



SRS Citizens Advisory Board

Waste Management Committee

Meeting Summary

September 11, 2000
Partridge Inn
Augusta, GA

The Waste Management Committee (WMC) met on Monday, September 11, 2000, at 6:00 p.m., at the Partridge Inn, Augusta, GA. Attendance was as follows:

CAB Members

Wade Waters*
William Lawrence*
Bill Willoughby*
Beckie Gaston-Dawson*
Perry Holcomb*
Karen Patterson*
Murray Riley
Lola Richardson**

Stakeholders

Rick McLeod
Jim Pope
Lee Poe
Bill McDonell
Dusty Houser
Bill Lawless
Larry Callair

Regulators

None, SCDHEC
None, EPA

DOE/Contractors

Tom Treger, DOE
John Reynolds, DOE
Mike Simmons, DOE
Dale Ormond, DOE
Virgil Sauls, DOE
Steve Mackmull, DOE
Bill Boettinger, WSRC
Sonny Goldston, WSRC
Elmer Wilhite, WSRC
Tim Coffield, WSRC
Lee Smith, WSRC
Ken Rueter, WSRC
Jerry Morin, WSRC
Don Zecha, WSRC
Helen Villasor, WSRC

* Denotes Committee Member

** Denotes absent Committee Member

Wade Waters opened the meeting promptly at 6:00 p.m. by inviting introductions and thanking everyone for coming.

Public Comment:

There were no public comments.

Salt Process Focus Team Update:

Lee Poe opened his presentation by noting that the Salt Processing Technology decision is still on a June 2001 track. The Draft Environmental Impact Statement (EIS), with an expected issue date of November 2000, will not have a preferred alternative; however, the Final EIS will contain the preferred alternative. Mr. Poe said the purpose of this briefing is to update the Waste

Management Committee (WMC) on waste removal and High Level Waste (HLW) tank cleaning and HLW tank integrity. Mr. Poe reviewed a briefing presented to the focus team by Neil Davis on August 8, 2000 that discussed sludge and salt removal and tank washing. These activities, which are regulatory driven for tank closure, are required through 2019. Mr. Poe complemented HLW's detailed planning efforts and said that implementation has begun and will ramp up in 2005. The focus group has concluded that a safety concern exists with the frequent movement of large equipment into and out of radioactive containment and the resulting high contamination of the equipment. The focus group believes that this significant release of contamination could delay tank closure. However, Mr. Poe added that HLW has recognized this vulnerability and to date has been able to satisfactorily manage the risk.

Mr. Poe then reviewed a presentation on HLW Tank Integrity provided by Brenda Lewis at a briefing to the focus group on August 8, 2000. The briefing contained the following information:

- 51 HLW tanks – located in F- and H- Areas
- 4 different designs in use
- 11 HLW tanks have leakage from primary to secondary (5 Type I, 4 Type II, 2 Type IV)
- cracks determined to be stress corrosion cracks perpendicular to welds
- cracks vary from few to ~350 (Tank 16)
- cracks reseal with solidified waste
- crack length greater than 6 inches is a safety criteria
- different crack mechanism discovered in 1997 on Tank 15 (vapor space crack)
- ultrasonic testing shows no wall thinning from corrosion

In response to a question if the crack was located on the annulus side of the tank, Mr. Poe said that it was. However, Mr. Poe also noted that while the crack was near a patch weld, it was above the tank liquid level. Mr. Poe said a tank inspection program has been in place since 1971 and that in 1999, all tanks had been inspected other than Tanks 17 and 20 which had been closed. From all of the inspection data, HLW concluded "degradation of material is not expected during service life (e.g., 100 years)".

In conclusion, Mr. Poe noted the Focus Group's concerns including the following:

- The new crack on Tank 15 seems to be a new failure mechanism
- HLW should and is aggressively trying to determine cause and potential impact
- The Focus Group agrees that a catastrophic failure is unlikely and the tanks should last through the planned lifetime
- The closure of the cracked tank will present a new challenge for HLW
- The approach for cleaning the annulus of the HLW tanks containing waste may delay the schedule (regulatory commitment)

However, Bill Lawless mentioned that it is yet to be proven that the closure of the cracked tank will be a new challenge for HLW as Mr. Poe noted in his conclusion.

Ken Rueter said that DOE-HQ has sponsored the development of a comprehensive web page that can be reached through the SRS Home Page at <http://www.srs.gov/general/srs-home.html> clicking on Technology then the Salt Processing Project.

Mr. Waters thanked Mr. Poe for his report and complemented the Focus Group for an exceptional job in following HLW issues.

