



## **SRS Citizens Advisory Board**

### **Salt Processing Focus Group**

#### **Meeting Summary**

March 29, 2001  
703-H Savannah River Site  
Aiken, SC

---

**The Salt Processing Focus Group met on Thursday, March 29, 2001, at 8:30 a.m. at the Savannah River Site's H-Area. Attendance was as follows:**

Mike French	Kelly Dean, WSRC
Bill Willoughby	Mike Johnson, WSRC
Lee Poe	Jerry Morin, WSRC
Bill McDonell	Chuck Powers, CRESF
John Reynolds, DOE	Joe Carter, WSRC
Larry Ling, DOE	Steve Piccolo, WSRC
Ginger Doclert, WSRC	Susan Cathey, WSRC

#### **Salt Processing Project Technology Development Update**

**Joe Carter, WSRC Salt Processing Engineering Manager, updated the group on the Salt Project high-risk areas. For alpha and strontium removal, he outlined the sorption chemistry and the solid-liquid separation efficiency. He covered the crossflow filtration efficiency and pointed out that real waste testing with the Cells Unit Filter (CUF) is in progress. The results compare favorably with the pilot scale measurements.**

**The high-risk areas for CST ion exchange are sorbent stability, gas generation, and sorbent handling and sampling. Mr. Carter outlined the new finds on CST tall column. The gas disengagement tests used hydrogen peroxide to generate gas. After the tests, the CST could not be hydraulically removed from the columns. The conclusions are that hydrogen peroxide dissolution of CST caused additional precipitation by increasing soluble silica, and these results do not eliminate the concern for sodium aluminosilicate plugging in fixed-bed columns. The real waste tests for CST were done last year.**

**The high-risk areas for Caustic Side Solvent Extraction that remain to be completed are the flowsheet solvent system proof-of-concept, chemical/thermal stability, radiolytic stability, and real waste performance. Mr. Carter outlined the 5-day flowsheet test in which the solvent was recycled 42 times in a 71-hour test. The preliminary data showed that decontamination factors ranged from 100K – 200K and the concentration factor was 14-16. After 70 hours of operation, the solids plugged the feed stage. The solids were removed and the test was successfully completed. The real waste tests started yesterday and progress is working well to date.**

**The small tank tetraphenylborate precipitation (STTP) high-risk areas are catalytic product decomposition and foaming in reactors and vessels. Mr. Carter continued by outlining the results of the continuous stirred tank reactor (CSTR) test 5. The cesium DF results exceeded the target,**

the rate of benzene release and the concentration of degradation products increased near test mid-point, and any change in the decomposition rate was too small to affect Cesium DF. Mr. Carter presented a graph of the Test 5 Cesium removal results and pointed out that the real waste CSTR testing was completed last week and the chemical analysis is underway.

### Salt EIS

Larry Ling, DOE, updated the group on the status of the *Salt Processing Alternatives draft Supplemental Environmental Impact Statement (SEIS)*. Mr. Ling pointed out that the Notice of Availability (NOA) for the SEIS would be in the Federal Register tomorrow, March 30. The 45-day comment period ends May 14, 2001. The final SEIS, due out in June, will have a preferred alternative named, and will be integrated with the technology down select process. The Record of Decision (ROD) will have the selected alternative named. Everything is on track and on schedule. The public meetings are scheduled for the afternoons of May 1 at the North Augusta Community Center from 1:00-3:00 and 5:00-7:00 and May 3 in Columbia at the Holiday Inn Coliseum from 1:00-3:00 and 5:00-7:00.

John Reynolds, DOE, updated the group on the Request for Proposals (RFP). The draft RFP for the design, construction, and startup of the HLW Salt Processing Project has been forwarded to HQ for Business Clearance Review for an anticipated release in April. Approval of the Acquisition Strategy has been withdrawn, pending review and comment by the DOE-HQ Office of Management and Administration (MA). A designated preferred alternative is going out with the final RFP in June. The contractor will be named early next fiscal year. The contractor scope of work has not changed.

The key issue as far as budget goes is building the pilot plant. The current plan is for Westinghouse to build and operate the pilot in the 2002 time frame. The budget request is waiting for the pass back. The need for a salt processing alternative is high on priority list. SRS has many challenges ahead. More information on pilot plant, budget, RFP, and the SEIS should be available in April.

Mr. Poe pointed out the following to the group. The Waste Management Committee has tasked the Salt Processing Focus Group with reading and commenting on the SEIS. With the public comment period ending May 15, 2001, the Focus Group has very little time.

