



SRS Citizens Advisory Board

Environmental Remediation & Waste Management Subcommittee

Meeting Record
February 27, 1997
Augusta, Ga.

The Environmental Restoration and Waste Management (ER & WM) Subcommittee of the Savannah River Site (SRS) Citizens Advisory Board met on February 27, 1997 at the Augusta Sheraton Hotel in Augusta, GA. Bill Lawless, Co-Chair, opened the meeting with introductions. Other subcommittee members present were Kathryn May, Co-chair, Arthur Belge, Deborah Simone and Dr. Kamalakar Raut. Dr. Raut is also a member of the CDC Savannah River Site Health Effects Subcommittee (SHES). Walt Joseph, the SRS CAB facilitator, and Dr. Todd Crawford, SRS CAB technical support, also attended. Attending from Department of Energy Savannah River Operations Office (DOE-SR) were Tom Temples, Mitch Mascoe, and Mike Simmons. Ann Ragan, Dr. Rose Fitchett (who is also the liaison for the state of South Carolina for the SHES) and Michael Moore attended from the South Carolina Department of Health and Environmental Control (SCDHEC). SHES Secretary, Paul Renard, and Dr. Charles Miller attended from the Center for Disease Control and Prevention's (CDC) National Center for Environmental Health. Bill Murray attended from the National Institute of Occupational Safety and Health (NIOSH). Attending from Westinghouse Savannah River Company (WSRC and Bechtel Savannah River, Inc. (BSRI) were Dr. Ken Crase, Paul Huber, Greg Peterson, Gerry Stejskal, Helen Villazor, Anne Roe and Mary Flora. Chuck Powers, Dan Wartenberg and Lynn Waishwell attended from the Consortium for Risk Evaluation and Stakeholder Participation (CRESP). Public attendees included Tricia McCracken, Dr. John Stockwell, Angela Savoy, William McDonnell, Michael Rorick, Gerald Devitt, Mary Barton, and Charles Posey. de`Lisa Bratcher attended as the Associate Designated Deputy Federal Official, ADDFO.

The subcommittee schedule was reviewed and minor changes made. (NOTE: After the meeting all subcommittee members and State and Federal regulatory liaisons were contacted to verify the meeting dates; the revised schedule is included in the attachments to this report.)

Tom Temples, DOE, gave a review of removal actions. He explained that the National Contingency Plan (NCP) is one of the federal regulations that guides the SRS Environmental Restoration Program and is the regulatory driver for the SRS Federal Facility Agreement (FFA). Under the NCP and the FFA, DOE is the "Lead Agency" and is responsible for the response to the release or potential release of hazardous substances and contaminants to the environment. These responses can be removal actions (requiring a short time where DOE is the lead agency) and/or remedial actions (requiring a longer term where DOE/EPA/SCDHEC work together through the FFA). Mr. Temples explained a removal action is performed to remove the threat of

contaminants to human health and the environment. A removal action may include placing fencing and signs around the contaminated area, removing drums containing contaminants from the area, providing alternate drinking water supplies when the water supply is contaminated, or removing contaminated vegetation and/or soils and capping the area.

Mr. Temples went on to discuss the types of removal actions and described three upcoming projects under consideration for removal actions: the Coal Pile Runoff Basins, Vegetation Removal at several seepage basins and the four SRL Seepage Basins. He concluded that the removal action program benefits the site by allowing a reduced schedule time for remedial action to take place and thus the removal action program also realizes a cost savings.

Bill Lawless noted that conducting removal actions is a good way to address the cleanup in some areas of the site and asked Ann Ragan (SCDHEC) the State's opinion on SRS conducting removal actions. Ms. Ragan said the State had not reached a consensus position on removal actions. She said the State had a concern that since they don't have formal involvement, there might be a lack of regulatory oversight and public involvement with removal actions. She also noted that there would be a meeting the next week where removal actions would be discussed. Mike Simmons noted that a focus group to involve stakeholders may be established for the SRL Seepage Basin and the subcommittee may want to participate. Mr. Lawless said he would like to follow up the removal actions program at a later meeting.

