



## **SRS Citizens Advisory Board**

### **Risk Management and Future Use Subcommittee**

#### **Meeting Summary**

October 16, 1999  
Hilton Head Town Hall  
Hilton Head Island, SC

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**A Citizens Advisory Board (CAB) Risk Management and Future Use (RM&FU) Subcommittee meeting was held on October 16, 9:00 a.m., at the Hilton Head Town Hall, Hilton Head Island, S.C. The purpose of the meeting was to discuss the Lowcountry Communication Plan, the Fish Advisory, the Fish Advisory communication strategy, the SRS Annual Environmental Report and hear public comments. Those in attendance were:**

#### CAB Members

Wade Waters  
Jimmy Mackey  
Georgia Leverett  
Earnest Marshall  
Bill Vogele  
Tom Costikyan  
Bill Lawless  
Mike Schoener, CAB  
Facilitator

#### Stakeholders

Marge Vogele  
Ann Clark, DHEC  
Mildred McClain  
Patricia Lee, CDC  
Don Siron, DHEC  
Bob Newman  
Sherrill Marcus  
Julie Corkran, EPD  
Lynn Waishwell, CRESP  
Charlotte Marsala  
George Minot  
Dr. Bob Marino, DHEC

#### DOE/Contractors

Jerry Nelsen, DOE  
Thomas Johnson, DOE  
DeLisa Bratcher, DOE  
Kim Wierzbicki, BSRI  
Jim Heffner, WSRC  
Keith Wood, WSRC  
Jim Moore, WSRC

**Wade Waters, Co-Chair, welcomed those in attendance and asked them to introduce themselves. Mr. Waters read a note from Jim Hardiman, Georgia Department of Natural Resources (DNR), expressing his regret for not being able to attend the meeting. Mr. Waters mentioned the following items:**

- **The Department of Energy Headquarters (DOE-HQ) has placed a notice in the Federal Register concerning their effort to scope Long-Term Stewardship. The scoping period will extend to January 4, 2000. Comments should be sent to DOE-HQ.**
- **An Environmental Assessment (EA) is being prepared on alternate Defense Waste Processing Facility (DWPF) canister storage at SRS.**
- **Future meetings were identified on the calendar. An additional meeting on the Interim Tank Process (ITP) is being held on October 20, 4:00 p.m., at the Ramada Plaza, Augusta.**

**Mr. Waters introduced Mike Schoener who facilitated the meeting. Mr. Schoener reviewed some meeting rules.**

Jimmy Mackey, Team B Lead, introduced Keith Wood, Westinghouse Savannah River Company (WSRC), to review the Lowcountry Communication Plan. Mr. Wood said he had two goals which were to present parts of the plan and seek guidance from stakeholders to make improvements in the plan. Mr. Wood stated that the purpose of the plan is to keep downstream stakeholders informed on SRS issues such as environmental remediation, Savannah River discharges, future site missions and the SRS impact on the community. It is important for the stakeholders to know that SRS is committed to safety and that SRS must be credible. Some of the planned tasks were as follows:

- Attain feedback from Beaufort, Jasper and Savannah Water Districts.
- Determine stakeholders and give periodic updates on SRS activities.
- Identify SRS speakers to discuss issues.
- Identify targeted communities.
- Identify leaders and schedule meetings.
- Involve medical community.
- Schedule tours/hearings for interested stakeholders.
- Develop survey to determine how stakeholders obtain information.
- Schedule periodic updates on site future missions.
- Identify other support groups who can team with SRS to communicate issues of interest.
- Plan and schedule symposium on transportation of nuclear waste.
- Develop schedule for follow up meetings.
- Schedule briefings.

