Cathey then explained how running sludge through the Defense Waste Processing Facility (DWPF) faster, building a new waste storage building, and expediting shipments to the repository would produce fewer canisters, eliminate risks ten years earlier, and remove waste from SRS twenty years sooner.

Ms. Cathey continued her presentation by discussing the proposed treatments of the salt waste. A portion of the salt is low enough in radionuclides to be sent directly to Saltstone. Another portion can be sent through an actinide removal process, and then placed in Saltstone vaults. The high curie and actinide salt portion could be sent through an actinide and cesium removal, with some sent to DWPF and some sent to the Saltstone vaults. When asked if the actinide removal could take place in the envisioned plant, Ms. Cathey said that at least a portion would have to go through the plant. Some of the existing facilities can be used as well. Two of the streams could be handled simultaneously.

Ms. Cathey then outlined the HLW closure mentality for dormant tanks. The goal is to get out of the tanks quickly and safely, by employing the minimum essential surveillance and maintenance. For example, every year the tank walls are photographed; however, a leak has never been discovered in these photos. Leaks are discovered by other methods, therefore, the logical question is "Why continue to spend this money photographing the tank walls?" Ms. Cathey also suggested that HLW should only make the upgrades that are necessary for safety, necessary for mission, and economically justified. Lee Poe made the point that public perception of this statement would be that HLW was cutting back on surveillance and maintenance and ultimately safety. Ms. Cathey clarified that this was not the case. The point is to stop unnecessary actions that do not add to the safety or risk reduction activities. The point was made that from a conceptual standpoint, one could justify a reduction in one area, if it provided a risk reduction in another area.

Ms. Cathey concluded with the risk based/cost effective tank and facility closure by emphasizing that SRS plans to do what is technically feasible and cost effective. For example, DOE Order 435.1 needs to be

reexamined to determine what is feasible and what is not feasible. Mr. Poe emphasized that once the long-term land use has been determined, then standards that make sense should be applied. Right now in the Order, technical standards are being coupled with a non-sensible environmental standard. For example, it doesn't make sense to put this area under institutional control, then apply a drinking water standard if no one is there to drink the water. Mr. Poe also noted that the top-to-bottom review chastised HLW for not having made progress over the last ten years. Mr. Poe requested that HLW provide a presentation on what HLW plans to do next year; what would be funded and what would not be funded; what the likelihood would be that SRS will get the money it needs; and which projects offer the greatest cost and lowest risk reduction.

In response to a question about SRS prioritizing the money, Ms. Cathey assured the group that SRS carefully evaluates the program since this is an integrated system. Decisions have to be made on what will be funded depending on need, risk, etc. Mr. Poe emphasized that HLW needs to get this money and would like SRS to push vitrifying HLW at the maximum rate that is technically feasible. Ms. Haas re-emphasized that the whole purpose for this meeting was for the citizens and stakeholders to state the initiatives they deem most important to them. Mr. Poe suggested that it would be helpful for the citizens to know how much each of these initiatives will cost. He stated that getting waste out of tanks, determining future land uses, and developing reasonable values for land use are all important to him. However, he emphasized that the stakeholders need to understand what is reasonable to offer.

Perry Holcomb stated that the CAB could not micro-manage this program. He believes the problem is that the program is faulted from the top down. According to Dr. Holcomb, the way things are set up now, they are dictated by Congress and political decisions. Dr. Holcomb also noted that the CAB can make suggestions, but he strongly doubts that the Secretary will hear what the CAB has to say.

Solid Waste Division

Sonny Goldston opened his presentation with a pictorial overview of the Solid Waste Program. Outlining the different waste streams at SRS, Mr. Goldston said that SWD manages transuranic (TRU), low-level (LLW) and mixed low-level waste (MLLW); however, SRS's HLW is managed under the HLW program. Mr. Goldston discussed the TRU waste stream by defining TRU waste as waste that is contaminated with radioactive isotopes that have decay rates and activities exceeding defined levels. It contains man-made elements that are heavier than uranium and decay slowly, thus requiring thousands of years of isolation. Mr. Goldston noted that while most of SRS's TRU waste, which contains equipment, protective clothing and tools is stored in drums and boxes, the higher activity TRU waste is stored in concrete culverts. With the Waste Isolation Pilot Plant (WIPP) in New Mexico now open, Mr. Goldston said that SWD has an aggressive, cost-effective program in place and began shipping TRU waste to WIPP in 2001.

