SRS Citizen's Advisory Board

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Consolidated Incineration Facility Focus Group

Meeting Summary

August 21, 2001
North Augusta Community Center
North Augusta, SC

The Consolidated Incineration Facility (CIF) Focus Group met at the North Augusta Community Center on August 21, 2001. Attendance was as follows:

CAB Members	Stakeholders	DOE/Contractors
Wade Waters	Lee Poe	Ray Hannah, DOE
Jean Sulc	Mike French	George Mishra, DOE
Karen Patterson	Bill Lawless	Mike Simmons, DOE
	Rick McLeod	Peter Hudson, BNFL
		Tony Maxted, BNFL
	Regulators	Ed Stevens, SRTC
	Shelly Sherritt	Sonny Goldston, WSRC
	Crystal Rippy	Marshall Looper, WSRC
		Steve Pye, WSRC
		Helen Villasor, WSRC

Wade Waters opened the meeting promptly at 5:00 p.m. by inviting introductions and thanking everyone for coming.

Public Comment

Bill Lawless read excerpts from an article published in the August 21, 2001, issue of *The Wall Street Journal* related to a new method for reprocessing nuclear wastes. Dr. Lawless asked that the article be recopied and distributed to the CIF Focus Group. Dr. Lawless said the article caught his attention since it refers to "transmutation" as a means for transforming dangerous residue into a relatively benign - and possibly even valuable - material. Additionally, Dr. Lawless noted that the new method has appeared to earn endorsements by the Argonne National Laboratory and Vice President, Dick Cheney.

Wade Waters stated it was his opinion that SRS stakeholders need to stay aware of the publicity surrounding the plutonium shipments that are scheduled to arrive at SRS from Rocky Flats. Mr. Waters cited the specific action that the Governor of the State of South Carolina intends to take to prevent the shipments from entering the State.

Consolidated Incineration Facility (CIF) Optimization Study

Tony Maxted opened his presentation by addressing the scope of the Optimization Study, which is to establish the possibility of treating undiluted PUREX at CIF; identifying any necessary hardware, program or operational modifications; and estimating the lifecycle cost of the operation of CIF under "optimized" conditions.

Mr. Maxted said the simple answer to the possibility of treating undiluted PUREX at CIF is yes, but there are three operational constraints, i.e., radiological inventory control, secondary waste disposal, and radiological contamination control. Bill Lawless asked Mr. Maxted if the cost would be higher or lower than the $35M it would take to restart the facility. Mr. Maxted said that the Solid Waste Division (SWD) is still in the process of peer reviewing and approving the costs; therefore, cost information would not be available until the next CIF Focus Group meeting.

Discussing inventory control first, Mr. Maxted said DOE established inventory limits to allow a graded approach to analyzing hazards. Based on the limits of inventory, CIF is currently categorized as a Radiological Facility. An option in optimizing CIF would be to re-categorize CIF as a Hazard Category 3 facility, which would allow a higher number of radionuclides. Mr. Maxted said that an impact of this option would be a minor cost to upgrade the documentation.

Addressing the next operational constraint, Mr. Maxted said that the secondary waste disposal consists of the CIF blowdown (liquid) waste stream, which had been sent to the Effluent Treatment Facility (ETF) for treatment. However, with undiluted PUREX, the radioactivity would be 50 times greater, thus exceeding the Waste Acceptance Criteria (WAC) for ETF. An option would be to dispose of this waste stream directly at the Saltstone facility; however, the impacts would consist of installing a tanker unloading station at the facility, and purchasing and certifying two tankers to transport the material to Saltstone. Since Saltstone is permitted as a Waste Water Treatment facility, and not a Resource Conservation and Recovery Act (RCRA) facility, it would be necessary to seek approval from the South Carolina Department of Health and Environmental Control (SCDHEC) for the use of Saltstone facility for this material.

Next, Mr. Maxted explained contamination control. Since CIF had not been designed to manage higher levels of alpha activity, the facility is open to the air. Therefore, Mr. Maxted emphasized that the increased source term would equal increased risk of personnel exposure in terms of accident scenarios or during maintenance interventions. The only option available to address contamination control would be to add secondary containment, ventilation, high efficiency particulate air (HEPA) filters, etc to the facility. The major portion of this upgrade would involve the off-gas area. Other minor projects would include enclosing the CIF feed, upgrading the solvent tank area, providing secondary containment for the PUREX line, and increasing the amount of radiological monitoring equipment. Out of the three operational constraints Mr. Maxted discussed in his presentation, he noted that contamination control is the major cost to optimizing CIF.