Bill Murray of the National Institute for Occupational Safety and Health (NIOSH) reported that NIOSH has several research projects underway involving SRS workers. He asked how exposure to workers who work for environmental cleanup subcontractors working is tracked and documented. Many of these workers may move from site to site and job to job. He also asked if there is there some sort of national registry of environmental restoration workers. Paul Huber, BSRI, noted that the workers are required to sign in a Radiological Work Permit. It was also pointed out that the workers are required to keep documentation of their cumulative exposures. These records are given to all workers when they leave a job and they must present them at their next job. Dr. Ken Crase, WSRC, offered to work with Mr. Murray to resolve his questions and concerns regarding cleanup workers.

Paul Renard of the Centers for Disease Control and Prevention`s, (CDC), National Center for Environmental Health gave an overview of the SRS Health Effects Subcommittee (SHES). Mr. Renard is the Executive Secretary of the SHES advisory board; this subcommittee is charged with providing advice and recommendations to the Director of the Centers for Disease Control and Prevention (CDC), and the Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR), regarding community, American Indian Tribes, and labor concerns pertaining to CDC's and ATSDR's public health activities and research at the Savannah River Site.

The Department of Health and Human Services (HHS) and the DOE have two Memoranda of Understanding (MOU) for public health activities and research at DOE sites. One MOU transferred the responsibility for the management and conduct of analytic epidemiological research to HHS. HHS has delegated this program responsibility to the Centers for Disease Control and Prevention. The second MOU is with DOE's Office of Environmental Restoration

and Waste Management and DOE's Office of Environment, Safety and Health and the HHS's Agency for Toxic Substances and Disease Registry. This second MOU addresses ATSDR's public health responsibilities around DOE sites. In addition, ATSDR is required by law (Sections 104, 105, 107, and 120 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)) to conduct public health assessments and other health activities at CERCLA sites which includes the Savannah River Site.

Mr. Renard explained that the SRS Health Effects Subcommittee (SHES) is one of six such subcommittees set up at DOE sites; and overall, these six subcommittees comprise the Citizens Advisory Committee on Public Health Service Activities and Research at Department of Energy Sites, which was set up under Public Law 92-463 (the same law that governs the SRS CAB). Mr. Renard pointed out that the SRS CAB and the SHES share three common members, Dr. Mildred McClain, Dr. K. B. Raut, and Ms. Beaurine Wilkins; one of their functions is to serve as liaisons between the two advisory entities.

Mr. Renard then introduced Dr. Charles Miller, of the CDC's Radiation Studies Branch, who gave a presentation on the Dose Reconstruction Studies at DOE sites. Dr. Miller defined dose reconstruction as a comprehensive analysis of the exposure received by individuals in the vicinity of facilities that release contaminants to the environment--real doses to real people. Dr. Miller explained the CDC's approach to dose reconstruction which is ongoing at five sites including the Marshall Island and is divided into five phases. These five phases may be performed iteratively and all phases may not be necessary at all sites. The five phases of dose reconstruction are:

Phase I Retrieval and Assessment of Data includes data for both radionuclides and chemicals. The data is collected from environmental monitoring of facility processes and effluent release points. Primary data sources such as operator log books are used whenever they are available.

Phase II Source Term Development and Pathway Analysis is the estimate of how much material was released over time to the environment and the means or pathways- air, water, ingestion etc.) by which people were exposed to the materials.

Phase III Screening Dose and Exposure Calculations describes the process used by the CDC to determine the "high priority" contaminants to be studied.

Phase IV Development of Methods for Assessing Doses describes site-specific models to assess doses to real people in the vicinity and are developed based on the screening results from Phase III.

Phase V Calculation of Doses and Exposures is where the results from the proceeding phases along with local lifestyle information is used to calculate the doses and exposures. This calculation includes risk-based interpretations of the exposures and doses.

