



May 1994 Meeting Minutes

SRS Citizen's Advisory Board

Members Present

All members were present except Tom Costikyan, Moses Todd, Bill Lawless, Kathryn May, Lenola Cooks and Jo-Ann Nestor. Tom Treger of the Department of Energy-Savannah River Operations Office (DOE-SR) sat in as alternate for Steve Richardson. Dave Hopkins of the Environmental Protection Agency (EPA) sat in for ex-officio representative Jeff Crane.

Approval of minutes

The minutes from the last meeting were approved with two changes. Camilla Warren wanted a statement she had made modified to reflect her true intent. Brian Costner asked that a statement attributed to him be changed to reflect that it was made in response to a comment by Virginia Gardner.

Agenda change

The update on the Federal Advisory Committee Act (FACA) was moved from 11:30 a.m. to 3:15 p.m. to accommodate the DOE Headquarters (DOE-HQ) representative bringing the letters appointing Savannah River Site (SRS) Citizens Advisory Board (CAB) members to the DOE Environmental Management Site Specific Advisory Board.

Agency updates

Camilla Warren of EPA reported that she had met with a representative from the Georgia Department of Natural Resources (GDNR) regarding a presentation for the board on the fish from the Savannah River.

Tom Heenan of DOE-SR announced that Dick Lynch will be working with Virginia Gardner to provide better customer service to the board.

Ann Ragan of the South Carolina Department of Health and Environmental Control (SCDHEC) introduced representatives from SCDHEC in attendance. They included Randy Thompson, Ken Taylor, Keith Lindler, Allan Coffey, and Jim White.

Camilla Warren introduced the other EPA personnel present, Carl Terry and Dave Hopkins.

Technical Briefings

Five technical presentations were sponsored by the Educational Subcommittee. They included an environmental remediation overview by Tom Treger of DOE-SR, the impact of the Resource Conservation and Recovery Act (RCRA) on the site by Mary Flora of the Westinghouse Savannah River Company (WSRC), 200 Area groundwater issues by Brian Looney of WSRC, Federal Facility Agreement sites by Camilla Warren of EPA, and groundwater issues by Ken Taylor of SCDHEC. (For copies of visuals and a summary of questions and answers, see Attachment A.)

Subcommittee reports

Membership

Beaurine Wilkins, chair of the membership subcommittee, reported that her committee had met the previous night. The following action items were identified:

- Recommend replacement nominees to the board
- Track attendance after members file acceptance letters
- Determine the terms of membership for all members

Only five members have volunteered so far to serve two-year terms, she reported. The local charter states that half of the members should serve two-year terms, so more volunteers are needed. If an insufficient number of members volunteer, alternative methods will have to be considered, she said.

Bob Slay recommended that the subcommittee delay action on establishing terms until after the comparison is made between the Department of Energy Charter for Environmental Management Site Specific Advisory Boards and the Savannah River Site Citizens Advisory Board Charter and all differences are reconciled.

Beaurine said that her committee will be working closely with the By-laws Subcommittee. She asked that copies of the applications for the board be sent to her and the other committee members.

By-laws

Chair Rachael Harper reported that her committee was waiting to meet until they receive by-laws from the other DOE boards in operation. She hopes to meet before the next meeting and report at that time.

Nominations and Elections

Ann Loadholt said her committee had been waiting for the FACA charter to be approved and by-laws written before meeting. She expressed the opinion that her committee may not even be needed or allowed under the new FACA charter.

Bob Slay said that the new FACA charter allowed for establishment of subcommittees, so he did not think that would be the case.

Budget Subcommittee

Tom Greene presented a draft, task-driven budget for fiscal year 1995 covering the 12- month period from October 1, 1994, through September 30, 1995, and representing the budget subcommittee's best judgment regarding the estimated costs of the board's operations during this period.

He explained that for the remainder of FY94, the board could continue to operate on an expense basis.

He reported that he had checked into how DOE's Hanford board created their budget. Their first attempt totaled \$1.1 million but the actual budget ended up at approximately \$770,000.

