SRS Citizen's Advisory Board

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Environmental Remediation &
Waste Management Subcommittee

Meeting Summary
August 28, 1995
Augusta, Ga.

The SRS CAB's Environmental Remediation and Waste Management (ER & WM) Subcommittee met on August 28, 1995 at 4:30 at the Landmark Hotel in Augusta, Georgia. Dr. Bill Lawless, Co-Chair of the Subcommittee, opened the meeting with introductions. CAB representatives present included Dr. Lawless, Thelonious Jones, Walt Joseph and Vernon Zinnerman. Representatives from the Department of Energy (DOE-SR) and Westinghouse Savannah River Company (WSRC) included Jim Mason, Bob Aylward, Tom Rehder, Brian Hennessey, Clay Jones, Joan Baum, Karen Poore, Howard Gnann, Neil Davis, Anne Roe, Kelly Way, Leslie Huber, Charlie Anderson and Mary Flora. Jeff Crane attended for the U.S. Environmental Protection Agency (EPA) and Bob Benson and Keith Collinsworth represented the South Carolina Department of Health and Environmental Control (SCDHEC). Representatives of the public present were Todd Crawford, Gary Street, Kim Wierzbicki, Julea Bradley, Lee Poe and the Jim Mason family. Virginia Gardner was present as the Associate Designated Deputy Federal Official (ADDFO) for DOE-SR.

Dr. Lawless announced the meeting agenda for the evening and opened the floor for additional topics and announcements. Todd Crawford announced there would be a day-long session on August 29, 1995 beginning at the Telfair Inn in Augusta and moving to the D-Area Oil Seepage Basin at the SRS in the afternoon to highlight the advantages of using the Expedited Site Characterization (ESC) methods for waste unit characterizations. This project, sponsored by Ames Laboratory, is open to the public. A prime benefit of using ESC is accelerating the environmental restoration process. The ESC methods will showcase innovative technologies that can be used in the characterization phase of ER work.

Dr. Lawless reviewed the presentation provided to the Subcommittee on August 21, 1995 by Dr. Joel Massman on the Independent Scientific Peer Review (ISPR). The schedule was reviewed:

- the report will be provided to SRS on September 18 for distribution to all interested parties,
- SRS will distribute the report via overnight mail
- a special Subcommittee technical meeting will be held on September 21 with the ISPR team to discuss the results of the report

- the Subcommittee will meet September 25 and review the report contents with members who were unable to attend on September 21
- the results of the ISPR study will be presented to the full CAB on September 26. The Subcommittee will submit the report to DOE, EPA and SCDHEC at this meeting and will request responses from the agencies.
- these responses will be used to develop a motion that will be presented to the full CAB at the November meeting in Barnwell, SC.

Brian Hennessey then reviewed CAB Recommendation # 2, providing guidelines for evaluating cleanup options using either the industrial or residential future use option. There was extensive discussion on comparing industrial zone exposure assumptions and criteria with those used in residential zones. Jeff Crane, EPA, clarified that regardless of the future use assumption used, risk determinations were to be based on reasonable maximum exposures.

Following the review of CAB Recommendation # 2, Tom Rehder and Jim Mason, WSRC, gave a presentation that illustrated how SRS has implemented this recommendation at the D-Area Burning/Rubble Pits. The presentation focused on the Corrective Measures Study/Feasibility Study (CMS/FS) screening, where six (6) alternatives that reflect either residential or industrial future use have emerged as potential remedial alternatives. Details regarding each of these remedial alternatives were discussed. WSRC representatives noted the next step in the process for this waste unit will be to streamline the documentation in such a fashion that a focused feasibility study will be completed concurrently with the Proposed Plan. Since the Subcommittee will continue receiving CMS/FS screening briefings on other waste units, Dr. Lawless asked those present to offer comments on ways the presentations could be improved. Jeff Crane agreed that submitting the focused feasibility study and the proposed plan simultaneously will streamline the process for this project. Julea Bradley suggested the subsurface characterization information be shown in cross-sections to more clearly illustrate the data gathered. Other suggestions offered included 1) use common/non-technical terms and avoid the use of acronyms, 2) show clearly the absence, as well as the presence, of contamination and 3) use color on the risk chart to highlight the risks of concern. It was also offered that once the documentation was reviewed and finalized, an update on implementing CAB Recommendation No. 2 using this project as an example, could be provided to the full board.

