Savannah River Site
Citizens Advisory Board

Recommendation 332
Health Effect Reporting by the Savannah River Site

Background

Built in 1951 to produce basic materials used in the production of nuclear weapons, the Savannah River Site (SRS) housed radioactive materials and chemicals that were used by nuclear reactors at the site. Over the last six decades, the work completed at SRS caused radioactive and other hazardous materials to be released into the air, soil and water, and may have caused adverse health effects for those exposed to environmental contamination. Given the history of the site in the community, local residents have long shared their concerns about environmental degradation.[1]

Over the years, several reports and studies have been published detailing the effects and pathways of radiation from site, including a 2002 report put out by Westinghouse Savannah River Company entitled "Summary of Epidemiology Studies or Activities Involving Workers at the Savannah River Site or the Surrounding Public," by Karen T. Brown and Kenneth W. Crase.[2] The Brown and Crase report cites dozens of studies and reports since the 1950s related to the health of SRS employees and community members. Media outlets and environmental groups have also touted health risks to life and land from releases by the site, and the public continues to have interest in how site activities effect their own health, and the health of the environment.

In February 2014, the Agency for Toxic Substances and Disease Registry (ATSDR) released a Public Health Assessment for the Evaluation of Off-Site Air Contamination from SRS. The report reached four main conclusions, with first being that emissions of radioactive materials from the site were at levels unlikely to cause adverse health effects to the general public, while recommending that SRS continues monitoring airborne radioactive materials as long as release sources continue to be present at SRS. The three remaining topics involve:

1. Due to limited information, ATSDR cannot make a public health conclusion for non-cancer health effects from *trichloroethylene* emissions from the Savannah River Site between 1997 and 2010. ATSDR had very limited information to use in determining potential offsite exposures from the releases of trichloroethylene from the Savannah River Site between 1997 and 2010. During this timeframe there were significant increases in the number of soil vapor extraction units being used to extract trichloroethylene from soils at the site. ATSDR recommends that USDOE-SR conduct air modeling for trichloroethylene based on *actual emissions* between 1997 and 2010. ATSDR recommends that this modeling include both short and long term averaging times.

2. Due to limited information, ATSDR cannot make a public health conclusion for potential cancer health effects from *toxic air pollutants* (257 air pollutants listed in South Carolina Standard No. 8 regulation) released from the Savannah River Site. The ATSDR recommends that USDOE-SR conduct air dispersion modeling for all carcinogenic South Carolina Standard No. 8 pollutants *based on the actual emissions* between 2004 and 2010. ATSDR also recommends that USDOE-SR consider ambient air sampling at the site

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[1] CDC, Savannah River Site Subcommittee. Accessed on May 25, 2015. http://www.cdc.gov/nceh/radiation/savannah/brochure.pdf

[2] Summary of Epidemiology Studies or Activities Involving Workers at the Savannah River Site or the Surrounding Public: An Update. Karen T. Brown. and Kenneth W. Crase. Westinghouse Savannah River Company/ http://sti.srs.gov/fulltext/eshwhs2002005/eshwhs2002005.html.

boundary for South Carolina Standard No. 8 air pollutants to better understand the relationship between the modeled and actual concentrations of these pollutants.

3. Due to limited information, ATSDR cannot make a public health conclusion for potential adverse health effects in highly sensitive asthmatics from Savannah River Site's sulfuric acid emissions in 1994.[3] The basis for this conclusion is modeling based on the maximum permitted limits in 1994 indicate that the concentrations at the boundary could have been at levels to temporarily adversely affect highly sensitive asthmatics if the Savannah River Site operated at their maximum permitted capacity. The ATSDR does not recommend a next step, as modeling based on maximum permitted limits since 2000 has not shown levels of health concern at the site boundary.

The Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) continue to research how the radioactive materials and hazardous chemicals used at SRS may have affected the health of workers and the public.

Recommendations:

The SRS Citizens Advisory Board recommends that the Department of Energy:

1. Continues to work with the CDC and ATSDR to effectively report the health and environmental effects of clean-up and related activities performed by SRS.
2. Work with the CDC and ATSDR to make available copies of the ATSDR Public Health Assessment at Environmental Justice Meetings, CAB Meetings and future outreach meetings.
3. Take into consideration the next step recommendations by the ATSDR and implement those recommendations as best as possible.
4. Work with the CDC and ATSDR to condense the findings of the Public Health Assessment and make it readable for the general public, and, when available and feasible, extend an invitation to the ATSDR to attend a CAB meeting and provide an overview of the Public Health Assessment.
5. Affirms through their continued outreach activities that the health and well-being of the community and environment is of the utmost concern as clean-up activities continue at SRS.

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Adopted September 22, 2015
Sponsored by the Facilities Disposition & Site Remediation Committee

[3] Public Health Assessment.
Evaluation of OffSite Air Contamination From the Savannah River Site (USDOE);SAVANNAH RIVER SITE AIKEN, SOUTH CAROLINA EPA FACILITY ID: SC1890008989 (FEBRUARY 3, 2014). Assessed on May 25, 2015. Pg. 15.
http://www.atsdr.cdc.gov/HAC/pha/SRSAirContamination/SRSAirContaminationPHAFinal02032014_508.pdf