



## **SRS Citizens Advisory Board**

### **Old Radioactive Waste Burial Ground Focus Group**

#### **Meeting Summary**

January 17, 2001  
Aiken Federal Building  
Aiken, SC

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The Citizens Advisory Board (CAB) Old Radioactive Waste Burial Ground (ORWBG) Focus Group met on Wednesday, January 17, 2001 at the Aiken Federal Building, Aiken, SC. Topics of discussion were the review of the ORWBG Focus Group draft final report and path forward. Those attending were:

#### **CAB Members**

Bill Willoughby

#### **Stakeholders**

Lee Poe

Todd Crawford

James Burkhalter, DHEC

Jerry Devitt

Bill Lawless

#### **DOE/Contractors**

Rod Rimando, DOE

Ed McNamee, BSRI

Don Toddings, BSRI

Elmer Wilhite, WSRC

Jim Moore, WSRC

Jimmy Mackey, CAB member and Administrative Lead, participated via conference call.

#### **Welcome and Introduction:**

Lee Poe, Technical Lead, opened the meeting and welcomed everyone. He requested they introduce themselves. Jimmy Mackey stated that he had not received all the copies of the final report. Mr. Poe stated that we would get him copies of all the sections.

#### **Section Review:**

Mr. Poe stated that the purpose of the meeting is to have the authors of the sections of the draft final report summarize their section, explain why it was written and conclusions and recommendations included in the section. The intent is to get comments on each section and reach consensus by the Focus Group. Comments on the sections are to be sent to the authors so the authors can send the updated version of the section to Jim Moore by February 6. The next meeting is scheduled for February 13.

Mr. Poe reviewed the decisions that need to be made by the end of the meeting. They included assigning authors for the remaining sections, determine approach of release of sections for distribution beyond the Focus Group, integrate uncertainty into the report, consider length of the report and consider changing the Assumptions Section to an Institutional Control Section. He stated the target is to get the final report out in March, but it looked like April would be more likely.

The Focus Group decided that the final report should remain within the Focus Group members until there is consensus by the Focus Group and then it should be reviewed by the Environmental Remediation Committee.

Title Page:

Mr. Poe stated that all the Focus Group members would sign off on this page meaning they agreed to the whole report.

Editorial Page:

It was felt that the Focus Group should express their appreciation for the work done by the individuals supplying technical support, the Independent Scientific Peer Review (ISPR) team as well as public members of the Focus Group. Input was requested.

Appendix G – Intruder Consequence Analysis for ORWBG and Lands Between the ORWBG and Fourmile Branch:

Mr. Poe stated this appendix discussed the consequence of an intruder to the ORWBG and lands between the ORWBG and Fourmile Branch during active and passive control. The Corrective Measures Study/Feasibility Study (CMS/FS) was used for this analysis since there was little difference between it and the Performance Assessment (PA). The agricultural analysis of the CMS/FS was used. During active control there is low probability of an intruder consequence. During passive control, the dose rate of an intruder living and growing food in that area is approximately 10 rem if he lives there one year. It was assumed within one year, the intruder would be removed. Over the plutonium hot spot, the intruder would receive 55 mrem if he drank the water in 600 years.

The conclusions were that (1) the Savannah River Site (SRS) needs to quantify the period of active institutional control. Will it be 100 or 150 years? (2) Within the next five years, SRS needs to define what is planned for passive institutional control. (3) Something needs to be done to prevent erosion of the ORWBG cap. Based on the CMS/FS, within 1500 to 2000 years, the cap would be eroded down to the level of the waste. Land management needs to occur to ensure that deep-rooted plants do not encroach on the surface of the ORWBG. (4) During passive institutional control, the management plan must ensure that future generations realize that use of the groundwater under the area may be hazardous.

During discussions, it was mentioned that there are articles saying how markers for passive institutional control might be designed for better effect. Also, there is considerable high regard for the institutional control plans at the Waste Isolated Pilot Plant (WIPP).

Appendix H – Comparative Risk for DOE Sites:

Bill Willoughby stated that there is not that much information related to risk for the ORWBG. Most of the information pertains to inventories. The only risk data is related to Transuranic (TRU) waste. He stated that he was attempting to get additional information. If the risk information is not available, his fall back position is to state that the ORWBG is not significantly different than burial grounds at other sites which are identified as low risk. Therefore the ORWBG is low risk. In this case, the title of this section would be changed to eliminate the "Comparative Risk". A better title would be, "Comparing ORWBG to Burial Grounds at Other DOE Sites."

Mr. Willoughby is attempting to get a copy of the National Bureau of Standards (NBS) Handbook 69, as amended in August 1963. Dr. Wilhite stated that he had a copy and would get it to Mr. Willoughby.

The definition of TRU waste has changed over the years so there is difficulty determining the volume of TRU waste. Mr. Mackey suggested that other six sites having burial grounds similar to the ORWBG be checked to see how they identified their risk. It was stated that there were more than six sites that had low-level (LLW) or mixed low-level waste (MLLW) but most were leaving the waste in the ground and not removing it.

#### Appendix A – ORWBG Focus Group Members:

Jim Moore stated that this was simply a list of members of the Focus Group. Those in bold attended the majority of the meetings.

#### Appendix B – Meetings/Subjects of Focus Group Deliberations:

Mr. Moore stated that this was a list of the meeting dates and a brief summary of the topics and results of each meeting.