He next discussed projected travel to board meetings, as well as travel to subcommittee meetings other than those held in conjunction with the monthly board meeting. Miscellaneous travel is included in the budget, based on what other DOE sites have done.

He suggested that an honorarium be paid to members and recommended that this (or some other suitable mechanism) be made available for board members to cover incidental expenses.

He explained that projected expenses for board meetings were derived from costs associated with the past two board meetings and projected costs for this meeting. The figures closely track with what Hanford proposed, he said. He also included in the proposed budget funds for subcommittee meeting expenses.

The facilitation costs in the proposed budget assume a senior facilitator, a junior facilitator for "running" minutes kept on the flip chart, and clerical support for writing and typing up the minutes. In the budget subcommittee meeting the night prior, he reported, many had suggested that the \$14,360 budgeted for facilitation be moved to technical assistance. Board members had mixed reactions whether subcommittee meetings might need to be facilitated.

Tom Greene then discussed the proposed budget for advertising and mailings. He said that in the subcommittee meeting the night prior, an additional newspaper, the *Augusta Focus*, had been identified and would be added. Ann Loadholt also requested adding the *Barnwell People Sentinel*. Mildred McClain requested that three Savannah African American newspapers be added to the list as well. Beaurine Wilkins said she would like to see the minority papers get their share of the amount spent on advertising. Tom Greene assured her that would be done.

Rachael Harper asked if the board was to continue advertising in all locations for all meetings. She suggested advertising in the locations where the board was meeting without necessarily changing the advertising budget. Bob Slay agreed and said he thought more money should be spent in the locations where the board meets.

Tom Greene stated his opinion that an annual report is a necessary form of advertisement but acknowledged that the issue was debated in the subcommittee meeting. He then discussed the independent administrative support section of the proposed budget, explaining that facilitation and administrative support were two separate contracts. He also explained how the board may obtain independent technical expertise and presented two options.

He said the bottom line for the proposed budget is \$724,110.

He then recommended continuing to operate on an expense basis for the remainder of FY 94 (through September 30), submitting the budget proposal to DOE in July, and reviewing any DOE recommendations for change at the August meeting. He will present a revised budget proposal, based on input from the May meeting, at the June meeting.

Brian Costner stated that this budget was far more money than the board should be spending and that he is extremely uncomfortable with the salaries suggested for support personnel. Mildred McClain agreed. She stated that she thought the board was shooting for a budget of \$500,000 and that she would like those two items looked at closely.

Rachael Harper said she appreciated Tom Greene's work with the budget but that she does not see the need for an annual report. She spoke of her experience with grassroots organizations and how the board could obtain free coverage by sending to newspapers the meeting minutes and outcome of the board decisions.

Ann Ragan suggested adding a phone allowance, an equipment cash fund, travels other than board meetings and additional funds for more than six subcommittee meetings.

Harry Jue said that three quarters of a million dollars was "a shocker" and that there is always a public perception problem to consider when the board spends money. He questioned who would audit the board expenditures, such as travel expenses. Tom Greene stated that he assumed DOE or Westinghouse would furnish audits. Harry Jue said one of the board members could evaluate travel.

Bob Slay stated that he had heard a wide range of desires from board members on how facilitation should be conducted, from being a totally independent board to continuing with the administrative services WSRC and DOE are providing. He cautioned the more services the board obtains independently, the more expensive operating will become. Tom Greene agreed that continuing to use facilitators and administrative support from the site would keep costs down tremendously.

Tom Heenan observed that cost is marginal for personnel on annual salary and more costly for someone on separate retainer. He reiterated that DOE is committed to making sure that this board has the resources to be the best board in the country, as well as the best perceived.

Thelonius Jones said his main concern is WSRC conducting an audit. He also objected to spending money for an annual report. Tom Heenan stated that Westinghouse would not audit the board.

Tom Greene asked for guidance from the board on how to finalize the budget. He stated he could easily reduce it to \$500,000 by substituting DOE and WSRC support for independent facilitation and administrative services. Mildred McClain said that she believes the board could have independence without high costs.

