SRS Citizen's Advisory Board

August 1994 Meeting Minutes

SRS Citizen's Advisory Board

Members Present

Members present were Julie Arbogast, Anne Brown, Thomas Costikyan, Brian Costner, Myles Grant, Rachael Harper, Thelonius Jones, Walter Jones, Harry Jue, William Lawless, Mildred McClain, Josephine Nestor, Lane Parker, Kamalakar Raut, Robert Slay, Perjetta Smith, Partricia Tousignant and Beaurine Wilkins. Ex-Officio Representatives were Thomas Heenan, Steven Richardson, Jeff Crane and Ann Ragan.

Members absent were Lenola Cooks, Thomas Greene, Alice Hollingsworth, Ann Loadholt, Kathryn May, Andrew Rea and Moses Todd. Constance Jones of the Environmental Protection Agency (EPA) sat in for ex-officio member Camilla Warren and Jim Brownlow of the South Carolina Department of Health and Environmental Control (SCDHEC) sat in for Myra Reece (see attached list for other attendees). The Department of Energy (DOE) Designated Federal Official present was Steven Richardson.

This meeting was open to the public and posted in the Federal Register in accordance with the Federal Advisory Committee Act.

Key Decisions Made by Board

The Membership Replacement Subcommittee will track attendance and notify the Bylaws Subcommittee of any violations. The Bylaws Subcommittee will bring violations to the Board's attention and the Membership Replacement Subcommittee will select candidates to fill any vacancies that may occur.

The Board approved the Draft Bylaws with revisions.

The Board approved the Membership Replacement Subcommittee Draft Operating Procedures.

Approval of Minutes

The minutes from the July 26, 1994, CAB meeting were approved with seven changes.

Agency Updates

Jeff Crane of EPA discussed Proposed Plans available for public comment (see attached *SRS Environmental Bulletins*) . He stated two proposed actions were completed previously under the

Resource Conservation and Recovery Act but that the Proposed Plans for TNX Groundwater and the D Area Oil Seepage Basin were bona fide actions for consideration. He explained the preferred action for the TNX Groundwater unit is to contain contamination with a pump-and-treat method which addresses vadose zone contamination. He said the preferred alternative for the D Area Oil Seepage Basin is to remove the buried drums and continue investigations. Mr. Crane also invited the Board to attend a demonstration of an Electron Beam technology on Sept. 23 at SRS.

Rachael Harper questioned how comments are to be made on Proposed Plans. She said the alternative of taking no action at the D Area Oil Seepage Basin was disturbing. Tom Heenan stated that all alternatives are listed but the preferred alternative is to remove drums and begin actual field work. Jeff Crane stated that taking no action was always evaluated to provide a baseline for comparison. He stated that the public notices for Proposed Plans as well as plans themselves are fairly streamlined and should the Board choose to become more involved, the Agencies would work with the Board during the remedial selection process when feasibility studies are conducted. Bill Lawless stated a no action alternative in Proposed Plans is important to provide information on risk to the environment or public. He said some actions could increase risk and therefore taking no action would be appropriate.

Mildred McClain asked that the D Area Oil Seepage Basin and TNX Groundwater Interim Action Proposed Plans be provided to the Board.

Tom Heenan of the DOE discussed the Draft Site Treatment Plan, which will address mixed waste at SRS and is required by the Federal Facility Compliance Act. He stated extensive public participation is planned and invited the Board's participation. Mr. Heenan also invited Board participation at a public workshop on Future Use to be held Sept. 19. He said DOE was looking for ideas on public involvement and how to structure the public participation plan for Future Use.

Bill Lawless asked for a progress report on plans to compensate Board members. Tom Heenan stated that the process and criteria were being reviewed by DOE-Headquarters. Mildred McClain reinforced Mr. Lawless' comment stating this issue may be affecting Board participation and should be resolved before the next Board meeting.

