



## **SRS Citizens Advisory Board**

Environmental Remediation and Waste Management Subcommittee

### **Meeting Record**

**October 21, 1996**

**Hampton, S.C.**

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The SRS CAB's Environmental Remediation and Waste Management (ER&WM) Subcommittee met on October 21, 1996, at 6:00 P.M. at the Lake Warren State Park near Hampton, South Carolina. Bill Lawless, Co-chair of the Subcommittee, opened the meeting with introductions. Representatives from the South Carolina Department of Health and Environmental Control (SCDHEC) included Keith Collinsworth and Brent Allen. Representatives from the Department of Energy (DOE-SR) included Dale Ormond. de'Lisa Bratcher was the Associate Designated Deputy Federal Official. Tom Hinton attended from the Savannah River Ecology Laboratory. Joe D'Amelio, Chris Metzger and Anne Roe attended from Westinghouse Savannah River Company. Public attendees were as follows: Gary McCranie, LaClaire Laffitte, Bob Newman and Sam Rice.

Mr. Lawless then turned the program over to Keith Collinsworth of SCDHEC for an overview of the Savannah River Fish Advisory.

Mr. Collinsworth of SCDHEC gave an update/overview of the Fish Consumption Advisory which DHEC had originally issued on January 24, 1995 for mercury in large mouth bass and bowfin. The fish advisory was reissued and upgraded in May 1996 to include the two radioactive isotopes: Cesium-137 and Strontium-90 and expanded to include all types of fish. In reviewing the data for Cesium-137 and Strontium-90, SCDHEC found that the consumption rates recommended because of mercury contamination were at a level which was also protective from the Cs-137 and Sr-90 contamination. The Cs-137 and Sr-90 were included in the advisory because they pose an increased risk of cancer. This expanded advisory applies only to a portion of the river from Beech Island in Aiken County downstream to the Webb Wildlife Center in Hampton County. Mr. Collinsworth detailed the recommended consumption rates for various types of fish and explained the May 14 advisory did not change the recommended consumption rates, but was expanded to include all types of fish. Mr. Collinsworth explained that the first fish consumption advisory was primarily due to mercury. The January 1995 fish advisory is based on the adverse health effects from mercury consumption which include damage to the human neurological system.

The January 1995 fish advisory recommends that infants, children, pregnant women and women planning to become pregnant should not eat any fish from rivers included in the advisory. Both the fish advisories apply only to the fish; the water quality is safe for recreation and as a source of drinking water. Mr. Collinsworth noted the advisory was not a ban on fishing. The fish advisories were based on the assumption of eating a consistent amount of fish per month over a

thirty year period. In conclusion, Mr. Collinsworth said that it is safe to eat fish from the Savannah River if the advisory guidelines are followed. He also noted that in South Carolina the issue involves the public's right to know about the risks so that they can make informed decisions.

Dr. Tom Hinton of the University of Georgia and the Savannah River Ecology Laboratory, SREL, gave a presentation on relative risk, with the objective being to put the risks described in the fish advisory in perspective. Dr. Hinton said the dose from the Cs-137 and the Sr-90 worked out to be an increased exposure of about 3 millirem per year which translates to an increased risk of cancer of seven additional cancer cases per 100,000 people. He explained that this number was arrived at by first calculating the dose which is equal to the concentration or activity in the contaminated fish in picocuries/gram multiplied by the ingestion rate in grams/day, and a dose conversion factor. The dose is then multiplied by a risk factor to give the probability of a harmful effect. The risk factor takes into account the type of radionuclide, its specific activity, and the means of exposure (external or internal, ingestion, inhalation, or through the skin).

Dr. Hinton then compared the calculated dose of 3 mrem per year from eating the contaminated fish to exposures from other sources such as cosmic radiation, naturally occurring radioactive elements in the soil and water, medical treatments, food and consumer goods.

Questions and discussions centered around how limits were established (EPA), whether the Cs-137 and Sr-90 in the river from Beech Island in Aiken County downstream to the Webb Wildlife Center in Hampton County came from SRS activities or world-wide radioactive fallout, and what additional efforts could be made to inform and educate the public. Mr. Collinsworth explained that the level of risk that SCDHEC was concerned with was generally anything greater than a one in a million ( $10^{-6}$ ) increase in cancer cases as a minimum (The fish advisory was based on a risk level of an increase in cancer cases of seven per one hundred thousand people.) Mr. Collinsworth also explained that SCDHEC, in their role as public health officers, was not primarily concerned with the source but instead with informing the public. However, he said that the scientists at SRS had also noted these increases in Cs-137 and Sr-90 so they are probably from both SRS activities and world-wide radioactive fallout. Gary McCranie pointed out that the Ruth Patrick Science Center at USC Aiken has a wealth of information on radiation and also has an extensive outreach program.

Mr. Lawless also asked about the mean concentration of Cs-137 and Sr-90 in the fish which were sampled and the status of the Fish Subsistence Study. de'Lisa Bratcher of DOE-SR explained that the fish subsistence study was ongoing and a final report is due at the end of November. Ms. Bratcher said the study, which is funded by a DOE grant, is being conducted by Benedict College and Claflin College. Dr. Earl Meredith, a professor from Auburn University, is a consultant to the DOE funded grant.

Mr. Lawless read a letter (See attachments) he had received from Bill Reinig of the Citizens for Nuclear Technology Awareness (CNTA) discussing the dose received from fish consumption to the dose received from natural radiation.

The next item discussed was transuranic (TRU) waste issues. Mr. Dale Ormond, DOE Program Manager for TRU Waste, and Joe D'amelio, WSRC TRU Waste Manager, provided information on the status of the program and possible disposition options. Mr. Ormond stated he appreciates the CAB's involvement and support on this issue.

Future plans for the SRS TRU Waste Program were discussed in detail. Based on the recommendation of a "blue ribbon" scientific panel commissioned by the CAB, some felt that the best disposition approach is incineration. This strategy reduces the organic material in TRU waste packages to a fine ash material, which can then be shipped to the Waste Isolation Pilot Plant (WIPP) or can be vitrified. These participants felt it is impractical to wait for WIPP to open before transportation issues are addressed with the Department of Transportation (DOT). There were also concerns about the costs of this strategy, as well as the operational safety and possibility of radiation releases.

Others preferred a low-tech system where the waste is characterized and then repackaged or reprocessed to meet WIPP Waste Acceptance Criteria (WAC) and transportation requirements. However, this approach hinges on the assumption that WIPP will be ready to accept SRS wastes by May 1998. This approach also assumes SRS TRU wastes will meet the WIPP WAC and DOT transportation requirements. The participants who believed this approach stated that DOE can be shipping TRU wastes to WIPP before an incinerator could be built.

For the next ER&WM Subcommittee meeting, Mr. Lawless asked for a presentation on the SRS TRU Waste Strategic Plan. Mr. Lawless closed the meeting at 8:50 PM.

**Meeting handouts may be obtained by calling the SRS CAB toll free number at 1-800-249-8155.**