Lane Parker said that you pay for what you get. This budget is costly but not far out of line, considering the number of individuals involved with board meetings. He added that this proposal is in line with other sites and asked why SRS should be different.

Brian Costner took exception to the idea that reducing the size of the budget would sacrifice independence, saying facilitation and administrative costs could be streamlined. He requested a breakdown of costs for the meetings the board has had thus far. He also stated that if you look at the SRS CAB charter and all discussions of the working group that there is the issue of how the board will be administered. He said it is not necessarily appropriate to assume that it will be administered through the Savannah River Site. He said the board may want to go the route of setting up a separate independent non-profit group or go through some entity that already has non-profit status or a university. He suggested these options be explored in the next month, so that the board can make a decision about administrative services and that it not be done by default.

Mildred McClain asked if board retreats and outside training were included in the budget proposal. Tom Greene replied that "miscellaneous travel" would cover such items as outside training.

Mildred McClain asked about funding for materials and videotapes for public outreach and education. She stressed the importance of education for the local communities and the importance of their perception of the board.

Andrew Rea stated that the budget seemed high, although it is difficult to predict first year costs. He said it would be better to ask for more initially than budget for \$500,000 and spend \$600,000.

Brian Costner moved that Tom Greene consider the comments and change the budget appropriately, trying to reduce the total amount. Tom Heenan pointed out that budgeting on a needs basis is more defensible than budgeting to a number.

Walter Jones gave an example of how lowering the budget could backfire and suggested that the board present the budget as is and react to feedback when it comes back from DOE. Alice Hollingsworth stated that the board already has excellent administrative support from WSRC and that area of the budget could be cut.

The Board voted on Brian's motion and the motion carried.

Environmental Remediation path forward

P.K. Smith reported that the Education Subcommittee will go on to solid waste issues at the next meeting. She said that the ER path forward should be discussed further and asked Brian Costner

to lead the discussion. He asked how members wanted to proceed, if they would like to continue to pursue ER issues while other topics are also explored over the next five months.

A show of hands indicated that most members would like to continue to learn more about ER issues. Brian offered two ways to accomplish this. The first way would be to look at waste sites as they come up in the permitting process. The other way would be to look at them in a broader context, such as future use or risk management.

Mildred reminded the board that their mission is not just to study the issues but to learn about them so the board can make recommendations. She expressed concern that such a lengthy education process might cause the board to miss opportunities.

P.K. explained the Education Subcommittee would like to conduct the education process to include information on which issues are ready for comment, enabling the board to do so if it chooses.

Tom Heenan suggested that the board might consider spending the morning of the next meeting looking at the priority-setting process for ER sites, then in the afternoon hear a briefing on solid waste. P.K. agreed to this approach. She added that the subcommittee is trying to schedule an educational retreat for September.

Federal Advisory Committee Act update

Tom Heenan reported that the new umbrella charter had been obtained. Loveless Johnson III, the newly appointed Director of Environmental Justice for DOE-EM, spoke briefly. He brought the official letters of appointment from DOE Assistant Secretary. Tom Grumbly. He reported that compensation will be provided to members on a need basis to ensure an individual's participation on the board would not be limited due to financial impact. He said that criteria are now being developed for determining need and asked for board input on the matter. Members who feel they qualify may apply.

Mildred McClain told him that during the development process of the board, the issue of compensation was repeatedly discussed. While most people felt that board members should not be paid for their time, they also agreed that no one should be excluded from participating because they couldn't afford lost wages or indirect expenses. She said that it would be very important that the process for compensating eligible members allow them to do so in a "principled way" without being perceived as having a chip on their shoulders.

Loveless Johnson said he understands that this matter should be handled in way that is "not onerous or frustrating" to board members.

Thelonius Jones commented that diversity of opinion on the board is critical to its success and many members can't afford to take time off from their families or jobs with no compensation at all.

Brian Costner asked for reassurance that before the next meeting the board would receive guidance on reconciling differences in the SRS board's charter and the national FACA charter. Tom Heenan said that this process was already under way and that the difference in membership terms required by the two charters could be handled by re-appointing SRS members slated to serve three-year terms at the end of their second year.