Subcommittee Reports

Bylaws Subcommittee

Chairperson Rachael Harper discussed several revisions to the Draft Bylaws. These included changing the number of days, from seven to 10, in which membership applications for candidates must be submitted to the Board prior to an election. (See Section 3.5 of the Bylaws.) She also added a new Section 5.5 in the Subcommittee portion of the Bylaws, which addresses operating procedures. In Section 9.2 of the Bylaws, Ms. Harper added that no amendments which change the Bylaws shall be allowed for a one-year period, but that additions would be permitted.

Bill Lawless stated the reasoning behind the one-year period was to give the existing Bylaws a chance to operate before changes were allowed and questioned if changes would be necessary.

Rachael Harper said she wanted to allow for any unforeseen circumstances that may require additions only.

Thelonius Jones questioned the use of the word "appearance" in Section 7.3 (a) of the Bylaws, stating it was misleading and required a judgment call. Mildred McClain asked Rachael Harper to further investigate a way to restate this sentence and asked Board members to make recommendations during a break.

Rachael Harper also asked the Board to determine which subcommittee was responsible for tracking attendance. **Following discussion, the Board decided unanimously by a show of hands that the Membership Replacement Subcommittee will track attendance and notify the Bylaws Subcommittee of any violations. The Bylaws Subcommittee will notify the Board of any violations and the Membership Replacement Subcommittee will be responsible for selecting candidates to fill any vacancies which may occur.**

Following a break, Rachael Harper stated that the language used in the Conflict of Interest Section 7.3 was from DOE Order 1130.6 and could not be changed since the Order establishes how the Board will operate. **Lane Parker moved the Board approve the Bylaws with corrections. Bill Lawless seconded the motion. The Board voted unanimously in favor of approving the Bylaws as corrected.**

Membership Replacement Subcommittee

Chairperson Beaurine Wilkins stated the Membership Replacement Subcommittee had worked closely with the Bylaws Subcommittee to develop operating procedures. She discussed one change in the Schedule and Timetable (3) of the procedures, stating that after names and applications of candidates for Board membership are sent to the Board, the comment period must begin no later than 60 days prior to Board elections and must remain open for 15 days.

Mildred McClain asked if a full public campaign that goes above and beyond normal Board advertising would be conducted to solicit applications for Board membership. Beaurine Wilkins stated it would.

Walter Jones moved the Board approve the Membership Replacement Subcommittee Operating Procedures. Lane Parker seconded the motion. The Board voted unanimously in favor of the motion.

Risk Management and Future Use Subcommittee

Brian Costner reported that 31 people had attended the subcommittee meeting Monday evening. He said 12 individuals were Board members, 12 were from the general public and the remainder were SRS personnel. He also stated that the Hanford Advisory Board has a working group on high-level waste that would be touring the Defense Waste Processing Facility on Sept. 23 and has invited SRS CAB members to join them. He said the working group also offered to meet with SRS CAB members on Saturday, Sept. 24 to discuss issues.

Technical Briefings

Four technical presentations were sponsored by the Education Subcommittee. They included an overview of the SRS Environmental Report for 1993 by Jim Heffner of Westinghouse Savannah River Company (WSRC); an overview of the High Level Waste Program by Charlie Anderson of DOE-SR; an overview of the Defense Nuclear Facilities Safety Board (DNFSB) by Andy Stadnik of the DNFSB; and an overview of the Defense Waste Processing Facility (DWPF) Supplemental Environmental Impact Statement by Linda McClain of DOE-SR. (Copies of the presentations are attached. See Appendix A for a summary of the presentations and questions and answers.)

Dr. George Burke of the Medical College of Georgia and Dr. Robert Anderson of the Medical University of South Carolina were present to address questions related to human health effects of radiation. They were asked to attend the meeting by WSRC.

Administrative Items

Bob Slay reminded Board members that subcommittee meetings held separately from the regular monthly Board meeting must be advertised. He also discussed facilitation and asked that Board members' names be placed on a flip chart as they raise their hands to ask questions. He wanted to make sure everyone has an opportunity to talk. Brian Costner agreed with this idea, but stated that follow-up questioning is very important and necessary to get answers and understand issues. Mildred McClain asked that Board members please say if they will be asking several questions. Bill Lawless said it would help if there was a medium to get answers to follow-up questions. Clay Jones said SRS would be glad to respond to any inquiries.

