



**SRS Citizens Advisory Board**

**Nuclear Materials Committee Meeting**

**Aiken Federal Building, Aiken, SC  
June 28, 2004**

The SRS Citizens Advisory Board (CAB) Nuclear Materials Committee (NMC) met on Monday, June 28, 5:00 PM, at the Aiken Federal Building, Aiken, SC. The purpose of this meeting was to discuss the Update on F-Canyon Deactivation including FB-Line Operations, the Status of the Spent Nuclear Fuel Program, and the Status of NM Recommendations. Attendance was as follows:

**CAB Members**

- Jerry Devitt
- Karen Patterson
- Perry Holcomb
- William Lawrence
- Bob Meisenheimer
- Jean Sulc
- Leon Chavous
- Mel Galin
- Cassandra Norman Henry
- Wendell Lyon
- Murray Riley

- *NM committee members*

**Stakeholders**

Mike French  
Betty McQuinn  
Les McQuinn  
Mary McQuinn  
Patrick McQuinn  
Russ Messick  
Tommy Monday  
Lee Poe

**DNFSB**

John Contardi

**DOE/Contractors**

Kevin W. Smith, DOE  
William F. Spader, DOE  
Sachiko McAlhany, DOE  
Gerri Flemming, DOE  
Roger Rollins, DOE  
Yasmin Bowers, DOE  
Dawn Gilles, DOE  
Randy Ponik, DOE  
Bob McQuinn, WSRC  
Bill Swift, WSRC  
Steve Williams, WSRC  
Mike Logan, WSRC  
Ron Campbell, WSRC  
Wes Bryan, WSRC  
Steve Howell, WSRC  
Ron Oprea, WSRC  
Bob Hottel, WSRC  
Ken Parkinson, WSRC  
C. Barry Shedrow, WSRC  
Alan Riechman, WSRC  
Mike Dunsmuir, WSRC  
Thomas F. England, WSRC  
L. K. Sonnenberg, WSRC  
John Dickenson, WSRC  
Craig Martin, WSRC  
D. C. Wood, WSRC  
Albert Holloway, WSRC  
Jim Moore, WSRC  
Lyddie Broussard, WSRC

Note: Bill Willoughby, is a CAB member of the NMC, but was unable to attend this session.

### **Welcome and Introduction**

Jerry Devitt, NMC Chair, welcomed the group at 5:00 PM, and requested that each attendee identify themselves and their affiliation. He thanked outgoing Defense Nuclear Facilities Safety Board (DNFSB) site representative, Todd Davis, for his service to the committee. He asked Jean Sulc if she would draft a CAB letter thanking Todd and Tom Burns for their support of the CAB. Upon her agreement, Mr. Devitt covered the evening's agenda, and introduced Sachiko McAlhany to open the first presentation.

### **DOE Nuclear Materials Stabilization Project Update, Sachiko McAlhany, DOE-SR**

Ms. McAlhany told the committee that DOE plans to update the committee at the next CAB meeting on the status of Environmental Management (EM) surplus Plutonium (Pu) issues. She said analysis is currently ongoing and this is outlined in DOE-correspondence that she will provide to the CAB. She said various disposition methods have been considered and they are very close to having a proposal ready for preconceptual plans to address the surplus Pu.

### **F-Canyon Update, Bob McQuinn, WSRC, Closure Business Unit**

Bob McQuinn began his presentation by restating the primary goals for the F-Canyon Complex (FCC) Deactivation Project as were explained in the January 2004 workshop. He reminded the committee that FB-Line was still stabilizing and packaging Pu, but would complete this mission early next year. He said portions of FB-Line that were not related to this mission were already undergoing deactivation in the same methodical manner as F-Canyon.

Mr. McQuinn described each of the specific hazards that existed at the beginning of deactivation efforts, and spoke of the significant progress that had been accomplished over the last six months in reducing the risks from those hazards. According to Mr. McQuinn, of particular significance was the completion of the disposition of solvent from F-Canyon, which has resulted in eliminating the greatest single risk of a canyon fire. This accomplishment in conjunction with the successful transfers of the capability to handle bulk chemicals and to process laboratory waste is indicative of the aggressive progress being made in risk elimination.

While discussing budget constraints, Mr. McQuinn explained that some adjustments to planned tasks have occurred, but these changes have not had a negative impact on the deactivation schedule. As an example, Mr. McQuinn cited the delay of the 235-F Cooling Tower installation that is required to replace the cooling water to Building 235-F. He said that while the replacement tower had been purchased, the installation is now scheduled for fiscal year 2005. He further explained that this task adjustment does not represent any delay in the overall FCC deactivation schedule. Similarly, the removal schedule of depleted uranyl nitrate solution and depleted uranium oxide has been adjusted due to budget constraints, but the overall FCC deactivation schedule remains unchanged.

Mr. McQuinn fielded numerous questions in regards to FCC activities. In regards to Mr. McQuinn's recent return from Hanford, a question was asked about the amount of Pu ready for shipment from Hanford to SRS. Sachiko McAlhany responded to the committee that no decision on Pu consolidation has been made. She told them that if the CAB has an opinion on how Pu in

the DOE Complex should be handled, she would encourage them to go ahead and document their decision.

Mr. McQuinn then spoke to the concern raised by some committee members on the report of ammonium nitrate buildup in F-Canyon. He first explained the process by which the generation of ammonia gas occurs during the neutralization of waste. He said that during deactivation flushing, higher than anticipated rates were found, which indicated that the calculation used in a past processing campaign was not correct. Mr. McQuinn stated that while no safety requirement was violated during the flushing, a management concern was raised to address this discrepancy. As part of the lessons learned from this event, the information was shared with H-Canyon and other facilities that may have the potential to have a similar buildup.