Bob Slay pointed out that the appointment letters ask for an acceptance letter from members. He asked Tom Heenan to prepare a form letter for members to sign and bring to the next meeting.

Public Comments

Commentor: Fred Nadelman

Mr. Nadelman stated that he had very negative comments to make, that there had been too many accidents at SRS to favor its continued existence. He said there is no such thing as a safe production reactor, that the leak in 1991 spoiled downstreamers' Christmas holiday, and that they will not forget it. He promised to come to every public meeting and say the same thing - the cold war is over and no more nuclear materials are needed. He also suggested that people turn to Greenpeace and Energy Research Foundation for information, because DOE and WSRC research is biased.

New business

Andrew Rea presented a resolution for consideration by the board, asking DOE to restore funding to the cancer registry and birth defects registry. However, in view of the conflict of interest provision in the appointment letter, about issues related to finance, he asked for clarification from DOE. Bob Slay agreed to pursue answer.

Brian asked a process question: would this in essence become the board's first recommendation? If so, he said it is off-track from the board's planned direction and could set a precedent for future resolutions which might also distract the board from its stated purpose.

Ann Loadholt asked if the act of placing it on the agenda did not set a precedent? Bob agreed but said that the board should make the call, not just him and Mildred McClain. Brian Costner asked that a process be developed for putting such matters on the agenda. Andrew Rea warned that establishing "a rigid work program" might cause the board to "miss many opportunities to do good work at critical junctures."

Bob Slay called for a vote on adding the item to the next agenda. The motion carried.

Bob Slay reported that he and Mildred McClain have set up a weekly conference call to discuss the agenda and administrative issues. He asked if the board would approve the establishment of an executive committee, made up of the co-chairs and five subcommittee chairs, to participate in the weekly conference call and help make decisions. The motion passed.

Andrew Rea moved that the board ask Mr. Grumbly to reconsider the honorarium issue and reinstate it based on the members' original expectations. The motion carried and the co-chairs agreed to draft a letter.

Julie Arbogast requested that subcommittee chairs coordinate their meetings better, since there is overlap in the membership of the subcommittees.

Mildred McClain expressed concern that the board would acquire a reputation for being big spenders if they continue to meet in hotels. Tom Heenan pointed out that it really is not expensive to meet in hotels. She said she realized that but the community didn't understand that hotels give lower, government rates to DOE and its subcontractors. So the perception is that the board is spending too much on meetings.

Brian Costner asked that the executive committee consider holding future meetings in smaller communities, as well as less expensive facilities such as public buildings. He also said some type of publication is needed to acquaint the public better with the board members.

Next meeting

The next meeting will be June 27 at SRS. The public comment session will be from 6-7 p.m. on the 26th at the Radisson hotel in Augusta.

Handouts

- Charter: DOE Environmental Management Site Specific Advisory Board
- "Environmental Remediation Overview "visuals, WSRC, Tom Treger (attached)
- *Federal Facility Agreement Quarterly Progress Report for the Second Quarter Fiscal Year 1994*, WSRC-RP-94-1155-2
- *Hilton Head Island Packet* newspaper article: "The more I know, the more I fear the long-term effects of tritium," April 4, 1993; biography of Dr. Karl Z. Morgan; distributed by CAB member Patricia Tousignant
- Letter appointing SRS CAB members to DOE's EM Site Specific Advisory Board, SRS, from Thomas P. Grumbly, Department of Energy, May 24, 1994
- Press release: "Energy Department Announces Approval of New Mechanisms for Public Involvement," DOE, May 13, 1994
- Proposed SRS CAB Budget for Fiscal Year 1995, CAB Budget Subcommittee
- Proposed Draft Resolution: Savannah River Region Health Information Systems cancer and birth defects registry, submitted by CAB member Andrew Rea
- "Solid Waste and Environmental Restoration: RCRA Requirements for the ER Program" visuals, WSRC, Mary Flora (attached)
- "200 Area Groundwater Quality" visuals, WSRC, Brian Looney (attached)

Attachment A

Technical briefings

Educational Subcommittee chair P.K. Smith opened with discussion on the educational briefings to follow. She told the other board members that the subcommittee intended to have site technical representatives provide factual information on environmental remediation (ER), as well as the roles of the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in regulating the ER program.

