



## **SRS Citizens Advisory Board**

### Environmental Remediation and Waste Management Subcommittee

#### **Meeting Summary**

June 22, 1999  
Aiken Federal Building  
Aiken, SC

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The Environmental Remediation and Waste Management (ER&WM) Subcommittee met on Tuesday, June 22, 1999, at 6:00 p.m., at the Aiken Federal Building, Aiken, SC. Attendance was as follows:

#### **CAB Members**

Karen Paterson  
Wade Waters  
Earnest Marshall  
Murray Riley

#### **Stakeholders**

Lee Poe  
Russ Messick  
Guy Griswold  
Mike French  
Bill McDonell  
R.A. Stokes  
Jerry Devitt

#### **DOE/Contractors**

George Mishra, DOE  
Kelly Way, WSRC  
Bob Sentelle, BSRI  
Sonny Goldston, WSRC  
John Reynolds, DOE  
Steve Piccolo, WSRC  
Julie Petersen, DOE  
Michael Sabbe, BSRI  
Elmer Wilhite, WSRC  
Larry Ling, DOE  
Tom Temples, DOE  
Roy Schepens, DOE  
Paul Huber, BSRI  
Gerry Stejskal, WSRC  
Brian Hennessey, DOE  
Mary Flora, WSRC  
Pat Thompson, DOE  
Drew Grainger, DOE  
Philip Prater, DOE  
Keith Stone, BNFL  
Penny Fulghum, WSRC  
Gerald Blount, WSRC  
Robert Grimm, WSRC  
Kim Johnson, BSRI  
Jim Jordan, WSRC

#### **Regulators**

Michael Moore, SCDHEC  
Keith Collinsworth, SCDHEC  
Julie Corkran, EPA  
Jeff Crane, EPA  
Ken Feely, EPA

Jim Moore, WSRC

Helen Villasor, WSRC

**Agenda Review:** Karen Patterson opened the meeting by inviting introductions, and asking for public comments.

**Public Comments:** None.

**Schedule Review:** Helen Villasor provided a review of the upcoming schedule for the ER&WM Subcommittee, which includes a tentative meeting date of July 13, 1999, depending upon DOE approval to discuss the Solid Waste System Plan Low Level Waste Disposal Options. In addition, Ms. Villasor said that pending the outcome of any motion development or discussion during the current meeting, these additional items could also be included in the July 13, 1999 meeting.

**Pollution Prevention/Waste Minimization:** Keith Stone presented the Pollution Prevention (P2)/Waste Minimization Program, which uses innovative programs, best practices, and new technologies as effective pollution prevention strategies. One example is the incorporation of P2 into new facility designs such as the Tritium Extraction Facility and Accelerator Produced Tritium. In this innovative approach, Mr. Stone said it was much less costly to build P2 into new designs up front rather than retrofit P2 into existing facilities. Another P2 best practice cited is the diversion of clean waste from contaminated waste. More than 50% of waste currently managed as low level radioactive is probably not contaminated and the low level radioactive waste disposal cost is 1,000 times greater than sanitary waste. Therefore, the P2 program has begun a focus on opportunities to segregate and divert clean waste from radioactive. A current initiative is segregation of personal protection equipment (PPE) such as fresh air hoods and hoses. At the HB-Line, 80% of low level radwaste is comprised of hoods/hoses (more than 4000 were issued in 1998) that will be segregated and staged after use. Pending confirmation of no release of contamination, the hoods could then be processed more cost effectively as clean (sanitary) waste. Contamination Area (CA) Rollbacks is another priority P2 strategy. Prior to CA Rollbacks, work in the CA required personnel to be dressed out in PPE and waste generated in the CA was potentially contaminated and thus managed as radioactive waste. Following an aggressive 1998 rollback campaign, personnel can now work without PPE saving at least \$20 M over the project life cycle. Additional benefits included:

- avoidance of 18,500 ft<sup>3</sup> of waste each year
- reduction of heat stress for workers
- improved working conditions
- productivity gain of 43,000 hours a year from eliminating the donning and doffing of PPE

Since 1990, the P2 Program has helped reduce 80% of SRS's radioactive and hazardous solid waste; since 1995, 460 improvements have eliminated 430,000 ft<sup>3</sup> of radioactive/hazardous waste; and for every \$1 invested in P2, approximately \$4 is saved. Mr. Stone passed around some samples of new P2 technologies including products such as Instacote, a spray-on material used for rollback areas at the High Level Waste H-Tank Farm. Another sample product was OREX, a dissolvable product used in the manufacture of PPE, mop heads, etc.

*Issues/Challenges:* Risk envelope is changing, i.e., acceptable risk versus cost-benefit has to be managed (e.g., diversion of clean waste), funding support for cost efficiencies is critical to future of program, future program enhancements need to be increasingly process specific or technology oriented.