Bob Slay stated several Board members have questioned how to apply for compensation. Virginia Gardner of DOE stated that this package was not yet approved by DOE-Headquarters and that once it was approved, it would be mailed to each Board member. She said she would call headquarters for an update and send the Board a memo concerning the status of the compensation package.

Clay Jones of WSRC discussed the issue of providing meals at CAB meetings. He stated that due to federal travel regulations, only those members traveling more than 50 miles one-way are allowed reimbursement for meals. He said DOE and WSRC were looking for ways to solve this problem and in the interim Westinghouse has been providing food for local Board members. He stated a final resolution would be made before the next meeting and Board members would be notified. Several Board members expressed their frustration with this issue and the restrictions that seem to continually arise.

Mildred McClain questioned when the Board would have a formal avenue for providing comments. She said the DWPF and Spent Nuclear Fuel Environmental Impact Statements need the Board's input. She also stated that members of the Savannah community had questioned when a brochure would be prepared for the CAB. She and Bob Slay will ask for volunteers to form an ad hoc committee to accomplish this task.

Public Comment

Written comments were submitted to the Board by Sam Booher and Laura Bagwell (see attached). Sam Booher was present to highlight various aspects of his written comments.

The Board will provide written responses to both individuals.

August 22, 1994, 6 p.m. Public Meeting

Thirteen people from the general public attended the public meeting held at the Telfair Inn in Augusta, Ga. (see attached). Bob Slay gave an overview of how the Board was developed and the makeup of its members. He also gave a status update of Board activities and introduced Board members present.

Members of the public asked a number of questions about the Board's interface with DOE and its purpose. Bob Slay explained that the Board is independent but relies on site personnel for administrative functions. He stated the Board's mission is to provide DOE and its regulators with recommendations on environmental restoration, waste management and related issues. He said the Board hoped to keep citizens informed as well. One individual asked if the Board could be used as an avenue to get comments to DOE and Mr. Slay said it could.

One member of the public asked if Board advice to DOE is binding. Bob Slay stated it is only advisory but that he hoped a great deal of attention would be given to the recommendations since DOE established the Board for this purpose.

Handouts

- "An Overview of the SRS Environmental Report for 1993," visuals, WSRC, Jim Heffner.
- *Savannah River Site Environmental Report for 1993*
- *Savannah River Site Radiation and You*
- "Defense Nuclear Facilities Safety Board: An Overview," visuals, DNFSB, Andy Stadnik.
- "Annual Report to Congress, February 1994," Defense Nuclear Facilities Safety Board
- "Plutonium Storage Safety at Major Department of Energy Facilities," DNFSB
- "Enabling Statute of the Defense Nuclear Facilities Safety Board," DNFSB
- "Defense Nuclear Facilities Safety Board organization chart and board member biographies," DNFSB
- "Draft Membership Replacement Subcommittee Operating Procedures," Beaurine Wilkins
- Waste Unit Hazard Ranking System.
- SRS Draft Site Treatment Plan for Mixed Waste Public Participation Plan
- SRS Citizens Advisory Board Upcoming Meeting Schedule
- *SRS Environmental Bulletin,*Volume 5, Numbers 15 and 18.
- *Interim Action Proposed Plan D Area Oil Seepage Basin*
- *Interim Action Proposed Plan for the TNX Groundwater Operable Unit*

- "Letter to Mr. Bob Lorenz from Energy Research Foundation conveying initial comments on the SRS Environmental Report for 1993," Brian Costner.

Appendix A: Technical Briefings

SRS Environmental Report for 1993

Jim Heffner gave an overview of the report's purpose and changes made to the report in 1993. The Environmental Report, required by a DOE order, characterizes environmental performance at SRS; confirms compliance with standards and requirements; and highlights significant programs and efforts. Mr. Heffner discussed compliance activities and program results for radiological and nonradiological effluent monitoring and environmental surveillance. He also presented information for 1993 radiation doses and discussed quality assurance. He asked for the Board's comments and suggestions on the report.

