

September 7, 2012

ORGANIZATION: Department of Energy

SITE: Savannah River Site, F Tank Farm Closure

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JULY 26, 2012, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND DEPARTMENT OF ENERGY REPRESENTATIVES CONCERNING REQUEST FOR ADDITIONAL INFORMATION/CLARIFICATION PERTAINING TO THE COST/BENEFIT ANALYSIS FOR RELATED TO REMOVAL OF HIGHLY RADIOACTIVE RADIONUCLIDES FROM TANK 18, F AREA TANK FARM (DOCKET NO. PROJ0734)

On July 26, 2012, the U.S. Nuclear Regulatory Commission staff and representatives of the U.S. Department of Energy (DOE), held a telephone conference call to discuss the cost/benefit analysis used to support cessation of removal of highly radioactive radionuclides from Tank 18, F Area Tank Farm. A representative from the South Carolina Department of Health and Environmental Control also participated in the telecom.

The conference call was used to discuss the staff's Request for Additional Information (RAIs) previously provided in writing to DOE staff.

Enclosure 1 provides a listing of the telephone conference participants. Enclosure 2 contains a listing of the RAI's and a brief description of the status of each item. A copy of this summary was provided to the DOE for comment.

**/RA/**

James Shaffner, Project Manager  
Low-Level Waste Branch  
Environmental Protection and Performance  
Assessment Directorate  
Division of Waste Management  
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Office of Federal and State Materials  
and Environmental Management Programs

Docket No.: PROJ0734

Enclosures:

1. List of Participants
2. Listing of RAIs

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NAME	JShaffner	TMoon	CMcKenney	MLee for GSuber	JShaffner
DATE	8/24/12	8/24/12	8/27/12	9 04/12	9/7/12

**OFFICIAL RECORD COPY**

**LIST OF PARTICIPANTS  
TELEPHONE CALLS WITH DEPARTMENT OF ENERGY  
SAVANNAH RIVER SITE, F AREA TANK FARM**

**July 26, 2012**

**Participants**

Sherry Ross  
Linda Suttora  
Shelly Wilson

Cynthia Barr  
Leah Parks  
James Shaffner  
Kim Hauer  
Steve Thomas  
Larry Romanowski

**Affiliation**

Department of Energy (DOE), Savannah River Site  
DOE HQ  
South Carolina Department of Health and Environmental  
Control  
U.S. Nuclear Regulatory Commission (NRC)  
NRC  
NRC  
Savannah River Remediation (SRR)  
SRR  
SRR

## **REQUEST FOR ADDITIONAL INFORMATION-COST-BENEFIT ANALYSIS**

Please note that the following is a high level summary of the discussions. Additional details will be provided in the staff's technical review report on this topic

### **RAI Number 1:**

The U.S. Nuclear Regulatory Commission (NRC) staff requested clarification on U.S. Department of Energy's (DOE's) use of collective dose and related time periods.

### **Status:**

DOE said that a qualitative analysis was used to be consistent with other aspects of their approach. However, they stated it was not a key driver in the decision-making process. DOE clarified that it only assumed 1 individual was impacted — it was not truly a population or collective dose. DOE indicated that the analysis was supposed to be a screening, more qualitative analysis.

NRC stated that its guidance recognizes the problems with use of collective dose for long-term analyses including issues with respect to discounting of the benefit of future averted dose. However, if such an approach is used, NRC indicated that the metric is based on a quantitative analysis of collective dose to a population. Therefore, the basis for DOE's assumption that only single person receives a dose for 50 years is not clear, since more than one person could be affected and the long-term dose from Tank 18 lasts for several thousand years. NRC staff cautioned that depending on the assumptions used in the calculation, removal of additional activity could either be above or below the threshold for being cost beneficial. Therefore, it may be misleading to indicate that additional radionuclide removal is clearly not cost beneficial based on DOE's calculation.

### **RAI Number 2:**

NRC staff requested clarification on DOE's inter-project comparison of cost effectiveness.

### **Status:**

DOE said that there was not a perfect correlation among D and D projects. However, DOE tries to uniformly apply cost/benefit (C/B) analyses to achieve cost efficiency and get the most return on investment. DOE agreed with NRC that similar projects would merit additional clean-up if C/B ratios were comparable. A project need not be significantly more cost effective to merit additional clean up effort.

### **RAI Numbers 3-4:**

NRC staff requested clarification regarding direct and indirect costs associated with additional removal after some systems had been isolated.

**Status:**

DOE outlined its two step process to obtain agreement from South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency per the Federal Facility Agreement. A qualitative assessment is used to seek non-binding concurrence. This is followed by a quantitative assessment. The resulting C/B analysis that NRC sees is a public document on which NRC is welcome to comment. DOE acknowledges that it takes on some risk as it moves forward with closure support activities before final approval is obtained. This can lead to additional costs and such costs can vary significantly on a case-by-case basis.

DOE acknowledged that they think the timing of the submittal of the Tank 18 and 19 C/B analysis is not typical. That in the future, they anticipate that NRC will have the C/B analysis earlier in the process. DOE also suggested that NRC comment in coordination with the state of South Carolina during the public comment period for the specific closure modules for each waste tank and ancillary structure.

**RAI Number 5:**

NRC staff requested clarification of factors contributing to worker dose.

**Status:**

DOE referred to location in C/B report that contains the requested information.

**RAI Number 6:**

NRC staff requested an explanation regarding separate impact of cost uncertainty and benefit uncertainty.

**Status:**

DOE reiterated that it believes the appropriate reference case is the 10K year scenario. The sensitivity analysis that considered potential reduction in peak dose within 40K years was meant to be a bounding scenario because DOE assumed that approximately 50% of this long-term dose could be averted. DOE thinks the solubility and hence the doses could be much lower based on DOE's Tank 18 and 19 Special Analysis and updated solubility modeling. DOE will consider aggregating in future analyses.

**RAI Number 7:**

NRC staff asked if DOE has preserved ability to analyze chemical properties of Tank 18 waste after grouting.

**Status:**

DOE has archived almost 1kg of individual and composite waste samples for future analysis.