Issues: HLW has an aggressive schedule for implementing, a yet to be selected, technology for removing cesium-137 and alpha activity from the HLW salt solution. This salt must be purified and

stabilized to reduce the risk of tank leakage and the HLW tanks closed. Schedule delays may result in missing agreed schedules for HLW vitrification and tank closure.

Actions: HLW to brief the Focus Group in October on the approach for cleaning the annulus of HLW tanks.

Release of Surplus and Scrap Materials:

Steve Mackmull began his presentation by first discussing the history of CAB Recommendations 54 and 99. Recommendation 99, "Pollution Prevention at SRS" specifically asked for an update on the current release criteria and lessons learned in the Pollution Prevention (P2) Program.

Mr. Mackmull said that the existing DOE Order 5400.5, "Radiation Protection of the Public and the Environment" and WSRC 5Q Manual – "Radiological Control" determines the current release criteria. For alpha contamination, the transferable number is 20 (disintegration per minute (DPM)/100 centimeters squared) and the total is 500. For beta-gamma contamination the transferable number is 200 (disintegration per minute (DPM)/100 centimeters squared) and the total number is 5000. Mr. Mackmull indicated that these numbers may change; however, he added that it is too early to tell if the numbers will become more stringent. Saying that it would be helpful for the WMC to know and compare, Lee Poe and Bill Lawless requested they also be provided with the release criteria that the Nuclear Regulatory Commission (NRC) uses for commercial vendors. Since a moratorium on the Department's release of volumetrically contaminated metals is dependent upon NRC's establishment of national standards, several attendees expressed their concern about the time delay in receiving this standard. NRC has already been involved in this process for five years and there appears to be no clear target date established by NRC to develop these standards.

Mr. Mackmull then discussed three Clean Diversion Programs at SRS that reduce generation of low-level waste. They are:

- Damaged Respirator Disposition Program - avoids 270 cubic feet per year
- Nuclear Materials Stabilization Program - avoids 5300 cubic feet per year
- High Level Waste H-Area Tank Farm Program - avoids 3900 cubic feet per year

In the "Green is Clean" Disposal Program, Mr. Mackmull said that from lessons learned in the P2 Program, rather than dispose of waste as low-level waste, SRS was able to dispose of 12,000 bags of clean waste at the Jasper County Landfill and another 18,000 bags at the Three Rivers Landfill. In response to a question how the bags were placed at the landfill, Mr. Mackmull responded that they were placed in special compartments with protective designated barriers so that record keeping of bag content would be in compliance with Solid Waste Management regulations. Overall, Mr. Mackmull said that Diversion works and is demonstrated by its low risk and high probability of success, where 80 to 100 percent of the waste volume is classified as sanitary waste.

Mr. Mackmull proceeded to the second half of his presentation, the moratorium established by Secretary Bill Richardson, on the release of volumetrically contaminated metals pending a decision by the NRC whether to establish national standards. A Reuse and Recycle Task Force has been established to review DOE policies regarding the release of all materials for reuse and recycle programs throughout the DOE complex. In July, a Memorandum was issued that directed further action in the following four areas:

- Improve release criteria and monitoring practices
- Expand efforts to promote reuse and recycle within DOE
- Improve management of information about material inventories and releases
- Accelerate recovery of sealed sources

The Memorandum also specified a full review of a dedicated "Steel Mill". Mr. Mackmull said the study is intended to help DOE decide whether it makes fiscal sense to invite solicitations from industry to build and operate a dedicated steel mill for recycling steel which has measurable radioactive contamination above background -- regardless of level. The recycled steel and nickel from the mill would be used internally by DOE waste programs. The alternative to a dedicated steel mill would be disposal of the steel/nickel as radioactive waste and continue to buy waste containers commercially. Commercial recycling of slightly contaminated steel and nickel is no longer an option according to the Secretary's policy, which concluded there may be a potential risk to the public.

The Memorandum included a draft change to the new Directives which was completed for internal review August 25, 2000, and incorporated changes to release criteria (as noted earlier in this summary that the numbers are expected to change), and two new chapters related to information management (a new database). These Directives will be released for a 60-day public comment period scheduled to commence September 15, 2000. The Final Directives and Guidance will be approved and issued by DOE on December 30, 2000.

Mr. Mackmull reiterated that the aim of this DOE Policy is to ensure consumers that scrap metal released for recycle from DOE facilities contains no detectable contamination from departmental activities. However, in relation to SRS, Mr. Mackmull said possible SRS impacts would include maintenance of a centralized electronic database of releases for both surface and volumetric contamination; specific equipment for release surveys may be prescribed; and storage area(s) for released materials until suspension is rescinded. In closing, Mr. Mackmull said SRS has a small supply of feed scrap (less than 10 percent) to the Steel Mill study.