Questions and Answers

Following discussion of nonradiological effluent monitoring of air and water and an overview of the National Pollutant Discharge Elimination System (NPDES) exceedances in 1993, the following questions were asked.

Q. What is NPDES?

A. The National Pollutant Discharge Elimination System is a nationwide system of having discharge allowances ratchet downward from year to year as the standards get tighter. It allows regulators to issue wastewater discharge permits that allow facilities to either meet a standard or come close, while requiring facilities to do better and better each year.

Q. Are all SRS discharges regulated?

A. No. We turn in information on all discharges with a permit application and the regulator decides which ones require a wastewater permit.

Q. Are the release points for discharges reviewed and negotiated by the regulators?

A. Yes. SCDHEC is the first line regulator and is given authority by EPA to regulate the Clean Water Act in this state.

Q. Are each of the release points for discharges, whether active industrial or past disposal sites, characterized and governed by regulatory oversight?

A. Yes Q. Is the strontium 90 and tritium going into Four Mile Creek being reviewed by the regulators.

A. Yes, and typically they are reviewed by source rather than by contaminant.

Q. Are you finding exceptions to the levels of tritium at the F and H Seepage Basins and traveling of plumes?

A. We can see tritium impact there, but no metals, pH or other NPDES regulated contaminants above regulated standards.

Following discussion of environmental surveillance, which is when samples are collected of environmental media downwind or downstream of a discharge point, the following questions were asked.

Q. How far from the site is your routine sampling point downriver at the Highway 301 bridge crossing?

A. It is about 20 river miles from SRS near Allendale, S.C.

Q. What was the tritium concentration in 1993 at Highway 301?

A. About 1,200 picocuries per liter.

Q. Are you sampling from a plume or sampling water at any random point off the bridge?

A. A continuous sampler is installed close to the South Carolina shore where there is complete mixing of water for samples.

Q. Do you see any plumes pass by with this sampler?

A. In 1991 (following an accidental release), we did, but not generally. The concentrations change both with water flow and discharges, but 1,200 picocuries is the yearly average.

Q. Do you sample in shallow areas where there isn't much movement? For instance, during the 1991 release, did you see more tritium in the shallow areas?

A. We could for a few hours as the plume was coming through. The concentrations of tritium built up rapidly in the swift part of the channel and more slowly in the shallow part, and as the plume passed, we could see the concentration decline. We don't routinely sample the shallow areas, but it is done, and samples are taken from the top and the bottom of the river. Results show good or uniform agreement.

Q. Do you do any routine testing for tritium upriver and what do you find?

A. Yes we go up to the Lock and Dam and in the past went to Clarks Hill Lake. We generally find between 300 and 400 picocuries per liter.

Q. How does that compare with downriver results.

A. Downriver results are between 700 and 1,200 picocures, so it is more than double downriver.

Comment: Are you aware of the continuous sampling at the Port Wentworth water plant where we are pulling from the bottom of the river? Our results on average are about 1,000 picocures per liter.

Q. What is the source of tritium concentrations upriver?

A. Some is from solar and cosmic radiation, and some is from World War II fallout and SRS emissions through rainfall.

Q. How much tritium concentration is added downriver as you pass the site, as opposed to upriver?

A. The difference between the concentration levels upstream and downstream is added and perhaps a bit more because the flow of the river is greater downstream.

Q. Is it your contention that 1,200 picocuries per liter is constant across the river downstream and how fast does the river flow in liters?

A. Yes. The river flows at a couple of miles per hour. I'm not sure what that works out to in liters.

Q. Are tritium releases from the site controlled?

A. One component is not controlled which is migration through groundwater, however all other discharges are managed through an administrative program called ALARA, which means As Low As Reasonably Achievable.

Q. What is the drinking water standard?

A. Currently, it is 20,000 picocuries per liter.

The following questions were addressed by Dr. George Burke and Dr. Robert Anderson.