She explained that it is impossible to anticipate all of the questions board members might have about the subject, and that the subcommittee had asked for member input. Walter Jones was the only one to respond. "So don't shoot the messengers who have come this morning. They are only doing what we've asked them to do," she requested. "Give me your input, so you won't have to leave here angry and upset because they didn't do what you wanted them to do."

She explained that the ER Fact Book provided to the board members contains information developed in conjunction with DOE, and that the subcommittee was aware that the fact sheets on the waste sites need updating. The update will include information on funding and scope. Funding and scope information will also be updated periodically.

She walked board members through the contents of the book, emphasizing the importance of the ER Waste Guide section, which includes a history of the waste sites, suspected and confirmed contaminants, remediation drivers, Fiscal Year '94 funding, and scope for fiscal years 1995 and 1996. She asked board members to look over this information and bring questions they have to the attention of either her or Mark Musolf before the next meeting.

Following the ER Guide in the book is a baseline schedule. The last section is remediation technologies. She again requested guidance from members on what questions they have or what more they want to know about these subjects. Outside technical resources can also be used to obtain information, she added.

Brian Costner said he wanted to clarify that the ER Fact Book was prepared by the Westinghouse Savannah River Company (WSRC) at its own initiative. Although he said it was very nice of WSRC to do this, he wanted the board to understand that it was not prepared by the Education Subcommittee.

P.K. Smith pointed out that in the last meeting, the board had asked DOE and WSRC to provide information on the waste sites. This book is their response to our request, she explained, and it contains a lot of good information.

Mildred McClain asked about outside perspective and when the Educational Subcommittee plans to bring it in. P.K. replied that once the board has enough factual information about the waste sites to decide what topics and angles it wants to focus on, that will be the time to bring in independent technical expertise. She asked for anyone who disagreed to speak up. There was no further discussion.

Environmental Remediation overview

P.K. Smith then introduced Tom Treger who presented the "ER Overview." (See Attachment A for visuals.) She asked members to hold off all but clarifying questions till the end of the presentation.

Following is a summary of major questions asked and answers provided about the ER issues:

Q. Do all aquifers under SRS feed into the Savannah River?

A. Not all but many, either through streams or directly.

Q. What provisions are there for public participation in the selection of remedies for the ER sites?

A. Under RCRA, this occurs when the permit goes out for public review. Under CERCLA, it occurs when the Proposed Plan goes out for public review.

Q. Explain how the board can help at these points.

A. That will be addressed later today. But basically what's needed is input on how to balance the alternatives, such as handling one site versus another, or determining what will be the extent of remediation at a given site.

Q. Do you plan to close the Burial Grounds on site?

A. Yes, we plan to close Low Level Radioactive Waste Disposal Facility and other portions as well.

Q. Are these areas monitored and how often?

A. The Burial Grounds are one of the most monitored areas on site. We submit quarterly reports on our sampling. We conduct quarterly groundwater monitoring and check cap integrity monthly. We also do regular visual inspections.

Q. Are the B-25 (low-level waste) boxes leaking? Are they on top of the water tables?

A. We just recently submitted a permit for the Mixed Waste Management Facility. We are currently working with the regulatory agencies to determine the best way to deal with that facility. For more information on what the monitoring of these areas is showing, see page six, item number six, in the ER Fact Book. It defines some of the contaminants.

Q. Why are you blending the CERCLA and RCRA requirements? Is it because RCRA is more restrictive and you hope to get around it that way?

A. CERCLA requires that it be blended with RCRA. RCRA is more prescriptive. CERCLA has more flexibility because it's risk based. We're not trying to avoid RCRA requirements but address the areas of contamination of the most concern.