In order to meet the stringent time limits, the FG must adhere to the following schedule:

April 1-April 26 - Focus Group reads EIS

April 26 - Focus Group meets to discuss comments on Draft SEIS

April 26-May 4 - Rick McLeod drafts letter

May 8&9 - Focus Group meets to review and agree on letter

May 22 - Focus Group sponsor speaks to Waste Management Committee in Savannah to status them on the Focus Group's activities to date concerning the Salt draft supplemental EIS

### Tank 6

Mike Johnson, WSRC Tank Farm Manager, updated the group on Tank 6. He outlined the sequence of events of the Tank 6 leak. He pointed out that approximately 90 gallons of material leaked into the annulus pan, but the conditions are stable. Mr. Johnson continued with the typical

behavior of tank leak sites and compared those with the Tank 6 leak. He showed the group detailed pictures of the leak sites and detailed graphs of the locations of the six leaks. He detailed the inspection results for all six sites.

Mr. Johnson maintained that the current condition is within all regulatory requirements, all notification requirements have been met, and open communication with South Carolina Department of Health and Environmental Control (SCDHEC) continues. He presented the Tank 6 Decision Logic Tree to the group and pointed out where SRS currently stands in the decision making process. Mr. Johnson gave a historical perspective in which Tanks 14 and 15 were given as examples of maintaining stability. He concluded by reiterating that regulatory requirements are being met, the tank condition is stable, and the historical review demonstrated that stability can be maintained.

### HLW System Path Forward

Susan Cathey, HLW Program Manager, continued with the Tank 6 Path Forward. She pointed out that 40K gallons of material from Tank 6 have been transferred out of the tank and that an enhanced monitoring and inspection program is in place.

Ms. Cathey went on to explain the High Level Waste System facilities and how they all fit together. She outlined the HLW system drivers, two of which are to reduce risks and to meet regulatory commitments. She went on to explain some of the things HLW has done to reduce risks are to support 94-1/200-1 Nuclear Materials Stabilization Mission, to immobilize HLW, to remove "high curie content" waste from "high risk" tanks, and to support other potential nuclear materials stabilization missions. HLW is also doing all it can to in order to close all "old-style" tanks by 2022 and to process all waste by 2028.

Ms. Cathey detailed for the group how the risk reduction activities negatively impact tank space. She outlined the available storage space and the evaporator situation. She explained how the 2001 evaporator projections would provide less than 2.0 m/gallons of space gain in 2001. She went on to explain that 4.5 m is needed this year to stay current and that 1 m gallons are already stored in Type IV tanks. A possible plan would be to store lower hazard materials in tanks 5 & 8 in order to allow high hazard sludge to be removed from the tank farms and vitrified into glass and to allow preparation of future high hazard sludge feed. The HLW system plan balances the risks.

Ms. Cathey went on to explain that the first transfer into Tank 5 has been completed and no alarms have been received. Tank 5 use will be controlled in approximately 100,000-gallon increments. No leak sites or anomalies have been identified. Transfers into Tank 8 above the 360,000-gallon level will be controlled in approximately 100,000-gallon increments. No leak sites have been identified in Tank 8, and it will soon be in transfer condition.

A path forward and the impacts of such were explained to the FG. Ms. Cathey showed a graph of each tank and its contents. She provided illustrations, facts, conditions and ages of the four different tank designs. She pointed out that in order to continue risk reduction activities, HLW must immobilize waste at DWPF and process the high-risk materials in the canyons. The available tank space must be carefully managed until salt processing begins in FY2010.

In order to increase HLW storage space, the site must return Type III tanks not currently used for HLW storage to general use. Tank 49 has been tied in to the HLW system and the benzene hazard from material in Tank 49 is being reduced to an acceptable level. Tank 49 is expected to be back in service by 7/30/01. Tank 50 is expected to be back in service by 9/30/02. Required modifications to Tank 50 have been determined and the modification project is in progress. The work scope for restarting Saltstone is being defined. The plan is to process Tank 49 & Tank 50 material through

**Saltstone. An intermittent run strategy for Saltstone to manage the ETF concentrate without the use of Tank 50 has been completed.**

**Ms. Cathey mentioned other key space management initiatives available to the HLW team. She discussed the DNFSB recommendation 2001-1 and the HLW reactions to it. The group then held an informal discussion and question and answer session while eating lunch.**

**The meeting was dismissed at 12:30 p.m.**

***Copies of meeting handouts may be obtained by calling 1-800-249-8155.***