Q. What effect does tritium have on the people who drink it?

A. The effect of a small dose is not known but we must assume potential harm. Using mathematical models we can calculate the possibility of one excess cancer death every 800 years. The chances of having serious side effects are there but they are very low.

Q. But aren't your calculations based on a 150-pound male? Wouldn't it be different for a pregnant women or a small child or elderly person?

A. Yes, the impact could be greater for a child and less for an elderly person. In terms of a fetus, they fall in the same range as a child, but no one has been able to measure the direct effect of small doses. Multiple cells are undergoing rapid change in a child as in a fetus. Adults have equally sensitive cells. The average fetal cell is comparable to our blood cell.

Q. Have there been studies conducted on the effect of tritium on fetuses?

A. I don't know of any on fetuses, however some have been done on the effect on DNA structure. It is difficult to isolate tritium. A pediatrician from the Medical University of South Carolina, Tom Hulsey, has collected data on cancers in Beaufort County and compared this data with the United States as a whole and found no significant difference. This study spans over four decades.

Q. What is the difference between the impact of natural radiation versus man-made radiation?

A. There is no difference in impact. Tritium is tritium.

Jim Heffner addressed the following questions:

Q. What data do you have on cesium?

A. Cesium tends to concentrate in sediments rather than water. It is barely detectable in the Savannah River and in the Savannah Harbor it is what would typically be found worldwide. We can see it in fish at detectable levels.

Q. Why do you only test for cesium during the annual deer hunts? Why not other radionuclides?

A. Cesium testing can be done in the field and other radionuclides require a laboratory.

High-Level Waste Program

Charlie Anderson discussed high-level waste and its composition. He gave an overview of radioactive constituents and their half lives and discussed various chemicals in high-level waste. Mr. Anderson discussed waste storage and the hazards of high-level waste as well as the potential hazards of radiation exposure. He also discussed the different types of waste tanks used for storage of high-level waste. Due to the number of questions, the presentation was not completed and will be continued at a future meeting.

Following discussion of the hazards of high-level waste and the different types of ionizing radiation, the following questions were asked.

Q. What is the difference between rad and rem?

A. Rad is a direct measurement of radioactivity. Radiation has different energies. Rem allows you to compare apples and oranges, such as alpha versus beta. To compare them equally, you convert the rad to rem. Alpha radiation is much more dangerous in a short time period. Rem is used by scientists as a measurement of biological damage.

Following discussion of the four different types of waste tanks in the high-level waste farms, the following questions were asked.

Q. What is the depth of the earth cover on the Type I waste tanks?

A. Nine feet for the older style tanks. There are 12 of these.

Q. Is the Type III secondary tank covered?

A. Yes, but its not an earth cover. It's a four foot concrete cover.

Q. Are these high-level waste tanks in the ground or out in the open adjacent to the canyons?

A. The tanks are within about 100 yards of the canyons and they are all underground, however the ground is built up around some of them keeping them above groundwater. You see hills as you drive past the tank farm.

Q. Which tanks are above ground?

A. The Type III and Type IV tanks in H Area are constructed above ground to avoid contact with groundater.

Q. Do both H and F Areas have all tank types?

A. There are no Type II tanks in the F Area tank farm.

Q. What separates the tanks from the earth?

A. There is a tar paper liner, however there is no guarantee leaks will not occur.

Q. When will the old style tanks be retired?

A. The year 2020, however no waste is being added to old style tanks.

Q. Is this projected date based on DWPF startup?

A. Yes.

Q. How would the old tanks hold up during a natural disaster?

A. The tanks could maintain their structure to some level of seismic activity, however we don't know how much. If there was some leakage of waste, in its salt form it would not travel far. The soil properties surrounding the tanks would not allow it to migrate fast and some remediation efforts could be made.

Q. Have safety analyses and studies been conducted?

A. Yes and they continue to be done.

Q. How old are the high-level waste tanks?

A. The Type I tanks were built in the 1950s, the Type II tanks in 1956, the Type IV tanks from about 1958 to 1962 and the Type III tanks from the mid-1960s to the 1970s.