Defining low-level waste as any radioactive waste not classified as high level or TRU waste, Mr. Goldston said that most of SRS's LLW is disposed of in large concrete vaults or engineered trenches, and for those pieces of contaminated equipment that are too large to fit in the vaults, methodology known as components-in-grout is used for disposal. Noting that since SWD operates DOE's disposal facilities in accordance with DOE Order 435.1, selecting the appropriate waste facility to send the LLW for disposal depends on the waste characterization and form. For example, Mr. Goldston said that slightly contaminated soil, stabilized ash and rubble is disposed in trenches.

Mixed low-level waste is waste that is both radioactive and hazardous, Mr. Goldston said, and is a waste that is subject to regulations governing both waste types. At SRS, MLLW is properly treated on a specific schedule outlined in the Site Treatment Plan, an enforceable agreement that SRS has with the South Carolina Department of Health and Environmental Control (SCDHEC). The first shipment of MLLW left SRS for disposal at Envirocare Utah in 2001.

Mr. Goldston then explained the various treatment facilities that are managed by the SWD. For example, the Effluent Treatment Facility collects and processes low-level radioactive and chemically contaminated

wastewater from both the HLW Tank Farm Evaporator overheads, and from reprocessing facility evaporators. Mr. Goldston noted that ETF allows approximately 99 percent of the water collected to be released through a National Pollution Discharge Elimination System (NPDES) permitted outfall. Mr. Goldston then addressed the Saltstone Facility, which is designed to treat and dispose of liquid wastes from various sources. The resulting grout is disposed by pumping it to engineered concrete vaults, where after the curing process is complete, the waste form is then classified as low level waste. Mr. Goldston completed his overview of the Solid Waste Management Program by reminding the attendees that many of them were more than familiar with SWD's third treatment facility, the Consolidated Incineration Facility since they served on a Focus Group that was formed after the CAB was informed that the facility was placed in a suspension mode. Mr. Goldston thanked the attendees for their support in helping SRS reach a decision to pursue an alternative treatment method to incineration. Mr. Goldston then pointed to a photo of sample stabilization media that is under consideration as an alternative technology to incineration.

Mr. Goldston said that SWD has two proposals under the CRA initiatives: to expedite TRU waste shipments of low and high activity TRU waste; and the cost-effective treatment of PUREX waste. Mr. Goldston explained that what SRS is seeking is public input on its perception of risk reduction. While Mr. Goldston noted that SWD plans to shift to this level of operations regardless of funding, he re-emphasized that it is important for SRS stakeholders to let SRS know what is most important to them in terms of risk and risk reduction.

Responding to several questions on whether TRU waste poses risk to SRS, Mr. Goldston said that shipping drums of TRU waste to WIPP would help to reduce risk at SRS. While SRS's TRU waste is safely stored on covered pads, Mr. Goldston emphasized that SRS has analyzed vulnerabilities such as tornadoes in risk assessments. Lee Poe expressed his opinion that if TRU waste had been left in its original form rather than shipping it offsite, it would be safer just to dispose of TRU waste in deep underground facilities at SRS. Mr. Poe added that at least one-third of the TRU waste is buried and analyses have shown that it is not a storage problem; however, the question remains as to whether or not laws can be changed. Mr. Poe recommended that SRS look at what it must do to make disposal cheaper. Mr. Goldston clarified that the TRU CRA proposal had been prepared with the intention of reducing risk compared to storing it in the mode that it is in now. In fact, Mr. Goldston said that the SWD proposal is to accelerate SRS's ability to characterize TRU waste and accelerate the program by 20 years. This would also incorporate plans to build a new facility to remotely manage higher activity TRU waste.

Mr. Goldston said that the other SWD CRA proposal is to remove the PUREX solvent contained in tanks behind CIF, and instead of incineration, the plan is to dispose of the aqueous portion of that waste in Saltstone and dispose the organic phase of the PUREX with a stabilization media currently being tested. Mr. Goldston said this proposal accelerates the commitment schedule by ten years.

In response to Lee Poe's question as to why there is no CRA proposal on the 232-F waste (solid waste contaminated with tritium), Mr. Goldston said that some of the waste will be shipped offsite for disposal and some will be disposed in trenches at SRS.

Mr. Goldston concluded his presentation by asking those in attendance to keep in mind the three questions that Teresa Haas presented at the outset of the meeting in order to provide public input into the Final Performance Management Plan document.

Nuclear Materials Management Division

Bill Johnson opened his presentation with a description of the Nuclear Materials Management Division (NMMD) mission as one to recover, stabilize and control nuclear materials (NM) and spent nuclear fuels (SNF) in a safe and environmentally sound manner. He identified the major program drivers, basic facilities, and major ongoing projects dedicated to the reduction of risk associated with the inventory of plutonium (Pu), highly enriched uranium (HEU), and SNF.