Issues: Because of misinformation currently in the public domain, especially pertaining to surface versus volumetrically contamination, the public may be opposed to the release of surplus and scrap materials. How can DOE ensure that metals released to the public will not be sold to other entities that may melt the contaminated metals? Bill Lawless stated that many of these concerns supposedly held by the public may represent an overreaction. Mr. Lawless also mentioned that the idea of building a steel mill may or may not be an appropriate action to take so that another facility like the Consolidated Incineration Facility is not built to be later abandoned

Actions: DOE/WSRC to provide NRC release criteria to Bill Lawless and Lee Poe. Mr. Mackmull is invited to make a presentation to the SRS Citizens Advisory Board (CAB) at its September 26, 2000 meeting. The CAB technical advisor is to develop a draft motion that will be presented to the Board on September 26, 2000. The draft motion should consider commercial vendors to perform the decontamination and also include a recommendation that a scientific panel or independent scientific peer review be convened to study the problem. In addition, the draft motion should stipulate that DOE-HQ not take a passive position in the establishment of national release standards for volumetrically contaminated metals but work aggressively with NRC to ensure a quick and equitable resolution.

Environmental Assessment (EA) for the Offsite Transportation of Low-Level Radioactive and Mixed Waste:

Don Zecha opened his presentation by stating that the purpose of the EA is to ensure that the transportation of waste to DOE and commercial facilities analyzes the potential environmental and health impacts of the proposed offsite transportation, that it supports the Waste Management Programmatic Environmental Impact Statement (WMPEIS) Record of Decision (ROD) for mixed waste disposal at offsite locations, and provides a worst case analysis for offsite waste shipments.

Mr. Zecha said that the scope of the EA covered mixed low-level waste (MLLW) being sent offsite for commercial/DOE treatment and disposal. For low-level waste (LLW) sent offsite for commercial/DOE treatment and disposal, Mr. Zecha noted that there are two caveats: when it is

cost effective or in the best interest of DOE to ship the waste offsite. DOE also wanted to ensure the validity of the volume, the mode of transportation, and that the waste characteristics were fully analyzed.

Highlighting the destinations for the waste, Mr. Zecha identified the DOE and commercial facilities that include:

- Idaho Falls, ID (DOE Advanced Mixed Waste Treatment Facility)
- Beatty, NV (Nevada Test Site)
- Oak Ridge, TN (commercial facilities and DOE)
- Richland, WA (Advanced Technology Group and DOE)
- Eunice, NM (Waste Control Specialists)
- Clive, UT (Envirocare of Utah)

Responding to a question why SRS does not send waste to Barnwell, Mr. Zecha said that the Barnwell facility, while it is close in proximity to SRS, it is not Resource Conservation and Recovery Act (RCRA)-permitted facility. In addition, Mr. Zecha noted that the geology of the facility, being similar to SRS, is a permit concern with the regulators for mixed waste disposal and the cost of sending LLW waste to Barnwell is considered prohibitive. Mr. Zecha emphasized that the EA is only trying to assess the impact of transportation, it is not making a decision of where SRS will send its waste.

In discussing scenarios that were addressed in the EA, Mr. Zecha noted the following:

- Rail and truck shipments
- Vitrified M-Area Wastewater Sludge (2850 drums)
- Miscellaneous Soil/Debris (not RCRA, but construction debris, Environmental Restoration waste) – Bulk (124,891 cubic meters)
- Miscellaneous Soil/Debris – Drums (45,000)
- Miscellaneous Liquids

- Drums (5,000)
- Tankers (10 @ 3400 gallons each)

The method the EA uses for analyzing the worst case scenarios is as follows:

1. M-Area waste data based upon analytical results (uranium)
2. Remaining waste forms assume a worst case scenario
 - 99 nCi/g of Pu-239 (99×10^{-9} Ci/g) (Note: if over 100 then it becomes Transuranic waste and managed under another program. No waste at SRS approaches this level.)
 - maximum DOT levels (10 millirem per hour at 2 meters)
3. Routing conditions were obtained by DOE computer codes
 - HIGHWAY for trucks
 - INTERLINE for rail
4. Radiological impacts were calculated by RADTRAN
5. DOT data was used for traffic analysis

