



## **SRS Citizens Advisory Board**

Environmental Remediation and Waste Management Subcommittee

### **Meeting Record**

**November 13, 1996**

**North Augusta, S.C.**

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The SRS CAB's Environmental Remediation and Waste Management (ER&WM) Subcommittee met on November 13, 1996, at 4:00 P.M. at the North Augusta Community Center in North Augusta, South Carolina. Bill Lawless, Kathryn May, Vernon Zimmerman, and Deborah Simone attended from of the Subcommittee. Ms. Simone opened the meeting with introductions. Representatives from the South Carolina Department of Health and Environmental Control (SCDHEC) included Cecilia DiPrete. Representatives from the Department of Energy (DOE-SR) included Dale Ormond, Charlie Anderson, Timothy Henderson, Tom Treger. de'Lisa Bratcher and Gerri Flemming were the Associate Designated Deputy Federal Officials. Bill Murray and Larry Elliott attended from the National Institute for Occupational Safety and Health (NIOSH). Dan Wartenberg, Chuck Powers, and Lynn Waishwell of the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) attended. Ken Crase, Leslie Huber, Cliff Thomas, Casey Knapp, Mary Flora, Joe D'Amelio, Chris Metzger, D. A. Berry, Bill Rajczak, E. R. Russell, Jeff Newman, Kelly Way, and Anne Roe attended from Westinghouse Savannah River Company. Public attendees were as follows: Greg Peterson, Todd Crawford, Bea Crawford, Bill Pitka, Gerry Stejskal, Lee Poe, Elsie Morgenstern, Michael Morgenstern, Paula Joseph.

Kathryn May explained that in the review of ongoing SRS Health Effects studies the subcommittee was interested in understanding each group's roles and responsibilities and ensuring that there was not a duplication of efforts.

Dan Wartenberg of the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) explained that CRESP has formed task groups which are working on complementary studies. These studies include a review of previous results from other studies which found an excess and/or positive dose-response in leukemia, prostate cancer, multiple myeloma, lung cancer, and thyroid cancer deaths. Bill Lawless commented that there was not a definitive positive response at lower exposure levels.

Dr. Wartenberg explained there are two basic approaches to the health studies which use mortality data, the cohort study and the case control study. The cohort study, where the basis of study is exposure, asks the question what will happen to me if I am exposed to this material? CRESP will use this type study and will continue to monitor the health of current and former workers and include additional measures of risk, (such as chemical exposures). The cohort study is good for rare exposures, but it has a low sensitivity for rare diseases unless the population is large.

The case study protocol, where the basis of study is disease, asks the question, Why me?, (what is difference between those with the disease and those without the disease). This type study compares the risks of those with and those without a specified disease. The case control type study is good for studying rare diseases, but it has a low sensitivity for rare exposures.

The CRESP studies are cohort type studies and involve the continuation and expansion of previous studies. One such study will be a continuation of a study of approximately 10,000 white male workers at the Savannah River Site, by Cragle et al. (1995). The Cragle study reported an increase in leukemia deaths (25 deaths due to leukemia were found in the sample studied, where an expected 19.6 deaths were expected to be found). That study also found that overall SRS workers were healthier than average U.S. citizens. After ruling out 5 of the 25 leukemia cases as a type not associated with radiation, the remaining 20 cases underwent a dose-response study for leukemia. This dose-response study concluded there was a slightly positive dose response and recommended that further research be done to determine whether the positive response is real or not.

CRESP proposes to gain permission to use the data from the Cragle study and collect additional data for the years 1986 - 1995 and also add women and minorities to the study.

In summary CRESP has proposed to address tritium and other specific radionuclides and chemicals; to use existing data and to follow up existing studies, to include women and minorities. The CRESP study may prove to directly address the CAB Motion No. 7 in the interim and will be complementary to and corroborative with the ongoing NIOSH worker leukemia case-control study.

Bill Murray of the National Institute for Occupational Safety and Health (NIOSH) reported that NIOSH has several research projects underway at the Savannah River Site (SRS). A brief description of the projects was distributed to Subcommittee. Mr. Murray's discussion focused on NIOSH's leukemia case-control study. This study was undertaken as a follow-up to the cohort mortality study conducted by Dr. Donna Cragle at Oak Ridge Associated Universities (ORAU) and other studies that have shown an association (dose-response or increased mortality) between external ionizing radiation dose and the risk of dying of leukemia.

This NIOSH study is being conducted at six sites including SRS having a total worker population of about 110,000 and will include about 250 leukemia deaths. Cases will not be excluded on the basis of gender or race. Four controls will be selected for each case and will be matched on gender and race but not on site. The control must have lived to the age of the case at death. The primary exposure is external ionizing radiation which includes the dose due to tritium uptake. Exposures to possible confounders or effect modifiers, e.g., internal radiation other than tritium, chemicals, magnetic fields, will be evaluated for all cases and controls individually.

Although this study will provide more information about the association between external ionizing radiation exposure and the risk of dying of leukemia, it will not determine the risk of tritium exposure alone. And, in terms of CAB Recommendation No. 7, if the results find a link between tritium exposure and excess leukemia then NIOSH may consider conducting a DNA study.