Mr. Maxted proceeded with a discussion on CIF operational costs, including restarting CIF from its "Suspension of Operation" status and facility operations. In terms of CIF closure costs, Mr. Maxted said CIF would have to be closed down in either case whether DOE chose to restart the facility or chose to pursue an alternative. Therefore, closure costs were not currently being considered in the alternative selection process. When asked if the cost of closure is the same if CIF were re-designed, Mr. Maxted said the closure costs would not be affected. Wade Waters said that it was important to look at all the cost numbers at the same time. Mr. Maxted responded that at this point in time, the cost to restart and operate CIF could be forecasted accurately; however, the forecast for closure costs has a greater level of uncertainty. Rick McLeod disagreed with the discussion and pointed out that closure cost estimation is a requirement for commercial industry. Bill Lawless then asked when would valid cost data be made available to the Focus Group, and specifically if the information would be available before the April 1, 2002 decision date? Mr. Maxted responded that cost data on Closure would be available before April 1, 2002, and would be shared with the CAB as soon as possible after discussions with SCDHEC.

Mr. Maxted concluded his presentation by saying that in order to estimate the costs associated with running CIF, an operational cost model had been developed. This operational model had been used to determine that the operational life of CIF would be about six weeks (41 days) for treating undiluted PUREX, Mr. Maxted closed by saying that DOE would be spending a lot of money to run a plant for such a short amount of time.

Final discussions centered on the availability of cost information for CIF operations, restart and upgrades. Mr. Maxted agreed that he would be able to come back to the Focus Group with the cost elements and total costs in September or October. Mr. Waters also asked Mr. Maxted to make a presentation on CIF and related costs to the SRS Citizens Advisory Board at its next meeting on October 23, 2001.

PUREX Waste alternative Treatment Evaluation

Marshall Looper began his presentation by reviewing the purpose of the Alternative Treatment Study being performed at SRS and the Systems Engineering Approach used to select the best alternative treatments for both the aqueous and organic phases of PUREX. Mr. Looper said he would also compare the best alternative treatments with optimized CIF treatment. Mr. Looper then reviewed the long list of PUREX treatment options with the group before moving to the short list alternatives.

On the short list, for the PUREX aqueous phase, the alternatives are Saltstone Treatment, the High Level Waste Evaporator, and Stabilization. For the organic phase, the alternatives are Offsite Treatment (pretreatment onsite to lower radioactivity) and Stabilization (new solidification process). Mr. Looper noted that the short list is still under evaluation since details for each are being investigated.

In the Waste Stabilization Study, Mr. Looper said that the team has looked at NOCHAR technology, which is a polymer absorbent/binder that has been used commercially by the petro-chemical industry for organic liquid treatment and by the Mound Site to treat tritiated waste oil. Mr. Looper noted that other stabilization agents such as Imbiber Beads (a polymer absorbent) and Fluid Tech-Petroset II (clay absorbent/binder) are also being investigated. The waste formulations have been successfully developed and the waste form durability testing is in progress. Tests have been scheduled for completion by September 30, 2001.

For the Pretreatment Study, the team is researching the onsite ability to remove radionuclides that would then lower activity. The goal is a Decontamination Factor (DF) of approximately 100. However, Mr. Looper emphasized that a combination of two approaches, batch washing and solid absorbents (ion exchange), may be required to achieve the target DF of 100. Removing approximately 99 percent of the radioactivity increases the shipping volume from 15 gallons to over 1200 gallons per transport container, and since offsite facilities have limits on radioactivity and limited experience with alpha contamination, pretreatment onsite increases the possibility of commercial treatment. Mr. Looper noted that the scouting tests (beaker phase) are still in progress and scheduled for completion by August 30, 2001. These tests consist of actual waste from Solvent Tanks 33 and 35 and Canyon PUREX solvent samples. Mr. Looper forecasted that process development tests should be completed by October 30, 2001.

In closing his presentation, Mr. Looper said that the technical evaluation of the Saltstone Treatment includes data that confirms the blend of Tanks 33 and 35 meets the Saltstone WAC, and that the aqueous waste will require an additional 10 to 20 percent salt waste before processing in Saltstone. A technical review is in progress for adding aqueous waste to Tank 50 in H Area and is scheduled for completion by August 30, 2001. When asked if it was possible to add PUREX organic waste to the aqueous and still send it to Tank 50, Mr. Looper responded that the aqueous and organic waste would not make a homogenous mixture and could not be processed properly in Saltstone. As for using a HLW Evaporator as an alternative, Mr. Looper said that the technical review would not be complete until September 14, 2001.