Mr. Wood stated that he would like input from those present on suggested improvements to the planned tasks. The following comments were made from the stakeholders present:

- George Minot: Move media to the top of the list to inform. This is critical in building credibility.
- George Minot: Don't believe the material is too technical for the people to comprehend. There are a lot of intelligent and influential people in the area. If you give the people all the facts, they will make the right social decision.
- George Minot: Many civic groups in the area that should be communicated too such as the Rotary Club, Navy League, the Hilton Head Computer Club.
- Julie Corkran: The Chamber of Commerce offices would have a large list of such groups.
- Mildred McClain: There are many diverse groups. There should not be one "canned" presentation, but the presentations should be structured to meet the audience. More technical language would be used for a scientific group while other language would be used for a parents group.
- Mildred McClain: Presentations should be made to the Health Effects Subcommittee of the Center for Disease Control (CDC) on general activities and health impacts.
- Charlotte Marsala: Meetings and presentations of this type should be given on Friday morning to parents groups at schools, Friday evening more technical presentations could be given and then on Saturday, a summation could be made. This would be more cost effective than making three different trips to the area.
- Charlotte Marsala: A newspaper article should be written on what happened at the meeting and the schedule for future meetings.
- Keith Wood: His group should meet with the CAB Outreach Subcommittee to understand and coordinate activities.
- Lynn Waishwell: Often when events happen, the hazard is reported but no pathway or receptor is mentioned. There is no context for the people to make a decision. There needs to be a program to educate the media on the process to put in context. Consortium for Risk Evaluation with Stakeholder Participation (CRESP) has a survey that Mr. Wood requested to see.

Two items that came up during discussion were as follows:

- Bill Lawless stated that on October 28, Dan Wartenburg of CRESA, would be presenting his study on the health effects of tritium at the SRS and invited all those at the meeting to attend. Mildred McClain requested that the Health Effects Subcommittee of the CDC be invited to this meeting.
- Mildred McClain suggested to Wade Waters that the chairs of the CAB and the Health Effects Subcommittee for the CDC get together to pursue closer communication.

Ann Clark, Department of Health and Environmental Control (DHEC) stated that by encouragement from the Environmental Protection Agency (EPA) were asking the CAB and the CDC to help in reviewing the fish advisory and communication strategy. She introduced Dr. Bob Marino, Director of Health and Hazard Evaluation for DHEC, who would review the fish advisory, and Don Siron, DHEC, who would speak to the radioactivity portion of the fish advisory. Ms. Clark said that after they made their presentations, there would be a break. Ms. Clark would then review what had been done with the fish advisory and then open the meeting for discussion on what had been done well and what would need to be improved.

Dr. Marino stated that he was a physician and responsible for evaluating the fish contamination in the state. He stated this was not a new subject, in 1976, CDC in work with DHEC developed a fish advisory for Lake Hartwell that is still in effect. They also evaluated the mercury around Langley Pond. It was found in the Langley Pond situation, that it wasn't a local problem, it was a national problem.

In 1994, a brochure was developed to show how much fish could be eaten from certain rivers around the state. It was found that the main area of concern was pregnant woman, infants and children. There is no exact data that indicates specifically the amount of fish eaten versus the health impact. Certain doses react differently between children and adults. It can vary and progress from tingling in the fingers and arms to stumbling to death. It is known that in Japan in 1950 and Iraq in 1972 that methyl mercury can have significant negative health effects on humans. There have been a lot of studies to try to determine specifics, but it is still based on opinions. It is why DHEC remains conservative on their advisory.

Dr. Marino stated that fish and fishing were very important in South Carolina. There are many different fish and different consumption rates. When the state starts putting restrictions on fish, they are touching on values some people hold dear. When one steps on tradition, there is resistance. In addition, the Savannah River is a long river. There is more than one level of contamination as well as consumption.

Dr. Marino stated that DHEC has published a *1999 South Carolina Fish Consumption Advisories* booklet. When the book was issued, there were 217 calls on the toll free line. In June, there were 1500 hits on the web page. DHEC will issue the booklet every year and make an effort to improve it each year. This booklet takes the place of the individual fish fact sheets.

