
To Our Readers



S*RS has had an extensive environmental monitoring program in place since 1951 (before site startup). In the 1950s, data generated by the onsite environmental monitoring program were reported in site documents. Beginning in 1959, data from offsite environmental surveillance activities were presented in reports issued for public dissemination. SRS reported onsite and offsite environmental monitoring activities separately until 1985, when data from both programs were merged into one public document.*

The *Savannah River Site Environmental Report for 2010* (SRNS–STI–2011–00059) is an overview of effluent monitoring and environmental surveillance activities conducted on and in the vicinity of SRS from January 1 through December 31, 2010—including the site’s performance against applicable standards and requirements. Details are provided on major programs such as the Environmental Management System (EMS) and permit compliance. Information for the 2010 report was compiled and prepared by the Regulatory Integration & Environmental Services Department of Savannah River Nuclear Solutions LLC (SRNS), the site’s M&O contractor. The “Environmental Monitoring Program Management Plan” [SRS EM Plan, 2010] documents (1) the rationale and objectives for the monitoring program, (2) the frequency of monitoring and analysis, (3) the various sampling locations, and (4) the specific analytical and sampling protocols used. The “Environmental Monitoring Quality Assurance Project Plan” [SRS EM QA Plan, 2010] describes the associated quality assurance requirements.

Complete data tables are included on the CD inside the back cover of this report. The CD also features (1) an electronic version of the report; (2) an appendix of site, environmental sampling location, dose, and groundwater maps; and (3) annual (2010) reports from a number of other SRS organizations. The data tables generally are presented as unformatted Excel spreadsheets; they are not intended to be printed. However, if printing is desired, the user can modify the “Page Setup” parameters in Excel as needed. If printing of the “SRS Maps” on the CD is desired, it is recommended (to ensure clarity) that figures 1–25 be printed 8.5x11 inches, figures 26–31 be printed 36x32 inches, and

figures 32–34 be printed 34x33 inches.

The following information should aid the reader in interpreting data in this report:

- Variations in environmental report data reflect year-to-year changes in the routine monitoring program, as well as occasional difficulties in sample collection or analysis. Examples of such difficulties include adverse environmental conditions (such as flooding or drought), sampling or analytical equipment malfunctions, sample handling and transportation issues, compromise of the samples in the preparation laboratories or counting room.
- Table heading abbreviations may include the following: (1) “N” is number of observations; (2) “Sample-Con” is sample concentration; (3) “SampleStd” is standard deviation; and (4) “Sig” is significance, with “Yes” meaning detectable and “No” meaning less than the analytical method detection limit.
- Analytical results and their corresponding uncertainty terms generally are reported with up to three significant figures. This is a function of the computer software used and may imply greater accuracy in the reported results than the analyses would allow.
- Units of measure and their abbreviations are defined in the glossary (beginning on page G-1) and in charts at the back of the report. The reported uncertainty of a single measurement reflects only the counting error—not other components of random and systematic error in the measurement process—so some results may imply a greater confidence than the determination would suggest.
- An uncertainty quoted with a mean value represents the standard deviation of the mean value. This

number is calculated from the uncertainties of the individual results. For an unweighted mean value, the uncertainty is the sum of the variances for the individual values divided by the number of individual results squared. For a weighted mean value, the uncertainty is the sum of the weighted variances for the individual values divided by the square of the sum of the weights.

- All values represent the weighted average of all acceptable analyses of a sample for a particular analyte. Samples may have undergone multiple

analyses for quality assurance purposes or to determine if radionuclides are present. For certain radionuclides, quantifiable concentrations may be below the minimum detectable activity of the analysis, in which case the actual concentration value is presented to satisfy DOE reporting guidelines.

- The generic term “dose,” as used in the report, refers to the committed effective dose (50-year committed dose) from internal deposition of radionuclides and to the effective dose attributable to beta/gamma radiation from sources external to the body.

Report Available on Web

Readers can find the *SRS Environmental Report* on the World Wide Web at the following address:
<http://www.srs.gov/general/pubs/ERsum/index.html>.