SRS Citizen's Advisory Board

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Waste Management Committee

Aiken Federal Building, Aiken, SC
May 6, 2003

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, May 6, 2003, 5:00, at the Federal Building, Aiken, SC. The purposes of the meeting were to provide a forum to share information and educate stakeholders on the Tailored Salt Processing Program and to address questions and concerns of stakeholders on the program.

Attendance was as follows:

CAB Members
-Bill Willoughby
-Harold Rahn
Gerald Devitt
-Murray Riley
-Bill Lawless
William Lawrence

Stakeholders
Lee Poe
Mike French
Ernie Chaput
Rich Smalley
Todd Crawford
Rick McLeod*

DOE/Contractors
Joe Carter. WSRC
Ginger Dickert, WSRC
Sonny Goldston, BNFL-SW
Elmer Wilhite, BNFL-SW
Teresa Haas, WSRC
Kelly Way, WSRC
Fran Williams, WSRC
Soni Blanco, DOE
Bill Clark, DOE
Terry Spears, DOE
George Mishra, DOE
Bill Spader, DOE
Jim Cook. WSRC
Dennis Hayes, WSRC
Collin Austin, BNFL-
Ron Campbell, WSRC
David Hoel, DOE
Larry Ling, DOE
Susan Cathey, WSRC
Jim Moore, WSRC

Regulators
Keith Collinsworth, DHEC
Shelly Sherritt, DHEC
Ben Rusche, NAC
Dwain McMullin, facilatator

*CAB Technical Advisor
-WM committee members

Bill Willoughby called the meeting to order at 5:00. He welcomed those in attendance and asked for introductions. He then introduced Mr. McMullin, the facilitator, and turned the meeting over to him.

Mr. McMullin explained the meeting process and facilitator roles.

Mr. Willoughby then explained that this meeting was designed for the CAB and stakeholders to gain knowledge. He stated that he was glad that Mr. Rusche of the SC Nuclear Advisory Council

(NAC) and Keith Collinsworth of South Carolina Department of Health and Environmental Control (DHEC) could attend. He added that normally, DOE, WSRC, and the public are the only WMC attendees. Mr. Willoughby stated that this meeting might provide the CAB WM Committee a basis for writing a CAB recommendation, if any is required. He encouraged the group to participate.

Terry Spears, Director, Salt Processing Division, DOE-SR
Federal Project Manager for Salt Processing
Mr. Spears explained how SR, in concert with WSRC, has developed and is working to implement a tailored salt processing strategy that segregates salt waste into three components and provides appropriate treatment for each. Salt waste components include: low curie salt, low curie/high actinide salt and high curie/high actinide salt. For the low curie salt, interstitial liquid, which contains most of the cesium, will be removed and the remaining decontaminated salt solution will then be suitable for disposition to Saltstone (SS) as low level waste. The low curie/high actinide salt fraction will be processed through an actinide removal treatment and filtration step that is currently under development in an existing SRS tank farm facility. The high actinide-bearing materials from actinide removal will be sent to the Defense Waste Processing Facility (DWPF) for disposition in glass canisters, while the decontaminated salt solution filtrate will be sent to SS as low level waste. The high curie/high activity salt requires development and construction of a new facility, the Salt Waste Processing Facility (SWPF), implementing both actinide removal and newly developed Caustic Side Solvent Extraction cesium removal technology. Actinides and cesium removed from the salt waste in SWPF will be sent to DWPF while the decontaminated salt stream will be sent to SS.

The SWPF will provide a technology-rich (and thus more costly) treatment solution, but will be sized to provide appropriate capacity as a compliment to low curie salt processing. Conceptual design completion and contractor downselection for the SWPF are scheduled for the December 2003 time frame. SR expects this plant to start up in Fiscal Year 2009.

Employing multiple salt disposition solutions allows SR to initiate risk reduction sooner, complete clean-up on an expedited schedule, decrease reliance on a single high-tech treatment solution for salt processing, and reduce costs. While the tailored salt processing treatment strategy will result in additional radioactivity dispositioned to SS when compared to the past baseline, SS is a robust, engineered low level waste disposal facility that has been demonstrated to meet all DOE requirements and SCDHEC environmental regulations, including protection of groundwater to drinking water standards.

Joe Carter, Closure Business Unit
Salt Processing
Mr. Carter discussed several HLW terms and definitions. He explained the sludge, supernate and saltcake terms. Mr. Carter explained the Waste Incidental to Reprocessing process and explained that this process is the challenge of the Idaho lawsuit. He went on to describe several documents that are the basis for safe disposal and operations. He briefly described permits, criteria, and administrative limits to which SR must adhere.

Mr. Carter illustrated the HLW program waste inventory. He explained that today there are 3 million gallons of sludge in the inventory. That sludge makes up 8% of the volume, but contains 53% of the radioactivity. The total radionuclide inventory in curies in the tank farms is 417 million curies.