Dr. Marino asked if they were any questions or input. The input was as follows:

- George Minot: In the Savannah River advisory, it should be mentioned in a caption on the bottom of the page that if you follow the consumption guide on mercury, the radioisotopes will not be a problem.
- Charlotte Marsala: Asked about the distribution of the booklet and suggested that notices of contaminants be listed in local newspapers.
- Bill Vogeles: Felt that the booklet and advisories were alarming and scared people before they were advised.

- **Jimmy Mackey:** Asked if there was a difference in contamination between fresh water and salt water fish. Dr. Marino stated that there was a difference. The booklet dealt with fresh water in the state, not salt water. This is due to the ability to obtain the quantity and variety of fish to develop the data. The fish are just not available from salt water. The state has just started collecting data in order to evaluate salt water fish.
- **Bill Vogeles:** Are Georgia and South Carolina advisories the same? Dr. Marino stated yes on mercury. On radioisotopes, Georgia will probably do an advisory next year.
- **Bill Lawless:** Are there actual health problems attributed to eating fish? Dr. Marino stated no, not that can be attributed to eating fish other than symptoms. Mr. Lawless stated that the CDC states that one-quarter of deaths in the U.S. are from overeating. Mr. Lawless asked how many people die from over eating versus eating fish. Dr. Marino said comparisons could not be mixed however, risks from chemicals are much lower than over eating. Mr. Lawless stated that the document doesn't keep a sense of perspective. It should show the relative risk.

Don Siron, DHEC, commented on the Savannah River consumption advisory based on radionuclides. He stated that the first advisory on Cesium 137 and Strontium 90 occurred in 1996. The advisory is based on the assumption of consuming consistent amount of fish for 30 years. The advisory is to allow people to make informed decisions regarding the risk. In January 1995, the mercury advisory was for fish only, not water quality. Mercury does not cause cancer. The greatest danger is for pregnant women, infants and children. In May 1996, the Cesium 137 and Strontium 90 advisory was also for fish not water. It is based on increased cancer risk. Once again, the greatest danger is for pregnant women, infants and children.

Discussion items were as follows:

- **Charlotte Marsala:** WSRC has said before that they release tritium into the water, but other companies release far more contaminates. Does SRS release mercury into the water? Jim Heffner, WSRC, responded that SRS releases very little mercury into the water and only occasionally.
- **Bill Lawless:** How was the comment based on increased cancer risk determined and is there any physical evidence? Mr. Siron stated that it was back calculated. He said the largest study is from the atom bomb. It is predicted that if someone ate more than the advisory, there would be one death in 100,000.
- **Julie Corkran:** Asked if the state used 19 kilograms per year or another number for their calculation? Also, if a person ate 50 kilograms per year, would they still be okay? Mr. Siron stated that they back calculated the consumption limit to qualify the risk based on default. If a person sticks to the two pound per month advisory limit, they would not get to 50 kilograms per year.
- **Patricia Lee (CDC):** Is there background information, a report or information pamphlet that we can receive? Mr. Siron stated that there was no formal report. The background data is in the SRS Annual Environmental Report.

Everyone took a short break.

Ann Clark reviewed the communication mechanisms used to distribute the information on the fish advisory stating that no one method works. She stated the annual press release in March received newspaper, radio and television coverage. She reviewed the many areas of distribution. The fish advisory was also included in the Quality of the Environmental Report that is distributed to a large audience. Ms. Clark asked Thomas Johnson, DOE, to review DOE activities.

Mr. Johnson reviewed the many areas the site utilized for distribution.