Q. What elements are being tested for in the monitoring wells?

A. Radon, heavy metals. See RCRA Appendix 9. We've been working with the State to eliminate some of the elements that have never showed up in the monitoring, as a cost-saving measure. We want to focus on those of most concern.

Q. What is the present status of the remediation process?

A. Each unit is at a different stage. Some have already been remediated and are in the post-closure phase. The status is summarized in the ER Fact Book.

Q. Can we get copies of the maps? What are the sizes of the plumes?

A. This information is in the ER Fact Book.

Q. Does the book provide the intensity of the contaminants and their life spans?

A. We didn't attempt to go into that level of detail with this book. That might be the next phase of the education process, for another meeting.

Q. How do you inform the public of the monitoring results? You need to find better ways of presenting this information to the public.

A. There is an annual Environmental Monitoring Report which is published each year. A press conference and public meeting is usually held in conjunction with its publication.

Resource Conservation and Recovery Act impacts

WSRC environmental coordinator Mary Flora presented information on how RCRA affects the ER program at SRS. (See Attachment B for visuals.) She explained that while there are just a few RCRA units at SRS, they are large facilities requiring corrective actions, as well as closure. So RCRA is a big driver for the site, she said.

Following is a summary of major questions asked and answers provided about the ER issues:

Q. How long does it take to permit a RCRA unit and what is the cost?

A. Typically several years at a cost of \$100,000 to \$1,200,000 for an original permit and \$10,000 to \$100,000 for a modification.

Q. Why do you say that the Sanitary Landfill is a timely RCRA issue for the board to consider?

A. Plans for it are under review now by SCDHEC. It's in the early decision-making process for closure. Your input at this point could make a difference.

Q. Are the landfills lined with plastic?

A. No, the Sanitary Landfill went into operation in 1974 and was intended to receive only sanitary (non-hazardous and non-radioactive) waste.

Q. Could it be incinerated?

A. It could have been, but burial was chosen instead.

Q. What about contaminated furniture that was buried in the fifties, sixties, and early seventies?

A. I'm fairly confident there has been no radioactive material disposed of in the Sanitary Landfill.

Q. Then why does it say in the ER Fact Book that tritium has been found there?

A. It came from rainfall.

Q. What is the time frame and projected cost for remediating the Sanitary Landfill?

A. One option is estimated at 24 months and \$26 million, but we are exploring other options, too. An interim measure would be a "pseudo" cap at a cost of several million.

The corrective action proposes in situ bioremediation to degrade organic solvents in groundwater, but we can't implement it immediately due to budget restrictions.

Ann Loadholt commented that Barnwell County has had a problem with its landfill, too, but that the State did not allow them to use budget as an excuse. Ann Ragan of SCDHEC stated that federal and commercial facilities are treated equally but SRS has "a whole host of problems and can't be expected to get started on all of them at once."

Q. How long has the groundwater remediation been going on in M Area?

A. Eight years. About three-hundred thousand of the two million pounds of organic solvents have been removed from the groundwater thus far. The groundwater has been improved but it is not yet up to drinking water standards.

Q. When will that be?

A. It's part of the 30-Year Plan.

Q. How much are we paying here for what benefits received? (Rhetorical question posed in absentia by Bill Lawless.)

Q. Is there asbestos in the groundwater at the landfill?

A. I'm not aware of any but I'll check.

Q. Any erosion problems after you put a cap on?

A. No. We monitor for erosion and haven't seen any problems to date.

Q. Over what period of time were rags contaminated with trichloroethylene (TCE) disposed of?

A. Several years. We didn't realize that they were considered hazardous waste.

Q. Is the plume moving towards the wetlands?

A. We just put in a 32 new wells to see. Preliminary analyses indicate that it hasn't reached the flood plain.

Q. Do you really expect the water to be drinkable in 30 years?

A. SCDHEC holds the site to tap water standards, but no one expects that water to be used for drinking.

Q. Wasn't it being used for drinking in the early '80's?

A. Yes.

Q. Can we project when it will be drinkable?

A. It's very complex. We have a videotape which explains, through computer modeling of the groundwater contamination and clean-up process. If you'd like to see it, let us know.