Mr. Carter described the HLW Program end state. Eventually, all 49 remaining tanks will be grouted in place and closed. DWPF also will eventually be closed. Mr. Carter explained the chart that illustrated that there will be almost 700 thousand curies of activity left at SR when the site is closed. Mr. Carter explained key isotopes and the quantity of each.

Under the proposed endstate, a few things don't change such as the Tank Farm and DWPF closure. While the radioactivity in Saltstone increases to 20 million curies, the bulk of cesium continues to be sent to DWPF to be made into glass. Over 95% of the total radioactivity is incorporated into glass.

Mr. Carter described the engineered SS disposal facility. It will eventually be backfilled and closed. He explained the curies disposal, source by source and discussed the isotopes and their half-lives. Over 96% of these radionuclides have a short half-life, 30 years or less. This radioactivity decays rapidly.

Two Environmental Assessments were done: one for the ground water and one for possible intruders. The water will be protected to drinking water standards. An inadvertent intruder onto the site would receive 30% of the allowable dose limit. The bottom line is that the curies that would be left behind are not detrimental to the groundwater, an intruder, or the public.

Mr. Carter believes there are numerous benefits. The site places a high priority on reducing risks sooner. SR can begin stabilizing the waste seven years sooner. The accelerated cleanup plan ships canisters early. The accelerated schedule shows completing the Yucca Mountain shipments 20 years earlier than initially scheduled.

Mr. Carter summarized by reiterating the closure of the HLW System seven years early, the elimination of risk, and the life cycle cost savings. Even though the proposed HLW end state increases radioactivity at SaltStone to 20 millions curies, this is less than 5% of the total HLW system inventory, and 96% of those radionuclides have a half life of 30 years or less.

Roundtable Discussion

Mr. McMullin opened the meeting to the roundtable participants. Mr. Collinsworth, DHEC, asked to say a few words.

He stated that DHEC is in an odd position on the issue of Salt Waste Processing that goes beyond the regulatory approval process. They (DHEC) permitted SaltStone as an Industrial solid waste disposal facility to dispose of the waste water from the old In tank precipitation process (ITP) process. He reminded the group that under the ITP process, the cesium and actinides were removed, sent to DWPF, and mixed into the glass. The wastewater was then sent to SaltStone.

Now, with the proposal for direct grout disposal and under the Subtitle D solid waste disposal, DHEC continues to review the technical and regulatory aspects of SR's proposal. DHEC doesn't believe they can approve the permit at this time because of the public policy and legal issues that are currently pending.

Mr. Collinsworth continued by saying that it is beyond DHEC's scope to determine public policy of how much waste leaves the site and how much remains. When ITP was operational, 70 thousand Curies remained on site. With the direct grout disposal proposal that SR is offering, 20 million curies would remain on site. Mr. Collinsworth pointed out that DHEC needs public policy input, advice, and guidance from the NAC, Legislature, and the Governor's office. DHEC's approval of this permit would establish a public policy precedent.

Next, Mr. Collinsworth discussed the potential gain of seven years on the waste removal schedule. To accomplish this gain, the class of grout would have to be changed from a Class A (lowest level) to a Class C grout (highest level). This seven-year gain would require 300 years of institutional controls until the shorter lived radionuclides decayed. He asked if this trade off would be worth managing a higher activity waste longer?

Next Mr. Collinsworth discussed the Waste Incidental to Reprocessing (WIR) lawsuit and DOE Order 435.1. He reiterated DHEC's pride in the two HLW tank closures. At the time of these closures, there was no 435.1. DHEC strives to protect surface water bodies and meeting drinking water standards. Since all of the Tank Closure models met drinking water standards, DHEC approved the closure plans with a caveat requesting that the Nuclear Regulatory Commission (NRC) rule that the remaining waste was not HLW. DHEC wanted this waste to be classified as Class C—low level waste. At the time, the WIR clause covered SR to leave the residuals behind in the two tanks.

However, DHEC became uncomfortable when SR introduced the direct disposal concept. He stated that SR wants to take ½ of the curies in the tank farms and change the definition of HLW to Class C low-level waste to enable its disposal into direct grout. DHEC could not justify labeling this waste as incidental. When the lawsuit was filed, DHEC chose to wait to see if the lawsuit were consistent with federal law before they stated a position.

Mr. McMullin asked for more discussion from the table and the stakeholders.

The following points were made throughout the ensuing discussion:

CAB WM Chair-The CAB is sensitive to DHEC's concerns, but is also sensitive to the desire of citizenship to get this waste out of SC. To that extent, the CAB is also in the middle. If we are to advise the DOE, then we need the facts and the challenges that surround them. We can't predict the outcome of these meetings. We don't know if there will be a recommendation or not. We want to be realistic and accomplish what DHEC, the CAB, and the public are looking for.