Ms. Clark asked the group for comments on the booklet and communication strategy. Comments received were as follows:

- Charlotte Marsala: Place a tear off post card on the back of the booklet so the public can send in their comments. This would also show DHEC where inquiries are coming from and the location of the most interest.
- Charlotte Marsala: Utilize lay people to review the finished product to see if they can read and understand it.
- George Minot: Make sure the booklet has the latest data. It appears that the May 1996 information has not been included.
- George Minot: Repeat in bold type under the Savannah River the comment on radionuclides and pregnant women, infants and children.
- Bill Lawless: Feel the bold type, radionuclides comment is a recipe for getting a general alarm.
- Mildred McClain: Consider separate special pamphlets for children, elders and pregnant women.
- Mildred McClain: Consider publishing a pamphlet in Spanish.
- Mildred McClain: Consider a full page on the Savannah River with information in general on just the SRS.
- Mildred McClain: Identify community organizations and include in outreach.
- Bill Lawless: Keep the information in context and perspective. Don't alarm the public. Mr. Lawless referenced an article in Physics Today concerning radiation risk. It stated it was unethical to pay so much attention to miniscule health effects for the high cost.
- Bill Lawless: Keep the information in context and perspective. Don't alarm the public. Mr. Lawless referenced an article in Physics Today concerning radiation risk. It stated it was unethical to pay so much attention to miniscule health effects for the high cost.
- Bob Newman: In support of Mr. Lawless's comment on context and perspective stated that there were three areas that were highest in the state in background radiation, there was one north of Aiken, one a parking lot at a roller skating rink and the Governors office. There is a great responsibility to inform, not alarm.
- Sherrill Marcus: Suggest looking at posting signs along river or at boating ramps.
- Sherrill Marcus: Involve community based organizations for distribution.
- Sherrill Marcus: Develop a process for identifying community people to get feedback on what might be the best approach.
- Charlotte Marsala: Send post cards or brochures.
- Charlotte Marsala: Place a pregnant woman on the front cover.
- Charlotte Marsala: Include a half page on the special problems of pregnant women.
- Charlotte Marsala: Utilize the United Way as a method to get free help in translating the booklet to Spanish.
- Jimmy Mackey: Post at fish markets.
- Lynn Waishwell: Most people receive their input first from radio or television. This should be included in the outreach effort.
- Earnest Marshall: Include schools, colleges and churches in outreach.
- Tom Costikyan: Concerned that too much notification will have a negative impact and scare people away from fishing which is a healthy sport.
- Bill Lawless: Concerned that the information is one sided and not a true picture.
- Charlotte Marsala: Give a perspective such as 50 % risk in flying in a plane and 10% risk in eating the fish.
- Jimmy Mackey: Develop information on salt water fish since the booklet would not be valuable in salt water.
- Julie Corkran: Update fish fact sheet.
- Julie Corkran: Sit down with church groups and selected groups to make decision.
- Julie Corkran: Look at data generated by CRESP.

- Julie Corkran: Develop different plans for different areas like the Environmental Justice people.
- Julie Corkran: Have another meeting up stream and possibly down stream.
- Charlotte Marsala: Show difference in above stream of SRS and below stream of SRS.
- Bill Lawless: See nothing wrong with putting the information out on the fish advisory, the information just needs to be balanced. There has been no actual evidence Mr. Lawless is aware of that there are actual health impacts.
- Mildred McClain: There are people who fish along the Savannah River that do not know about the fish advisory. They should have an opportunity to know about it so they can make a decision.
- Charlotte Marsala: Make a video and get it to the schools.

Mr. Waters agreed that additional meetings should be held. It was also requested that these minutes be distributed to all the people in attendance.

Jim Heffner, WSRC, gave a review on the 1998 SRS Annual Environmental Report. Mr. Heffner stated that the radiological emissions continue to be low. He reviewed the history of environmental monitoring. The goal of DOE and WSRC continues to be zero violations and full compliance with all state and federal regulations. The history of tritium releases in the atmosphere and liquid were reviewed.

The individual dose for 1998 in liquid was .12 mrem and air was .07 mrem. The total being .19 mrem. Drinking water dose at Beaufort-Jasper, S.C. and Port Wentworth, Ga. were .05 mrem. The standard is 4.0 mrem. Therefore the dosage was way below standard. It was emphasized that the reason we hear more about tritium is because it has a much higher radionuclide concentration in the critical air and liquid pathway.