At the request of Lee Poe, Dr. Lawless announced that the discussion on the design of the E-Area Vaults, currently on the agenda for the October 7 Subcommittee meeting, will be removed from the agenda. This topic will be discussed at the next meeting that is held in the Central Savannah River Area (CSRA).

Dr. Lawless introduced Howard Gnann, DOE, who provided the Subcommittee with an overview of the SRS High Level Waste (HLW) system. This discussion included a status of the various components of the HLW system, such as the Defense Waste Processing Facility (DWPF), In-Tank Precipitation (ITP), Extended Sludge Processing (ESP), and Late Wash Facility. Currently DWPF is processing simulated waste and pouring glass simulant canisters. DWPF is scheduled to begin radioactive operations in December 1995. Although ITP started up in August 1995 and Late Wash is on schedule for an August 1996 startup, problems have been encountered with the slurry pumps that are being used at ESP. These problems, caused by faulty

impellers that create pump imbalances, appear to be correctable by using milled impellers rather than cast impellers. Neil Davis, WSRC, noted that new pumps containing the corrected impellers, should be available in November 1995. Dr. Lawless urged SRS to encourage the pump manufacturer to make these pumps available for testing as soon as possible.

Mr. Gnann then discussed the HLW funding and waste removal schedule. Currently the Federal Facility Agreement (FFA), a tri-party agreement between EPA, SCDHEC and DOE requires that all waste contained in the HLW tanks must be removed by 2028. Current funding projections do not support this date, without significant process improvements. Mr. Gnann explained there are three(3) possible budget scenarios for the HLW program: Minimum Life Cycle, Baseline and Fiscal Year (FY) 1997 Out Year Budget (OYB). Comparing the three cases reveals:

Case Completion Year Total Program Cost Minimum Life Cycle 2013 $8.6 billion Baseline 2021 $11.3 billion FY97 OYB 2065 $26.5 billion

These cost for the FY 97 OYB case includes construction of replacement tanks.

Dr. Lawless stated he believed the HLW tanks were built to have a fifty (50) year life expectancy and questioned whether this was accurate given the corrosion that occurred on the tank interiors prior to the storage of waste in these tanks. Mr. Davis clarified that the life of Type 3 tanks appears to significantly exceed 50 years and since the interior of these tanks were cleaned using frit blasting, no additional corrosion has been observed.

Mr. Gnann noted that in the last five (5) years, the HLW program has consistently met funding challenges and expects to continue this pattern of continually improving the processes to save time and money by using a variety of techniques. These techniques include reducing costs, improving productivity, using new technologies, and continually evaluating the engineering process to identify improvements that can be made.

Mr. Gnann added that since the HLW funding challenge doesn't begin until FY97, SRS is confident that process improvements can be initiated soon to support emptying the tanks by the 2028 milestone. Dr. Lawless supported this position and noted he will develop a motion encouraging SRS to remove the waste from the tanks as quickly as possible, but to at least meet the 2028 milestone. SCDHEC concurred with this position and noted it is unacceptable to leave the waste later than 2028.

When asked whether additional funding would provide the impetus to meet the 2028 requirement, Charlie Anderson, DOE, stated that SRS has no intention of leaving the waste in the tanks until 2065. SRS is dedicated to improving its current operations and meeting the 2028 milestone based on current funding projections Additionally, Mr. Anderson noted that emphasis will be placed on reducing risk in the waste removal process. As such, waste from the Type 1, 2, and 4 Tanks will be removed first. Finally, projections being used to develop the waste tank removal schedules are estimates and will remain so until the system is operational. However, current expectations are that these estimates will improve dramatically and the 2028 milestone will be achievable.

Dr. Lawless closed the discussion on the HLW system emphasizing that while the means to reach that milestone are up to SRS, the 2028 milestone must be met. This belief is consistent with the CAB position that the highest risk SRS projects must be addressed expeditiously. Mr. Davis thanked Dr. Lawless for his support and advocacy of the HLW program.