Mr. Rusche, NAC- expressed concern on the lack of information on life cycle costs. He stated that the site claims a $7.1 billion savings, but doesn't demonstrate how these numbers were derived. We need to have a broader exposition of cost benefits. We don't have the data to tell if

the cost benefits have been done in a cost benefit analysis. Several stakeholders concurred and asked that this information be provided at the next Salt Education meeting to be held May 22.

Mr. Rusche also concluded that this subject is not converged. He stated that there are too many unresolved issues to reach a firm decision at this point. If the lawsuit were set aside for a minute, the WIR concept appears to confer on the Department an authority that is inconsistent with the law.

Mr. Rusche's final point was the importance he places on long term care. He compared the site to a facility in Barnwell in which the long term care funds were taken away. When the state entered the contract, a perpetual clause was established. However, when the NAC reviewed the cost benefit study to determine if the perpetual care fund was adequate, they found that the Legislature had taken the money and redistributed it.

He added that DOE has established the Office of Legacy Waste. This is recognition that the federal government has an obligation to long term care support. He stated that a decision could not be made tonight, but this forum has been constructive and productive.

Mr. Collinsworth, DHEC-noted that this issue is going to have to be addressed. Technically, direct disposal can be done under Subtitle D and leachability. We're holding back approval on input from the governor and resolution of the lawsuit. The Natural Resources Defense Council (NRDC) believes there can not be one molecule of HLW left; whereas, DHEC recognizes some HLW will remain in the tanks. It comes down to sufficient concentrations of fission products. People have to come together to resolve the tank closure problem. DHEC is still comfortable with stripping the Cesium and actinides and Class A disposal (ITP or small ITP) disposal in SaltStone. DHEC doesn't think that this process would require a WIR. Waste removal can continue on schedule. The tank closure schedule may be in trouble.

Mr. Chaput asked for a chart that illustrated the waste left on site vs. cost savings, or a "curies left vs. financial benefit chart. He questioned if there were a "tank by tank" chart. Meaning, if one tank were done, what is the benefit, if two were done, what would the benefit be, etc….

The group determined that this would be an excellent followup topic for the next meeting.

Mr. Poe pointed out that there must be a benefit to removing material that is sitting in tanks that weren't designed to hold waste for this long. How can we say the cost savings can pay for additional risk of leaving waste in state. Mr. Rusche answered that these problems cause a judgement because the public doesn't know all the facts. The public is on one edge of the spectrum as we move ahead. People are forced to make judgements that they can't defend.

Mr. Willoughby asked for better guidelines or definitions put into a revision of 435.1 in order to give a boundary that isn't just fuzzy words. For example, "economically practicable and technically feasible"

Mr. Chaput agreed that the subjectivity of 435.1 breeds the problem. He does not want to see DOE clean up a site and then have to come in later to clean it up again.

Mr. Lawless noted that the lawsuit might not end in two or three months. He has a concern with the stoppage of work. He is also sensitive of moves actually reducing risks. He asked if there were a reasonable alternative to keep work moving forward.

Mr. Spears stated that he sees SR taking positive steps in reducing risks. He believes these should be demonstrated. He reiterated that DOE could do positive things if they are enabled to do that. Our strategy is designed to address this.

Discussion topics
Cost benefit Analysis/ Long term stewardship
Life cycle cost savings or cost benefit analysis.
Possibility of reduction of long term care funds by state government

Fund left for perpetual care

Are we really saving money by accelerating the process if we have to maintain institutional control for 300+ years? Consider long term care costs in the cost analysis

Waste left on site vs. cost savings chart

We don't want to spend money if it doesn't contribute to safety.

Can we calculate risk vs. cost savings per tank?

Curies left versus cost benefit.

Discussion of 300 years of institutional control vs. cost benefit.

Curies left vs. incremental savings

435.1
Verbiage "technically feasible and economically practicable"

Subjectivity of 435.1 breeds problems

Problems with 20M curies in SaltStone

I would like to see SR use Tank 50 and determine feasibility of process.

We need a presentation on process and its implications to the rest of the system.

WIR
Reduce our risk at SRS
What are the ones that brought the lawsuit trying to accomplish?
What can SRS process without resolution of the lawsuit?

What are the settlement/negotiation issues?
What is the DOE oversight and decision making process?

Definition of sufficient concentration of fission products must be addressed, regardless of the lawsuit outcome
Define terminology "incidental"

PUREX and Tank 50
Aqueous purex can not be sent to Tank 50 directly.
Citizens are concerned about slippage of milestone being completed.
We need to talk to regulators and site about getting aqueous into ETF and reaching milestone.
Tank 50 feed to SaltStone
Feasibility of Process and the implications to rest of the system
Demonstration possible>

Action Items
Pull together talking points for a possible motion.

Meeting adjourned at 7:15.