Perry Holcomb raised the question of how the mitigation of any transportation accident comes into play in the EA scenario and noted the mobility of I-129 and its difficulty of detection and analysis in the event of an emission in any transportation accident. Mr. Zecha said the presentation would be modified to include this scenario. Mr. Zecha also commented that no calculations were made to assign risk values to food pathways because any contamination of

foodstuffs (crops, cattle, and milk at specified thresholds) associated with a serious accident was assumed to be taken out of the market. Therefore, Mr. Zecha said this EA concludes that there would be no adverse environmental impacts and no disproportionate environmental justice impacts. The EA found no Latent Cancer Fatality to workers, the public, and during an accident since the calculated number was less than one for all cases and waste types. Based on Department of Transportation (DOT) statistics, DOE expects the transportation to result in about nine non-fatal accidents but no fatal accidents

In conclusion, Mr. Zecha said that this EA would allow the offsite shipment of SRS's LLW with difficult disposition issues and supports the WMPEIS ROD for offsite treatment/disposal of MLLW. It was noted that in an earlier presentation to the WMC on June 27, 2000, a schedule provided by Virgil Sauls indicated the document would be submitted such that the 30-day public comment period would provide the SRS CAB sufficient time to review and submit a recommendation determining its position on the EA. The public comment period begins September 18 and ends October 17, 2000.

Issues: None.

Actions: Don Zecha is invited to make a presentation to the full Board at its September 26, 2000 meeting. The SRS CAB Technical Advisor is to develop a draft motion that will be presented to the Board on September 26, 2000. It should emphasize the use of the conservative scenarios utilized in the EA and support the conclusion that it is safe to transport these waste shipments to offsite commercial and government facilities. The WMC would also like to see a better discussion on the reasons to exclude risks associated from agricultural products contaminated as a result of the material being dispersed in a serious accident. A discussion on the DOE's emergency response actions relative to a transportation incident involving shipments of radioactive material may also be warranted.

Mound Transuranic (TRU) Waste Briefing:

Dale Ormond provided an updated briefing on Mound Waste at the request of the WMC at its meeting on August 22, 2000. Wade Waters indicated that the WMC had additional questions and Mr. Ormond said that he prepared his presentation to address those questions. For example, Mr. Ormond confirmed that the Mound waste, consisting of 150 cubic meters of legacy waste, contained mostly job control waste. SRS will obtain a complete inventory of the waste, including x-ray and assay results prior to acceptance of the waste at SRS. Mr. Ormond said that characterization data was required for safety analysis.

Mr. Ormond clarified that the newly generated waste previously discussed at the August 22, 2000 meeting would consist of up to another 150 cubic meters of decontamination and decommissioning waste that would emerge as a result of the Mound site closure. Where possible, this waste would be packaged to meet WIPP disposal requirements; however, SRS will complete the certification process to dispose of the waste in WIPP.

In terms of waste transportation, Mr. Ormond said the Mound waste must be packaged in Type A shipping containers that will meet SRS storage requirements. For the newly generated waste, it will be packaged in a WIPP acceptable container since a potential exists to ship this waste directly to WIPP. The Mound waste will be stored in the E-Area Storage Facilities in compliance with the safety authorization basis, and depending upon curie content, the waste will be stored on a TRU Storage Pad in a shipping container or with the container inside of a concrete culvert.

Mr. Ormond closed his presentation by noting that bringing the Mound waste to SRS make sense from a national perspective and facilitates the closure of a DOE site saving taxpayer dollars. SRS has similar waste in its current inventory and the Mound waste will not significantly increase the volume or curies of SRS stored waste. Bill Lawless agreed that bringing the Mound waste to SRS

is the right thing to do since it is a small amount and saving taxpayer dollars by closing the Mound site makes sense. Lee Poe expressed an opinion that SRS needs to negotiate some benefit for receiving the Mound waste.

Issues: None.

Actions: Dale Ormond is invited to make a presentation to the full Board at its September 26, 2000 meeting. The CAB technical advisor was requested to begin developing a draft motion on bringing the Mound waste to SRS. The draft motion will be presented to the Board at the September 26, 2000 meeting.

Recommendation Review:

Wade Waters discussed a review of 25 open and pending CAB recommendations pertaining to the SRS Solid Waste Program that was conducted on August 24, 2000 with Solid Waste Division and Public Involvement staff. In the review, Mr. Waters said that 19 of the recommendations should be moved to closed because the actions in the recommendations had been completed or overcome by events. Mr. Waters provided copies of the "SRS CAB Waste Management Committee Recommendation Summary Report" and asked that the attendees refer to the document as Mr. Waters read through the recommendations that were being moved from open and pending to closed.

Public Comment:

There were no public comments.

Wade Waters adjourned the meeting at 9:15 p.m.

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