Dr. Miller explained that the phases overlap, Phase I (Retrieval and Assessment of Data) is continuous and dose reconstruction may require 4 to 7 years at each site. He noted that at SRS the CDC is about two and half years into the dose reconstruction process. Dr. Miller said the

process is very open, all the information is declassified, and is readily available. He explained that public involvement is very important and the CDC has extensive public involvement activities.

Dr. Miller noted that dose reconstruction studies were an integral part of the health effects studies. A dose reconstruction study also provides independent risk analysis, a comprehensive history of site operations and environmental releases, and a baseline to analyze the impacts of future site activities.

Dr. Miller discussed the SRS Dose Reconstruction Study. Phase I and Phase II work is being done by the Radiological Assessments Corporation (RAC), directed by Dr. John Till. From contract award in September 1992 through Phase I completion in June 1995, over 34,000 boxes of documents were searched and reviewed resulting in the identification of over 8,000 useful documents for the dose reconstruction project. Phase II was awarded to RAC in September 1995; it is expected to last eighteen months and it will determine the historic source term for both radionuclides and chemicals. In conclusion, Dr. Miller stressed the importance of dose reconstruction as a part of health effects studies and risk assessment. He said the scientific integrity of the reports and studies and meaningful public involvement must be maintained.

Dan Wartenberg of the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) explained that CRESP, in response to stakeholder tritium-leukemia concerns, has reviewed and summarized existing data (a previous study of approximately 10,000 white male workers at the Savannah River Site, by Cragle, et al. (1995)) and reviewed other data and scientific literature.

The Cragle study reported an increase in leukemia deaths (25 deaths due to leukemia were found in the sample studied, where an expected 19.7 deaths were expected to be found). This 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.

The preliminary data from the CRESP analysis of the existing data, (Cragle, et. al. 1995) found zero (0) observed cases, which is statistically consistent with a rate as high as 3 exposed in 20 leukemia cases.

Dr. Wartenberg also discussed previous studies found in scientific literature where there was also no dose-response found. He noted CRESP would continue their assessment of cause-specific mortality with an additional nine years of data (1986 - 1995) follow-up to the Cragle study and then reconsider leukemia excess and other causes, as well as include women and minorities in the updated study.

NOTE: Mr. Murray, attending from NIOSH, was not included on the agenda to give a presentation; however, a description of ongoing NIOSH projects was received from Mr. Murray subsequent to the meeting and is included in the meeting summary handouts.

The next item on the agenda, the clarification of the interface between the SRS CAB and the SRS Health Effects Subcommittee, was not discussed in detail. However, Ann Ragan noted that there may be some duplication of effort and of presentations regarding health effects related issues. Todd Crawford agreed that there may be some overlap, and noted that the SRES is looking at the dose and health consequences of past activities and the SRS CAB is looking at current and future consequences of SRS activities and is more focused on remediation. Bill Lawless noted that the subcommittee's work is focused on tritium and that the CAB had requested that NIOSH do this research, but had been turned down by NIOSH. NIOSH/CDC are not studying tritium, per se, and tritium is the only probably vector for offsite health effects.

Chuck Powers of CRESA gave the final presentation which was an overview of CRESA research activities. He noted that due to their charter, CRESA is able to respond direct to stakeholder concerns. The Social, Land Use, Demographic, Geographic and Economic Task Group is involved in efforts linking land use to economics to exposure to remedy and effects and they have an active working relationship with stakeholders. The Task Group has received a computer-based model that calculates the economic impacts on a regional or local basis of potential changes to the DOE budget. Dr. Powers said the Task Group has also initiated a FUSRAP (Formerly Utilized Sites Remedial Action Program) study which will identify specific sites for land use, economic and environmental studies.

Dr. Powers also discussed the research activities of Dr. JoAnna Burger on the Ecological Hazard Identification Task Group, and the activities of the Exposure Assessment Task Group, the Occupational Health and Safety Task Group, and the Stakeholder Communication Task Group.

Mr. Lawless closed the meeting at 9:15 p.m.

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