*Actions:* Request that ER&WM Subcommittee and CAB members stay abreast of P2 program evolution, provide comments on the SRS P2 program direction, and increase subcommittee advocacy.

**High Level Waste Salt Disposition Alternatives:** John Reynolds provided the current status update of the High Level Waste (HLW) Salt Disposition Alternative Selection. In the area of Research and Development (R&D), research efforts for designation of a preferred technology remain on schedule. Lab scale small tank precipitation experiments are underway at the Savannah River Technology Center (SRTC) and larger bench scale demonstrations will commence at the Oak Ridge National Laboratory (ORNL) the week of June 20, 1999. Ion exchange column performance and irradiation tests are also being conducted at SRTC and ORNL. Addressing the Supplemental Environmental Impact Statement (SEIS), Mr. Reynolds said that a contract for preparation of the SEIS has been awarded with issue of a Draft SEIS scheduled for early FY00. Mr. Reynolds concluded by emphasizing that plans remain on track for selection of a preferred alternative to be designated in the Draft SEIS.

*Issues:* The CAB is concerned that inserting a new contractor in the middle of the process will cause even more problems; why has the In-Tank Precipitation (ITP) issue (failure of the process) become a big surprise to the auditors and all concerned (explanation provided by Reynolds/Piccolo); under the R&D program is the data (rate without a catalyst) from the experiments being conducted using simulated waste without catalysts understandable and will the process be controllable for the condition under investigation (explanation provided on sequence of testing, first without catalysts to establish baseline parameters followed by testing with catalysts and real waste to evaluate the effects of the decomposition reaction on the process); are the catalysts radionuclides what was the source of the palladium catalysts in the waste processed at ITP (explanation provided, i.e., daughter product/fission fragment from nuclear reaction not a reagent added to the process) and out of the alternatives, what is the present situation between DOE and the states relative to Class C grout (Incidental Waste).

*Actions:* Regarding the announced contractor change action by DOE for the design, build and operation of ITP, Mr. Mike French requested that DOE-HQ urgently provide a detailed cost estimate to the CAB and the public for this new approach, which will undoubtedly require significant additional taxpayers' dollars to implement. Information should be provided on the incremental cost increases, including research and development programs, as well as those attributable to the inevitable schedule delay and contractor turnover process. DOE-HQ is requested to provide this information prior to announcement of any procurement actions/plans in the Commerce Business Daily and follow-up with a brief on the ITP issue.

**L- and P-Area Bingham Pump Outage Pits Proposed Plan:** Tom Temples presented the proposed plan for the L- and P-Area Bingham Pump Outage Pits (BPOPs) by first providing a history of the units. The pits contain waste debris that was generated by upgrades to primary and secondary reactor cooling systems in the late 1950s. The waste consists of miscellaneous construction materials such as pipes, cables, ladders, concrete, etc. No known pumps or liquid wastes were buried in the pits. The radioactive contamination was less than 25 mR/hr with no detected alpha activity. Average pit depth was 13 feet below the surface with an average depth of nine feet of debris and four feet of backfill place on top. Average width of the pits is 23 feet and the average length is 374 feet. The general unit strategy consists of applying the Approved Standardized Corrective Action Design (ASCADTM) at K-, L- and P-Area BPOPs. (K-BPOP is the lead site; L and P BPOPs are the secondary sites.) K BPOP is a low-risk unit with no impact to the groundwater, for which institutional controls have been implemented. Full characterization and Remedial Investigation (RI)/Baseline Risk Assessment (RBA) was completed at K, L, and P BPOPs. In addition, L and P BPOP regulatory documentation was streamlined, i.e., Feasibility Study (FS)/Proposed Plan (PP)/ Record of Decision (ROD). In terms of soil contamination, the buried waste is categorized as a low level threat waste, at L-BPOP, no human health or ecological final constituents of concern (COC) are under current or future scenarios, at P BPOP, no ecological final COCs; six subsurface human health final COCs under current residential scenarios and future scenarios. For groundwater contamination there is no current or predicted future impact on the groundwater at L and P BPOP and the L and P BPOP are low-risk sites with no impact on the groundwater (which is consistent with K BPOP). Remedial action objectives include:

- areas not suitable for residential use due to adjacent to heavy industrial (nuclear) zones and the presence of buried low-risk debris
- units proposed to be limited use areas with restrictions similar to an industrial use zone

- no final COCs for exposure to surface soil for industrial scenarios

*Issues:* Identify types of scenarios used in the study; consider a request by Bill Lawless for an extension of the public comment period (which ends on July 9, 1999) so that a draft motion can be developed; would the extension for the public comment period push out the remedial action an additional 30 days; would the Environmental Restoration Division (ERD) consider instead addressing a draft motion in its response due to the regulators on July 9, 1999; would the regulator slowdown impact the draft motion.