#### Appendix D – Groundwater Transport and Stream Concentrations:

Lee Poe stated that Karen Patterson wrote this section but was unable to attend the meeting so he would review it. There were no recommendations or conclusions included. Figure D-1 presents all the nuclides on one graph in order to determine when various nuclides would be present in relation to each other over time. The ISPR calculations were used in developing these graphs.

#### Appendix E – Human and Environmental Exposures and Health Effects From Radionuclides Released from ORWBG:

Mr. Poe stated that using the calculations in Appendix D, this section determines the radiological exposures that could be encountered by using the water from Fourmile Branch and the Savannah River containing the calculated radionuclides expected to be released from the ORWBG. Once again, there are no recommendations or conclusions. A maximum dose rate of 0.003 rem would occur to an individual in 2700-2800 years drinking water near Road A. There would be one chance in one million of that individual getting cancer. The population exposure dose would be 162 person-rem in 10,000-year analysis period. No single person would die from latent cancer. The data was taken from the ISPR report formulas.

There was discussion on the drinking water standards. Dr. Wilhite stated that he thought that the ISPR might have used different drinking water standards than EPA. It was requested that this be looked into. It was also suggested that Figure E-4 be modified to show the current year on the graph.

#### Appendix F – Radiation Risks from Surface Occupation of the ORWBG Site:

Mr. Poe stated that Dr. Bill McDonell was the author but was unable to attend the meeting. Mr. Poe stated that this section considers the radiation risks of animal and human occupation and of the burial ground over near and long-term time frames. The CMS/FS logic and data were used. A person living on the surface of the burial ground in 1500 – 2000 years would receive a dose rate of 10 rem. A land management plan will need to be in place to minimize erosion and deep-rooted vegetation to prevent this high dose rate. A land management plan is also required in Appendix E.

A discussion on the present closure scenario indicated that the solution had not been determined yet but the present thinking was that a geotech cap would be put in place to reduce infiltration and rocks or a concrete slab would be placed over the four hot spots.

### Section 3 – Description of the ORWBG:

Mr. Poe stated that Dr. McDonell was also the author of this section. This section describes the ORWBG as it is today. It describes the constitutions of interest and hot spots. The interim action is also described. This section sets the stage for the other sections. The recommendation is that a uniform cap be placed over the ORWBG. This would mean extending the present cap to the Old Solvent Storage Tanks area of the burial ground. The conclusion is that the Old Solvent Storage Tanks need to be addressed.

### Section 10 – Stakeholder and Focus Group Influences on Regulatory Requirements:

Dr. Bill Lawless stated that this section identifies the interactions between stakeholders, regulators and SRS that influenced the application of regulations applicable to the ORWBG. Public support for decisions by SRS range from agreement to disagreement. Dr. Lawless identified the many recommendations and actions initiated by the CAB for the ORWBG including the development of the ORWBG Focus Group. In summary, he stated that the Focus Group and CAB has attempted to establish broad principles for the three agencies and stakeholders similar to those proposed in Dr. Massmann's ISPR report for the A&M area.

The principles are as follows:

- Soils and groundwater at an operational unit should be fully characterized before selecting a treatment.
- Remediation goals for soils and groundwater should be established with public input before the initiation of treatment.
- The effectiveness of remediation treatment projects in the field should be determined with operational data.
- Treatment projects should be optimized.
- Remediation projects should not be open-ended; the three agencies and stakeholders should agree with the time and funds spent to complete each remedial project.
- Adding to Dr. Massmann's list, the Focus Group believes that remediation should never be undertaken unless the benefits of treatment are clearly established.

During discussion, Mr. Poe suggested that a paragraph be included at the beginning of the section to indicate how this section fits into the total report. Dr. Lawless requested that Mr. Poe send him some notes of guidance in the next few days.

### General Discussion:

Mr. Mackey asked why the internal motion to conduct the ISPR was not on the web site yet. Mr. Poe said that he understood that internal motions are not usually recorded on the web site, only regular regulations. He also said that he understood that it would be on the web page but there was a backlog of work to go on the web page at this time. It would be placed on the web page.

At the end of the discussion on the sections of the final report, Mr. Poe once again requested that everyone take time and read the report and send in their comments to the author. Sections are to be revised by February 6 and sent to Mr. Moore. Mr. Moore asked Mr. Poe to let him know if there was a Section 12.

**Path Forward:**

**Mr. Poe requested that members of the Focus Group review the remaining sections and sign up to write them.**

**The status of the remaining sections is as follow:**

Section 1	Objective – Lee Poe
Section 2	Summary/Conclusion/Recommendations – Lee Poe
Section 4	Assumptions – Mr. Poe said that he planned to change the name to Institutional Control – No one assigned at this time.
Section 5	Groundwater Transport and Health Effects from ORWBG Wastes – Jerry Devitt
Section 6	Surface Occupation of Lands – Dr. Bill McDonell was assigned.
Section 7	Intruder Analysis for Failure to Observe Deed Restrictions – No one assigned at this time.
Section 8	Comparative Risk for Reuse DOE & DOD Facilities – No One assigned at this time.
Section 11	References – No one assigned at this time.

**Initial drafts of the respective sections are to be completed by February 6 and sent to Jim Moore.**

**With no further comment, the meeting was adjourned.**

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