Federal Facility Agreement (FFA) sites

Camilla Warren presented information on CERCLA, saying that it is typically referred to as "Superfund." She said there are 290 CERCLA waste sites at SRS. One hundred and two of these require investigation and 33 fall under RCRA. Those requiring investigation are called Appendix C sites. She explained the CERCLA process begins with investigation, requiring six or more weeks for initial sampling and another two to three months for report generation. The report is then reviewed by the agencies and possibly revised. Currently, public comment is being solicited on eight remedial investigations started this year.

Following is a summary of major questions asked and answers provided about the CERCLA process and sites:

Q. Who takes the samples?

A. To avoid conflict of interest, that job is subcontracted out to an independent group and sent to a third-party, EPA-approved lab.

Q. What are the contaminants in the TNX area? What will happen if they reach the river?

A. The organic solvent TCE is one contaminant. If it reaches the river, it could diminish the ecological community there, although there would be no danger to human health.

Q. How many areas at the Site are on the Superfund list?

A. Actually, the whole Site is, from boundary to boundary, including the river. There are 423-435 separate sites identified at SRS. Page 14 of the ER Fact Book summarizes the TNX site.

Q. There is concern in Savannah over the area where the river and the ocean meet. Have there been any studies done of that area?

A. No EPA actions, although we do monitor the continental shelf as part of a long-term study. We're looking into it and are open to ideas, though.

Q. Page 14 lists the remediation drivers for TNX. It says the total inventory is six gallons. Is that a lot?

A. I'll get with you separately to discuss this in more detail.

Q. In selecting sites for identification, are quantitative criteria used? Wouldn't it be more effective if we looked at the criteria for selection rather than at individual sites?

A. Brian Costner is going to address the criteria in his presentation.

Q. Do standing areas like the wetlands retain contaminants more readily and for longer periods of time than rivers and streams?

A. I don't know but I'll check.

Q. We keep hearing about GDNR sampling fish from the Savannah River. Why doesn't South Carolina sample the fish from the river?

A. South Carolina does sampling, also. GDNR was invited to this meeting to discuss their sampling but their schedule didn't permit it. They would still be glad to come.

Education Subcommittee briefing

Brian Costner said he hoped the board members now had a better idea of how complicated ER is at SRS, with an array of contaminants and sites and multiple regulatory requirements. He asked board members to think about what their role is and what role the public should play in the process.

The bottom line, he said, is what SRS is going to look like 50-100 years from now. He described two extremes - from institutional control to returning it to green grass. What's happening now is something in between, leaving waste in place and stabilizing it, with some pumping and treating

of groundwater. Where the board can help, he said, is in putting the whole program into long-term perspective and clearer context. He emphasized that the board exists because of ER needs.

P.K. Smith then asked the board if the ER presentations had met their expectations and if they were ready to address other issues yet. Mildred McClain said that she would like to continue to focus on ER, to look at the other issues, but remember that ER is the board's mission. Pat Tousignant suggested that the board create a "road map," rather than driving all over the place. Ann Loadholt suggested concentrating on environmental issues, making them the "map," and still comment on some of the other issues. Lane Parker agreed.

P.K. Smith reminded the group that their original plan had been to move on to solid waste at the next meeting. She asked members to let her know if they are not ready to move on, and to do so by either coming to the next Education Subcommittee meeting on June 14, or call her before then.

Clay Jones asked for feedback on the usefulness of the ER Fact Book.

Brian Costner asked for a vote on the ER path forward. Mildred McClain suggested that the board think about it over lunch.

200-Area groundwater issues

Brian Looney of the WSRC Savannah River Technology Center presented the history, facility description and technical review of the Site's groundwater issues and remediation efforts (See Attachment C for visuals.). He also discussed surface water.

Following is a summary of major questions asked and answers provided about these issues:

Q. You say that tritium releases are below guidelines. Where is the measurement point? Are you relying on dilution to get levels below guidelines?

A. The monitoring point used is where a person could realistically be drinking, which is at the creek, not at the seepage line or from the groundwater.