For water quality, it was noted that the drinking water standard is 20 picocuries per milliliter. The annual average tritium concentration at Beaufort-Jasper, S.C. and Port Wentworth, Ga. is well below that standard at about 1 picocuries per milliliter.

Mr. Heffner reviewed the fish monitoring program for both 1998 and 1999 explaining the difference in the contamination in the different types of fish as well as the difficulty of monitoring the fish in salt water.

Mr. Heffner reviewed the enhanced tritium monitoring program. The emphasis of the program is to provide timely notification to downriver consumers of significant changes in levels of tritium in the river. This program was placed into service in October 26, 1998. Since inception, all samples have been collected and there has been no observation of tritium concentrations exceeding stream trigger levels. There continues to be a cooperative program between GDNR, DHEC and the city of Savannah.

In summary, Mr. Heffner stated that the Savannah River tritium concentrations are well below the EPA drinking water standard, downriver drinking water dose is very low, the enhanced tritium monitoring program is envisioned as a permanent part of SRS radiological surveillance program and data availability has been reduced from 28 days to 96 hours.

During the discussion period, the following questions/comments were made:

- Earnest Marshall asked why the tritium tests were stopped in Burke County? Mr. Heffner stated that because of low resources in GDNR, monitoring was suspended. However, DOE was asked to pick up the monitoring program and a couple of months ago the tests have started again through DOE.

- Charlotte Marsala asked for information on the spill from SRS that occurred in 1993. Mr. Heffner said he would have to look that up that he was not aware of any spill in 1993.
- Charlotte Marsala said she felt that DOE should subsidize Beaufort and Hilton Head for the independent monitoring of the river. Mr. Heffner stated that DOE does supply dollars for the independent samples.
- Bill Lawless stated that one of the first motions of the CAB was to have an independent study of the SRS Annual Environmental Report. The review continues to be completed to see if the report is technically valid and evaluate how the program is run. The peer review is always satisfied with the report.
- Sherrill Marcus asked why the releases were high in 1950 and 1060 and are so low now. Mr. Heffner stated that not only has the equipment and technology gotten better, there were five reactors running at that time and now they are down.
- Bob Newman asked if the new missions would show an increase in tritium releases? Mr. Heffner stated that he did not anticipate a change in the tritium releases based on the new missions.

Wade Waters asked if there were any comments during the public comment period. The following are the public comments:

- Bob Newman expressed concern that the Environmental Impact Statements (EIS) show no test of consequences to operators. Mr. Newman talked about a tritium release where a pipe leaked because samples weren't taken and about 100 gallons leaked. Dean Moss, against the advice of DHEC, shut down the water system for six days. The first indication of a problem is close to the operators. Mr. Newman said he has complained about this problem before. Mr. Newman talked about his experience in Hanford. He asked why the EISs don't look at the potential impact to operators. Mr. Lawless stated that there are studies afoot. Mr. Lawless stated that the CDC has a series of studies on this. Mr. Lawless said that the report to be given at the October 28 meeting is directly related to tritium effects on operators.
- Lynn Waishwell, CRES, distributed a report by Joanna Burger, CRES, on fish consumption patterns from SRS to the U.S. 301 bridge. This would be the area with the highest concentrations of contaminants. If the subcommittee was interested, they could do further studies.  
Ms. Waishwell stated that they have started a study evaluating the knowledge of the fish fact sheet. She said that of 50 people surveyed, only two out of the 50 had seen the survey. Twelve said they saw something, but weren't specific on what they saw. Only one refused to do the survey because of the time factor.

Mr. Waters reviewed the background of the Risk Management Working Group, Team B, Risk Communications team. He stated that their work had been turned over to the CAB Outreach Subcommittee. Mr. Waters stated that there was still work to do with the Downstream Communication Plan as well as the Fish Advisory. He stated that another meeting would be scheduled. He felt the current meeting was very enlightening and fruitful. With no other public comments, Mr. Waters adjourned the meeting.

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