Group Discussion

Wade Waters opened the group discussion by sharing some of the CAB's concerns about CIF with SCDHEC representatives, who were in attendance. Noting that while the CIF budget was a prime consideration for DOE, the CAB's concern is that CIF is already a proven technology and should remain a viable option until an alternative technology has been demonstrated and all the PUREX legacy waste is treated. Mr. Waters said the CAB is deeply concerned that the April 1, 2002 decision date is fast approaching and it appears DOE will run out of time. The only closure cost figure that the CAB is aware of now is $80M and it is considered to be an old number. Mr. Waters said that if DOE is looking at $35M to restart, it stands to reason that the costs will only increase with time. Mr. Waters also likened the situation to that of Hanford where the facility faced heavy fines from the State of Washington and noted that the situation could also force CIF into closure by the State of South Carolina.

In response, Shelly Sherritt, SCDHEC, said that the three organizations, SCDHEC, DOE and the CAB, each have different roles pertaining to CIF. Speaking for SCDHEC, Ms. Sherritt said that DOE has the treatment options and her agency does not select the way SRS treats its waste. Instead, Ms. Sherritt said SCDHEC is a reactive agency that ensures SRS will adhere to all appropriate permit requirements and fundamental RCRA principles such as closing down a facility when it is not operational. Ms. Sherritt added that generally no one wants to spend the money to close RCRA facilities. However, Ms. Sherritt said while the agency has been reasonable on dates in this case, SCDHEC's job is to push for closure within a reasonable time period. Ms. Sherritt cited that the normal time for closure would be 180 days after a decision to stop operations, but SRS will have been given approximately 900 days if DOE decides to close the facility down. Karen Patterson said that the CAB is trying to get DOE to meet with SCDHEC and present a reasonable plan in hope that SCDHEC would grant a reasonable extension until an alternative technology has been selected. Ms. Sherritt responded that her agency has heard from DOE, but to date does not have sufficient information to evaluate a time extension. However, additional meetings are being scheduled between DOE and SCDHEC to discuss enforceable agreements and a closure plan. Ms. Sherritt added that it was SCDHEC's view that the current closure plan does require dismantlement of CIF; however, DOE may propose deletion of the dismantlement portion of the closure plan. When DOE has developed all the necessary information such as schedules and demonstration time for the technology to provide the agency with confidence it will work, Ms. Sherritt said that SCDHEC is amenable to listening.

In closing the discussion, Mr. Waters urged DOE to develop the closure plan and schedules and begin discussing them with SCDHEC. Ray Hannah said that the submittal time for the closure plan is approximately in the October timeframe. However, Mr. Hannah emphasized that DOE will first need to review and approve the plan before meeting with the regulators. Then, Mr. Hannah said, the plan can be shared with the public. Bill Lawless asked that if it is possible, the CIF Focus Group would like to hear a discussion of the closure plan at its October 16, 2001 meeting, and then have Mr. Maxted provide a presentation on the closure plan and optimization study costs to the CAB at its October 23, 2001 meeting. Dr. Lawless added that there are only two more opportunities for the CAB to make a recommendation before the April 1, 2002 decision date.

In his closing comments, Wade Waters said that it was very helpful to the Focus Group to have discussions with DOE and the stakeholders in such an open and candid fashion. Mr. Waters expressed his appreciation to Shelly Sherritt and Crystal Rippy for accepting his invitation to attend the meeting.

As technical lead for the CIF Focus Group, Bill Lawless added that he would like to hear that all of the inventory of PUREX will be taken care of and realizes that SCDHEC is caught between two conflicting choices, to close CIF or to treat PUREX wastes. Ray Hannah said that DOE's eye is on treating the entire legacy waste inventory and the presentations that have been made to the CIF Focus Group illustrates DOE's intent.

The last order of business included a statement made by Bill Lawless that DOE consider the future disposal path of the PUREX in the F and H Canyons. Dr. Lawless asked that DOE send a representative from its Nuclear Materials program to discuss this waste stream with the CIF Focus Group. Dr. Lawless' concern is that if CIF closure begins there will be no more funding or a facility to treat the waste. Helen

Villasor was asked to work with the CAB's Nuclear Materials Committee Chair and Public Involvement support staff to make it a joint meeting with the CIF Focus Group.

Public Comment

There were no public comments.

Wade Waters adjourned the meeting on schedule at 7:30 p.m.

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