Mr. Gnann provided the Subcommittee with another briefing on "The Additional Glass Waste Storage Buildings" outlining the existing storage building description, existing storage building design features and future storage building plans. Subcommittee representatives raised safety questions and concerns about the following:

- safety of the radioactive waste during natural catastrophes, ie. earthquakes.
- loss of institutional control
- failure to open Yucca Mountain as the permanent repository for HLW canisters
- safety of the waste tanks over the 50 year design life
- failure of the concrete structure of the Glass Waste Storage Building if the forced air cooling system is lost
- need for use of HEPA filters in Glass Waste Storage Building

Dr. Lawless expressed his belief that future glass waste storage building designs should consider passive safety features that eliminate the need for institutional controls and results in a building that is "Walk Away Safe". Lee Poe suggested that South Carolina will be vulnerable to becoming a defacto permanent storage option if the Glass Waste Storage Buildings are designed to that standard. He recommended all parties should apply pressure to make the federal repository a reality.

Bill Lawless proposed drawing up a draft motion to present to the full CAB to specify:

- Actions should be taken to avoid permanent disposal of High Level Waste in South Carolina; however, the design for additional interim storage facilities should consider passive safety design features, such as, convection cooling in lieu of forced air cooling
- Actions should be taken to avoid loss of institutional control
- Actions should be taken to ensure the permanent federal repository at Yucca is secured: if waste does remain at SRS, ensure it is safely stored

Questions requiring followup included: (1) How long will the glass canisters last if the super structure decays or is destroyed?, (2) What are the consequences of a ventilation system failure?, and (3) Issue of tank corrosion and life expectancy of different type tanks.

Lee Poe gave a presentation to the Subcommittee on the DRAFT Risk Report to Congress. This report, entitled, "Risks and the Risk Debate: Searching for a Common Ground The First Step", was developed by DOE-Headquarters with input from each of the DOE field offices. This report provides a link between budget, compliance, and risk activities and is out for public comment until September 30, 1995. Mr. Poe encouraged those present to review the report since it has implications for how Environmental Management (EM) work will be conducted throughout the DOE Complex. Additionally, with DOE using risk management as a tool for budget planning, this report initiates the institutionalism of this process. Mr. Poe stated he has submitted his

comments to DOE, as has Dr. Lawless, and encouraged others to do the same. Mr. Poe believes the approach of applying risk management, as defined in this report, toward budget setting is wrong and should be reconsidered. DOE should consider looking at risk reduction rather than risk management. Additionally, annual budgeting is counter-productive and in budget planning, DOE should evaluate life-cycle costs.

Following a discussion on the protocol used to develop the Risk Data Sheets (RDSs) that are used as the backbone of this report, Mr. Poe outlined seven (7) path forward recommendations. These recommendations included:

- New process should be linked more effectively with Site activities and budget planning
- Evaluation process should begin in the near future to coincide with FY97 review of field budget submittals
- Evaluation process needs to be expanded/modified to include ability to assess more accurately environmental remediation activities based on land use assumptions and regulatory drivers
- Decision should be made to address risks averted (before and after) or activities based upon the reduction of risks as they currently exist
- Establish a timeframe for assessing risk reduction potential, such as five years rather than indefinitely
- Integrate with existing site and HQ prioritization process to prevent duplication and overlapping efforts.
- Establish and use consistent set of scenarios and assumptions to ensure each site and activity provides the same context for assessment

Dr. Lawless requested DOE provide RDSs for the following projects: DWPF, Burial Ground/TRU Waste Disposal, F & Groundwater Remediation, D-Area Burning/Rubble Pits, Old F-Area Seepage Basin, HLW Tanks, and ITP and ESP facilities. Dr. Lawless also recommended that RDSs should be reviewed prior to report compilation and that the draft report should have an Independent Scientific Peer Review. Mr. Poe agreed and noted that using a tool similar to this process would be advantageous to the CAB as they attempt to determine which projects and issues should be accelerated.

Dr. Lawless closed the meeting and thanked those attending. The next meeting of this Subcommittee will be September 21 in Augusta, Georgia.

- Attachment 1 - Decision Diagram for CERCLA Waste Units
- Attachment 2 - D-Area Burning Rubble Pits
- Attachment 3 - HLW System Status & Challenges
- Attachment 4 - Additional Glass Waste Storage Buildings
- Attachment 5 - Review of EM's Draft Risk Report to Congress
- Attachment 6 - Article "The 104th Congress and Federal Facility Environmental Activies: A Preliminary Assessment
- Attachment 7 - Letter, W. L. Lawless to Milton Russell, August 29, 1995

Note: If you would like to request any of the above attachments, please call the SRS CAB toll-free at 1-800-249-8155.