Mr. Johnson provided background information about the history and mission of H-Canyon and discussed the HEU blend down project. He indicated that F-Canyon had completed Pu processing March '02 and no other missions are planned for that facility. Plans for the current inventory of Americium Curium (Am/Cm) in F-Canyon call for a disposition path to HLW by March '03, but Johnson said that the transfer was expected to be completed ahead of schedule.

Mr. Johnson continued his presentation with an overview of FB-Line and the vaults where Pu stabilization, packaging and some storage take place. He said another important function provided by FB-Line was residue characterization. The results of that characterization are used to support HB-Line to perform residue dissolution in addition to its Pu stabilization activities.

Continuing with the facility descriptions, Mr. Johnson explained the K Area Material Storage (KAMs) project as well as the current SNF responsibilities of L Area and RBOF. While discussing the various SNF facilities, Johnson was asked by Bill McDonell if he expected to complete receipt of the overseas research SNF before the scheduled shutdown of H-Canyon. Mr. Johnson stated that while the receipts would be completed, the disposition would not be completed at that time unless the fuel was in an imminently degraded state. He said this fuel was originally planned for disposal through the proposed Melt and Dilute facility, but today's vision is to process it either through H-Canyon or by direct disposal to Yucca Mountain. Mr. Johnson fielded numerous questions about the Melt and Dilute facility and how the SNF could meet the waste acceptance criteria for direct disposal.

As Mr. Johnson began his explanation of the proposed NM initiatives, Lee Poe asked to interject his concerns relative to F-Canyon prior to leaving for another commitment. Mr. Poe suggested that in addition to Am/Cm, Mr. Johnson should give additional emphasis in the PMP to the disposition of uranium solutions associated with F-Canyon as well as the risk associated with changing from an operating facility to a lay-away facility. He believes there are risks associated with the limited surveillances proposed, and that the NEPA process should be used for further analysis. Mr. Poe stated that he didn't feel the use of the NEPA checklist was adequate in this case and the important decisions about the facility end-state needed public input.

Mr. Johnson then explained the proposed NM initiatives that are expected to save not only billions of dollars but, if funded, will result in a footprint reduction, material consolidation, and support an enhanced homeland security. He stated the acceleration of Pu facility closures from four to two could be accomplished while still meeting stabilization commitments. Mr. Johnson reviewed the primary issues requiring resolution and the associated schedule for decisions/options for each. He responded to numerous questions in relation to the reduction of the F Area footprint. When questioned about the status of DOE's response to the DNFSB on F-Canyon suspension, he deferred to Todd Davis. Mr. Davis indicated that while discussions had been held, the official response had not yet been received by the DNFSB.

Mr. Johnson showed projected SNF receipts and proposed processing while moving toward a single basin strategy. He said the SNF facility closure initiative would save money and still allow for processing on a not-to-interfere basis with Pu processing in H-Canyon. He emphasized that the reduction in facilities would allow for a larger investment in maintaining the safety envelope of those active facilities as well as release resources to reduce other risks on-site. Perry Holcomb asked if SRS had a guarantee that savings gained at SRS would remain at SRS and not be sent elsewhere. Mr. Johnson stated that he was not aware if such a guarantee had been made.

As Mr. Johnson presented the proposed schedule for the exit path for materials, Bill McDonell questioned why slide 15 infers that SNF material will sit there. Mr. Johnson agreed that the slide did not clearly represent his meaning and would be changed in the PMP. He continued to explain the timelines for Pu and SNF disposition. He emphasized that the material could be processed without delay and still incur millions of dollars in savings for life cycle costs. When questioned about the Pu that was not suitable for the Mixed Oxide (MOX) Fuel facility, Mr. Johnson emphasized that there would be a disposition strategy for the Pu that was stranded by the cancellation of the Immobilization facility.

During follow-up questioning, Bill Willoughby stated that the proposed end-state for the NMMD facilities includes handing off material as waste to HLW and/or SWD. He requested that he be provided with a copy of those line items from the site consolidated schedule. William Lawrence quizzed Mr. Johnson on what contaminants will be left in F-Canyon once it is deactivated. In both cases, Mr. Johnson agreed to provide follow-up information.

In conclusion, Mr. Johnson explained the strategy for the exit path for materials including weapons grade Pu and SNF that includes the design and construction of new facilities. He explained that while the EM operations are projected to be completed by 2020, the infrastructure would be available to transition to a possible NNSA security mission.

Public Comment

With there being no public comment, Mr. Willoughby adjourned the meeting at 4:30 p.m.

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