Q. Was elevation taken into consideration when these tanks were constructed?

A. With the later tanks, but not the earlier ones.

Defense Nuclear Facilities Safety Board

Andy Stadnik discussed the makeup of the DNFSB and its purpose, which is to conduct independent oversight of defense nuclear facilities. He discussed the different types of DOE facilities the board reviews and the general functions and activities of the DNFSB. He also gave an overview of SRS related activities and discussed current health and safety issues requiring priority attention by DOE complex-wide.

Questions and Answers

Q. Do you have any people of color on the DNFSB?

A. The five board members appointed by the President of the United States are all older white males, but there are people of color on staff.

Q. Can you give an example of a DNFSB recommendation?

A. Yes. We urged DOE to expedite processing of special nuclear materials residue from an early era and to clean it up in two to three years before it becomes unsafe. Another example is a recommendation to upgrade the training and qualifications of K Reactor operators.

Q. How does the DNFSB make a difference?

A. Three things. The fact that we are here makes DOE and WSRC think twice. We require DOE to meet higher standards and force their practices to equal that of the commercial industry. We have also identified numerous issues and flagged them in a public forum.

Q. Are you independent?

A. Yes, we have no relationship to DOE. We are budgeted by Congress as a line item. Our budget is passed by OMB and Congress, not DOE.

Q. How does DOE handle DNFSB recommendations?

A. DOE has to respond in a given period and they can either accept, accept with changes or reject a recommendation. They have a 90-day period to develop an implementation plan for completing recommendations.

Q. What is the score?

A. Of the 27 recommendations made, 10 are closed and complete. Seventeen are still being addressed. Some recommendations are long term. Of the 10 closed recommendations, DOE has acted positively on all of them.

Q. Given the new culture of DOE and high priority on public participation, what initiatives are being taken by DNFSB to go beyond hearings?

A. Members are always available to the public and numerous public meetings are planned in the fall to discuss issues and the Board's activities to date.

Q. Is DNFSB doing any research regarding peacetime uses for the stockpile of plutonium?

A. There has been some research conducted but DNFSB is not involved. We only become involved when there are health and safety issues. We do not have a research and development staff; we only look at what DOE is doing and how they are doing it.

Q. Do you think there is any chance of a Tomsk-7 incident occurring in the U.S.?

A. The Tomsk-7, which is a Soviet Union chemical processing facility like the canyons in a general sense, had an accident following a mixture with acid that resulted in a product similar to gun powder. DOE initiated a Tomsk-7 review following the incident and DNFSB thought it was a credible review. At no facility in DOE would it be likely to happen unless someone intentionally disobeyed rules.

Q. How would you resolve disputes with DOE were any to arise?

A. It would be elevated to the President of the United States and Congress. Congress would bring in DOE and DNFSB and hold hearings in Washington. DOE would have to show strong technical reasons why it could not accept a recommendation. However, DNFSB makes recommendations that DOE can reasonably accept. Of the 27 recommendations made, all have been accepted.

Defense Waste Processing Facility Supplemental Environmental Impact Statement (DWPF SEIS)

Linda McClain discussed the scope of the DWPF SEIS and gave a general status report on the document. She briefly summarized the chapters and appendices in the document and discussed issues such as benzene treatment. She also provided a schedule highlighting various activities associated with the document, such as public comment periods.

Questions and Answers

Q. Are there any additional efforts being made to get the public involved?

A. Instead of doing all day hearings in one area, we are doing a traveling road show and visiting several communities in a day. We will be spending two hours in Beaufort, Hardeeville and Allendale during one day. We are using a video tour to help people become familiar with DWPF.

Comment: The Coastal Georgia Center in Savannah is not accessible to the African American community. There are still patterns in place which exclude important parts of the community.

Comment: You need to look at mechanisms to encourage disadvantaged communities to attend meetings, such as radio advertising on stations they listen to, explaining why their participation is needed. Get the message in laymen's terms and tell them how it will affect them.

Comment: You should have planned a meeting in Hilton Head Island as well.

Steve Richardson welcomed these ideas and suggested adding a location for a meeting in Savannah and adding a meeting in Hilton Head Island.