Mr. Murray explained that there was a Savannah River Site Health Effects subcommittee which is composed of representatives of community groups, worker organizations, and private citizens who are interested in providing input to the agencies on their concerns and recommendations for research. He suggested that for additional information we could attend these meetings or schedule subcommittee meetings in concert with the SRS Health Effects subcommittee.

Discussions covered costs of the study, timetables, sharing data, peer review and whether the intent of the CAB Motion had been met. Ken Crase was asked to prepare and present a recap/summary of the studies to the full board the next week.

A copy of a draft motion on the fish advisory was distributed and Mr. Lawless asked that comments be returned to him by Friday, November 15.

The next item discussed was the SRS Transuranic (TRU) Waste Strategic Plan. A presentation was given by Joe D'Amelio, WSRC TRU Waste Manager. Mr. D'Amelio discussed TRU waste description, storage, and disposition plan. (See attached handouts for copies of slides used in the presentation.) TRU waste drums containing low activity waste have been stored under weather cover on concrete pads since 1991. Other drums have been stored under soil cover since 1974. The high-activity drums are stored in concrete culverts. Mr. D'Amelio said drums that have been stored for 12 or 13 years under a soil cover are in good shape, and personnel have not seen significant degradation or corrosion. He then went on to explain the TRU waste drum "vent and purge" activities that provide for release of the gas build up in the drum's head space. The vent and purge method is a one-step process that is safe and efficient. Mr. D'Amelio mentioned that 8 drums out of 500 tested so far have had elevated hydrogen levels. These drums contained aerosol cans.

Another aspect of the SRS TRU Waste Strategic Plan is the Container Evaluation and Examination Program, that is used to segregate low-level waste drums from TRU waste drums. It was noted that this work is being performed in a facility located in the Old Radioactive Waste Burial Ground which is in the process of having an interim closure soil cover installed. Installation of this soil cover will not impact TRU operations based upon current plans. Low level waste will not be shipped to the Waste Isolation Pilot Plant (WIPP). Mr. D'Amelio then explained the three "color" phases of the Strategic Plan. These are the Blue, Yellow, and Green Initiatives. The Blue Initiative includes the initial shipments to WIPP. The Yellow Initiative provides for re-packing of the waste to meet requirements (WIPP Waste Acceptance Criteria and Department of Transportation requirements) to ship to WIPP, and the Green Initiative provides for the processing of the remainder of the waste to meet the requirements to be shipped to WIPP.

Mr. Lawless said that due to changes in the wording, the draft motion on TRU Waste would not be presented until the next meeting.

The next item on the agenda was the Independent Scientific Peer Review (ISPR) of the ER Management Action Plan. This ISPR panel was headed by Dr. Joel Massmann, who participated in the meeting via telephone. The ISPR was tasked to determine the degree of compliance with CAB Recommendation No. 10 and DOE HQ guidance regarding the MAP, address the technical justification of the remediation alternatives, provide an analysis of the alternative strategies, and

provide a final report. The ISPR comments on the MAP are detailed in their final report and a summary of the comments is attached. Dr. Massmann stated that Rev. 4 of the MAP which they had recently received addressed many of their comments regarding formatting and readability had been addressed and that it was a much improved document. However, they felt the document still did not meet the intent of the CAB`s recommendation and were concerned that the F&H Area Seepage Basin groundwater project was not addressed in the plan. Other concerns were that the MAP does not explain the SRS`s prioritization method and it is not clear whether the map is a consensus document between the SRS and the regulators.

Mr. Treger explained that both the MAP and the FFA Implementation Plan (FIP) were components of the overall Environmental Restoration strategy and they needed to be considered together. He explained that the MAP had been reviewed by the regulators and their comments were incorporated and they had all worked closely together on the FIP.

Bill Lawless discussed the need to do a cost benefit evaluation of the ER program. Dr. Massmann said that would be a difficult task because many of the issues are not easily quantified on a dollar basis. Mr. Lawless presented a draft motion on the MAP which calls for three agency consensus and cost benefit analysis to be incorporated in the next year`s revision of the MAP.

Mr. Treger pointed out that DOE must concentrate on regulatory compliance, project management and cost effectiveness, while the main goal of the regulators was regulatory compliance. He also said that April should be the date for each annual revision of the MAP to be in line with other reporting needs.

Next Charlie Anderson discussed approval of the Tank Closure Plan by the regulators. The Nuclear Regulatory Commission (NRC) is trying to decide if the waste left behind in tank 20 can be classified as incidental waste. Until there is a decision, the plan can't be approved and there may be a 2-6 month delay. DOE-SR's position has been that the remaining waste is incidental and can be left behind. If the NRC decides it is NOT incidental, then it would be classified as High Level Waste and would have to be sent to the Federal Repository. Mr. Anderson pointed out that the regulations and restrictions SRS is using with Tank 20 are much more stringent than the regulatory requirements. Mr. Lawless pointed out that this tank ,(Tank 20, the first of its type to be closed) will set the precedent for other tanks at SRS and at other sites. Mr. Lee Poe pointed out that we need to stabilize what is left in the tanks. Mr. Anderson agreed and added that doing this would also reduce the surveillance and maintenance costs.

Mr. Lawless closed the meeting at 9:30 p.m.

Attachments:

- SCDHEC Fish Advisory
- Comments received on the Fish Advisory
- Draft Motions
- Comments received on the TRU waste strategy

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