



SRS Citizens Advisory Board

Environmental Remediation Committee

Meeting Summary

February 22, 2000
North Augusta Community Center
North Augusta, SC

CAB Members

Jimmy Mackey*
Bill Voegelé*
Georgia Leverett
Bill Lawless
Karen Patterson
Maria Reichmanis*
Kathryn May*
Murray Riley* (not present)
Beaurine Wilkins* (not present)
Mel Galin

Stakeholders

Scott Flickinger
Perry Holcomb
Mike French
Lee Poe
Bill McDonald
Rick McLeod
Larry Callair

Regulators
Ken Feely, EPA
Julie Corkran, EPA
Ann Clark, SCDHEC

DOE/Contractors

Brian Hennessey, DOE
Dean Hoffman, WSRC
Pat Nakagawa, WSRC
Terry Bland, WSRC
Thomas Johnson, DOE
Gerry Stejskal, WSRC
Gerri Flemming, DOE
Larry Pike, WSRC

Paul Sauerborn, WSRC
Paul Eisenstat, WSRC
Bob Blundy, WSRC
Karen Adams, DOE

*Denotes CAB ER Committee Members

Introduction: Jimmy Mackey introduced himself as the new ER Committee Chair and Maria Reichmanis as the vice chair. Mr. Mackey stated that the committee is chartered to review the Federal Facility Agreement, Environmental Cleanup and Risk Management (as it pertains to ER). Mr. Mackey then asked for introductions.

Schedule Review: Paul Sauerborn reviewed the ER committee matrix, which addresses upcoming meetings and topics. Mr. Sauerborn asked that issues or concerns with the matrix be brought to his attention.

ER Progress: Dean Hoffman, WSRC-ER gave an overview of activities and accomplishments for the ER program. Mr. Hoffman, stated there were 515 operable units identified for cleanup at SRS. With shrinking budgets, this presents a challenge for DOE. Mr. Hoffman noted that our progress to date is significant with 261 of 515 waste units closed or in remediation. This success is due in part by the interface of DOE, EPA and SCDHEC. In this agreement, the public is given opportunities to comment on process planned remedial actions. Mr. Hoffman stated that public input is a key component to the site's record.

Since 1996, ER program has deployed 49 new/innovative technologies with estimated life cycle cost

savings in excess of \$200M i.e., geosynthetic capping, in situ soil solidification, groundwater treatment units, air stripping/pump and treat, soil vapor extraction, in-well air stripping, Geosiphon cell, bioremediation, barometric pumping/BaroBall, and monitored natural attenuation. Mr. Hoffman noted the direction of the ER program is to minimize active technologies for passive technologies or at least a mix of each. Two current technology challenges are the use of phytoremediation for radioactive groundwater plumes, and the dynamic underground stripping to dislodge dense solvents in groundwater plumes. Bill Vogeles asked if the geosynthetic cap used at the Burial Ground was impervious to root penetration by trees. Mr. Hoffman said no, and stated that the U.S. Forestry Service was looking into different types of slow-growing grasses to reduce the amount of maintenance being delivered at the Burial Ground. Perry Holcomb asked Mr. Hoffman how many of the 515 waste units have man-made radioactivity in them. Mr. Hoffman responded with 25-30%. Mr. Holcomb also asked if the BaroBall releases of PCE and TCE to the atmosphere have any impact to the ozone layer. Mr. Hoffman responded no. Asked if dynamic underground stripping would be deployed this year, Mr. Hoffman said that it would be deployed in June of 2000.

Issue: None.

Action: None.

K-Area Reactor Seepage Basin (KRSB) Explanation of Significant Difference (ESD): Karen Adams, DOE, presented the KRSB ESD. Ms. Adams noted that this is the first of many waste units to use the Plug-in Record of Decision. The Plug-in ROD selects a common remedy for high-risk radioactively contaminated waste units with similarities in history of use, contaminants, and physical setting. KRSB was a candidate for using this remedy because it met all the criteria established for the Plug-in ROD. Ms. Adams noted that the contaminants in the basin bottom soils are cesium-137, strontium-90, plutonium-239, and 240, americium-241, cobalt-60, and carbon-14.