*Actions:* Develop a draft motion by July 9, 1999 and provide a copy to ERD for consideration in its response to the regulators. Provide information to Mr. Earnest Marshall, CAB member on the types of scenarios used in the study and the life time for the soil capping on the Bingham Pump sites as well as other sites that are located in the run off of these sites. Explain to Bill Lawless why granting an extension would be good or harmful. Explain to Mr. Lee Poe why institutional controls go on forever since there is enough data available now to determine the end date for the need for institutional control to protect the public from this contamination. Tom Temples is to provide Mr. Lee Poe with information based on an engineering judgement of material contained in the Bingham Pump study. DOE to use information obtained from the Bingham Pump study concerning the decay chain in future ROD revisions.

**Plug-In ROD Status Update:** Phil Prater provided a status update on the Plug-In ROD concept, which is a streamlined process for applying a common remedy to operable units (OUs) that exhibit common characteristics. At SRS there are four OUs consisting of eight rad-contaminated reactor seepage basins. The Plug-In remedy consists of in situ stabilization with a low-permeability soil cover system. Plug-In RODs:

- provide a final remedy for the source
- implements Superfund Reform
- reduces source characterization/sampling at higher risk sites
- reduces regulatory documentation
- reduces overall costs
- provides potential for other SRS units to use plug-in approach

The plug-in approach for C- and K-Area Reactor Seepage Basins Decision Documents and Draft ROD were submitted on March 10, 1999. A revised proposed plan was submitted in May 1999, which South Carolina Department of Health and Environmental Control (SC DHEC) approved on May 21, 1999. The Environmental Protection Agency (EPA) approved the proposed plan on June 1, 1999 and the public comment period began June 12, 1999 and ends on July 26, 1999. (The CAB had previously provided the DOE, EPA, and SCDHEC with Rec. 76, "Plug-In Records of Decision" that endorsed the proposed remedial action presented in the Proposed Plan.) The path forward includes approval of the ROD and C- and K-Decision Documents by September 1999. The Post-Decision Documents (Design) will be submitted by February 2000, and remediation for K Reactor Seepage Basins will be initiated by September 2000, and C Reactor Seepage Basins by December 2000.

*Issues:* Concerns about the delay between initiating remediation between C and L Reactor Seepage Basins; what types of post-closure actions are expected; was testing performed on both wet and dry days; were any gases found.

*Actions* Provide Mr. Earnest Marshall, CAB member with information regarding whether testing on wet and dry days made any difference, and the identification of any discovered gases; provide CAB with a requested list of additional possible Plug-In Rod candidates as well as information on what can be done to speed up the implementation of field work.

**TNX Operable Unit (OU) Update:** Karen Patterson provided an update that the TNX OU is on hold because of a proposal by the regulators to suspend all Appendix D and E timetables and deadlines for several OUs including TNX. ( Letter from Jeff Crane, EPA/Keith Collinworth/SC DHEC to B.

Hennessey/DOE-SR dated May 18, 1999.) Ms. Patterson also referenced the TNX OU draft motion that had been tabled at the ER&WM Subcommittee meeting on May 24, 1999 in Savannah, GA. Ms. Patterson said that because of the large number of draft motions being presented by the subcommittee to the full Board, several members believed there had not been enough time to review thoroughly the TNX OU draft motion. During the discussion, it was noted that a DOE-SR response letter in support of the proposal had been sent to the regulators. ERD personnel also indicated that they are also in support of the regulator's proposal to suspend Appendix D and E timetables and deadlines for the OUs.

*Issues:* On behalf of the ER&WM Subcommittee and the CAB, Ms. Patterson said there is great concern about the suspension letter and asked exactly how long the stoppage is expected to last.

*Actions:* Ms. Patterson requested that the regulators and DOE provide the CAB with an update on DOE's response to the suspension letter at the full Board meeting which will be held on July 27, 1999 in Columbia, SC. Review earlier TNX OU draft motion again at an upcoming meeting. Mr. Lee Poe requested that copies of both letters be provided to all the meeting participants. Mr. Phil Prater and Mr. Brian Hennessey offered to call Mr. Bill Lawless, Co-Chair of the ER&WM Subcommittee in order to brief him about the letters. Julie Corkran requested input from the CAB on improvements of the Feasibility Study so it could be included in the regulator's efforts during the work stoppage.

**Final Public Comments:** Mr. Lee Poe suggested that the ER&WM Subcommittee prepare a draft motion on the L- and P-Area Bingham Pump Outage Pits Proposed Plan. Mr. Poe also recommended that the CAB follow-up on the request made by Mr. Mike French for DOE-HQ to provide the CAB with full information on the following issues relative to ITP:

- Change of contractors
- Schedule delays
- Inadequate design
- Increased costs

The meeting was adjourned at 8:20 p.m.

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