Moving on to the FCC environmental strategy, he said it is important to know what you must deal with during the deactivation phase, and to know what residual material is being left that must be addressed beyond deactivation. Mr. McQuinn stated that another important element in the strategy is to preserve facility functions that might be needed to facilitate future decommissioning efforts. He explained that there are some very conservative assumptions made in developing an anticipated limit for residual materials, but there is no prescribed limit for the facility. Mr. McQuinn explained there are many factors that must be considered and modifications to the plan may be necessary to properly address residual materials. He further explained that while planning for decommissioning is not allowed at this time, his team is committed to using taxpayer's dollars wisely during the deactivation process.

When asked if it was possible to codify or further clarify the calculated limit, Bill Spader responded that his organization had the action to develop a strategy for working with the regulator to get agreement on the specific details of the insitu end state for F-Canyon.. He said it was his hope that a definitive end state for F-Canyon would be determined in the near future.

Mr. McQuinn then discussed the human performance problems that had been noted in FB-Line operations that resulted in several aggressive corrective actions including the assignment of additional, experienced managers. He explained that the specific operating procedures have been revised and the operations staff trained on the changes. He felt confident that these actions coupled with a closely managed resumption of operations would result in the consistent, safe operations needed to complete the FB-Line deinventory.

In conclusion, Mr. McQuinn stated that improvements to the deactivation plan are ongoing and significant progress is being made to reduce hazards and costs in a timely manner.

#### **SRS Spent Nuclear Fuel Program Status, Bill Swift, WSRC, Operations Business Unit**

Bill Swift opened his presentation with a recap of the various National Environmental Policy Act (NEPA) documents that over the last nine years have been the primary drivers for the Spent Nuclear Fuel (SNF) Program at SRS. He explained that these documents authorized SNF from domestic research reactors (DRR) and foreign research reactors (FRR) to be sent to SRS for conventional or alternative processing in addition to the existing on site fuel from the retired SRS reactors. Mr. Swift said a fuel swap between SRS and the Idaho National Engineering and Environmental Laboratory (INEEL) was part of the original plan. This swap was included in the

plan in order to consolidate DOE's aluminum-based SNF at SRS for processing through a new technology known as Melt and Dilute.

According to Mr. Swift, processing of most of the SRS reactor-related materials is complete, but some significant changes have been made to the original plans for SNF. He told the committee that DOE has suspended all activities in support of the Melt and Dilute technology. As a result, a fuel swap with INEEL is no longer expected. He further explained that in lieu of the use of Melt and Dilute technology, serious consideration is being given to direct disposal and co-disposal of SNF but no final decision has been made at this time.

Mr. Swift reviewed the receipts of offsite fuel from the many countries that participate in the FRR program and highlighted the shipments from American universities that participate in the DRR program. He contrasted the various types of fuel, and explained that all of the SNF received at SRS is stored in L Basin. Mr. Swift described L-Basin as a facility primarily used for the interim storage of SNF, but other materials such as miscellaneous targets and control rod assemblies are included in its inventory.

Numerous improvements have been made to L-Basin to ensure it meets the stringent safety requirements necessary for the safe storage of SNF. According to Mr. Swift, L-Basin does have the capacity for projected fuel receipts, but there were other factors such as the Global Threat Reduction Initiative that may increase current projections. He further explained that, if needed, an increased capability could be realized in L-Basin by increasing the number of storage racks.

Mr. Swift fielded numerous questions about safety issues, fuel certification, and the uncertainties of the program. He clarified some of the program assumptions and said that it was recognized that a delay in the SNF direct disposal system would have an impact on the L-Basin schedule. He also said that there is a potential for additional SNF to be identified, which may not be suitable for direct disposal to a federal repository. Some committee members expressed concern that if such fuel were received after H-Canyon was already shutdown, it would be orphaned without a disposition path. Mr. Swift responded that they are carefully monitoring the types of fuel that would be sent to SRS to avoid such a problem.

Mr. Swift thanked the committee and concluded his presentation saying additional disposition planning is ongoing and the CAB would be kept informed.

#### **Status of NM Recommendations, Karen Patterson, NMC Vice Chair**

Ms. Patterson told the committee that DOE responses had been received for the following CAB recommendations:

Recommendation #176 Plutonium Storage in 235-F Facility

Recommendation #177 DOE Spent Nuclear Fuel Disposition at SRS

Recommendation #184 F-Canyon Deactivation and Post-Deactivation

Recommendation #188 Plutonium Disposition

Upon review of these NMC based recommendations and associated responses, Ms. Patterson asked committee members if they concurred that the responses were adequate. Upon further discussion, it was agreed that the status of each recommendation should be changed from "pending" to "open" and all commitments made in the responses tracked to completion.

When asked if new recommendations would be made, Ms. Patterson said that she would suggest that those members of the public interested in discussing potential new recommendations remain for a brief discussion after the meeting was adjourned.

### **Public Comment**

Mr. Devitt asked for any other public comment and with none, he then adjourned the meeting at 7:10 PM.

*For additional information or meeting handouts, call 1-800-249-8155.*

### **Follow-Up Actions**

1. A letter of thanks to the DNFSB for the CAB support provided by Todd Davis and Tom Burns. (Responsible Person: Jean Sulc) COMPLETE
2. Provide a copy of DOE correspondence on surplus Pu (Responsible Person: Sachiko McAlhany) COMPLETE