Ms. Adams explained that the remedy stabilizes the top 3 feet of soil in the basin using a cement-based grout. A low permeability soil cover over the basin will prevent leaching of strontium-90 and carbon-14 to the groundwater. The pipeline leading to the basin will be grouted to prevent potential/future ecological exposure. Institutional controls will prevent excavation and future residential use. Lee Poe asked what assurances there were with institutional controls that would preclude human exposure at some point in the future. Ms. Adams indicated that deed restrictions recorded with the local municipalities would not allow any residential applications on the site. Bill Lawless asked if this was the original plug-in waste unit and was this the way that the rest of the waste units would be handled. Julie Corkran, EPA said that the ESD would be the instrument used for this and all future plug-in ROD waste units. Mr. Lawless questioned if a CAB recommendation will result from this action. Mr. Mackey stated that since there is already a recommendation endorsing the plug-in approach, a letter of commendation would be developed.

Issue: None.

Action: Bill Lawless will write letter of Commendation to be presented at CAB meeting March 27.

Response to CAB Recommendation 83 (CMP Pits): Pat Nakagawa, ER responded to items 2 and 3 on recommendation 83. Mr. Nakagawa in response to Item 2 which asks how to determine the point of diminishing return, stated that defining the point of diminishing return of effectiveness of a chosen remediation consisted of four elements:

- effectiveness of active remediation vs. passive remediation
- effectiveness based on soil/gas concentration, rate of mass removal, system response and cost of operation

- initial remedial approach reaches 10% of initial monthly load
- and this criteria is project by project specific

Secondly, project documentation will illustrate the effectiveness of the monitoring plan:

- describes groundwater and/or vadose remediation operation and shutdown criteria
- requirements to be included with Post-Record of Decision document
- all approved by DOE, EPA, and SCDHEC

Thirdly, Programmatic Implementation:

- Presumptive Remedy (EPA directive 9283.1-12)
 - basis for building/establishing remedial responses
 - interim (phased final) actions
 - remedy performance increased, decreasing remediation timeframe and cost
- feasibility study technology selection
 - based on 9 criteria
 - public involvement

Paul Huber then presented the following regarding Item 3:

Item 3 of Recommendation 83 asks for ER program projected costs over the next five years:

- estimates the average cost per project at \$1,500M

Mr. Huber stated controlling remediation costs with multiple approaches include the following:

- in place remediation saves transport and offsite disposal costs
- institutional control on low risk sites saves remediation costs
- competitive subcontracts
- waste minimization keeps disposal costs lower
- efficient groundwater monitoring is saving \$7M/ year vs. 1994 costs
- lower lost workday cases reflects safety and efficiency
- document streamlining yields savings with standard and plug-in approaches
- geosynthetics vs. clay have produced \$100M of savings per land fill acre
- passive alternative to groundwater remediation are cost effective by 50% or more
 - Recirculation wells, Geosiphon, and Baroball in use
 - Phytoremediation, Monitored Natural Attenuation in development

In conclusion, the SRS will continue the presentations of unit-specific decisions, and report annually on remediation costs. Mr. Mackey asked if outyear costs considered the use of future technologies. Mr. Huber stated the outyears were calculated by using known technologies plus escalation. Mr. Poe stated that it appears to him that the projection suggests that the site is accomplishing less scope for more cost. Mr. Huber stated that actually SRS is completing more projects for less cost.

Issue: None.

Action: SRS will continue to report on unit-specific decisions, and also report annually on remediation costs.

Public Comment: Mr. Poe asked to avoid scheduling two committee meetings on the same night, suggesting that there is too much material and back-to-back meetings require a large commitment of time. Mr. Mackey said when possible, holding two committee meetings on the same night, will be avoided.

Mr. Mackey thanked the attendees and the meeting was adjourned.

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