Q. Wasn't there a spike in 1991? Will there be more in the future?

A. Over time there have been spikes seen for various reasons. In 1991, we were probably seeing the results of basin closures, with associated clearing of vegetation, which allowed more water to infiltrate, etc. Yes, we will probably see more in the future, for similar reasons, but nothing significant.

Q. What is the travel time from the basins to the outcrop area of the creek?

A. Four years for H Area and six for F Area.

Q. Why is there a discrepancy in two of your charts regarding projected tritium reductions?

A. That is due to two different groups preparing the two charts. The two disagree slightly, by about 2000 Curies.

Q. Why not just put up a \$10,000 fence around the area and let the natural decay take care of it?

A. A fence would keep people out but wouldn't stop the tritium from flowing into the river. The best tool right now is to contain it. Treating the water to remove tritium costs dollars per gallon, not dollars per thousand gallons as for most other contaminants.

Q. I was offended by your earlier remark about comparing money spent on remediation to the need for health care in our society. The effects of tritium downstream is a serious issue.

A. I apologize. I was referring to the tradeoffs and decisions our society has to make when it spends tax dollars.

Q. Could we have a "middle school" explanation at some point on the extraction and injection wells?

A. Yes.

Q. Does all the water flow to surface water sources? Are there any deep water aquifers?

A. There is no tritium associated with our facilities in deep aquifers. The flow of those aquifers is toward the Savannah River in the northern part of the site curving toward the coast lower down as you go south in the site. The highest tritium in the deep aquifers is up beyond and north of the site and has to do with the clay layers pinching out and there is tritium from the 1950's and 1960's bomb testing.

Q. I have heard rumors that sand beneath the Savannah River is being moved. Are they true?

A. There is not much tritium in the river sediments. I don't about any dredging operations.

Groundwater issues

Ken Taylor, director of SCDHEC's Division of Hydrogeology, spoke on the State's perspective on and role in resolving groundwater issues. He said the State assumes that almost all water in South Carolina should be currently or potentially drinkable, so SRS water sources should all eventually be cleaned up to drinking water standards.

The driver used by the state for remediating groundwater at SRS is based on RCRA requirements, which are "very prescriptive." When RCRA was implemented in the '80s, it was designed to apply more to new facilities being built more than those already contaminated. Subsequently, a number of facilities were "grandfathered." So there is not a "perfect" fit between RCRA and these facilities. (The post-closure permitting process was added to deal with the existing facilities.) This is why we push for the site to reach drinking water standards, he said.

Q. Over time, have the standards been raised?

A. Although standards for some metals have been relaxed, standards are still very conservative.

Q. Are there any large areas of underground water that might be moving through to the seepage?

A. Not that we know of. And we feel we have a pretty good handle on the extent of the plumes.

Q. Do you monitor for other radionuclides? How often? What about organics?

A. Yes, we monitor for gross alpha and beta radiation (the radioactive particles given off by the kinds of radioactive contaminants found at the Site). We also require monitoring for specific radionuclides at areas where it is appropriate. I'll have to check on the frequency. Since there are no drinking water standards for most radionuclides and many organic contaminants, where no standards exist we compare to background.

Under RCRA, we oversee the sampling process, including planning and the corrective actions. We split the samples and compare results. We have never seen any real discrepancies.

Q. What about the mercury advisory for fish caught in the river?

A. That's not my area but I can put you in touch with the people who are involved.

Q. One of your slides indicated primarily horizontal movement into the streams. Are there any areas which have upward and downward flow, between aquifers?

A. The various streams are at different levels of incision. But yes, there are some areas on site where vertical movement is important.

Q. Do you test wells on private property?

A. GDNR has done extensive well testing. It was determined that the tritium in those wells most likely came from atmospheric releases rather than groundwater contamination. (This information came from Bill Carleton of WSRC, not SCDHEC.)

A. SCDHEC will run well samples for individuals at no charge.

Q. Is it reasonable to require the Site to clean up all its water to drinking water standards?

A. SCDHEC would consider relaxation of standards, but that would have to be on a statewide basis, not just an exception for SRS.