

Savannah River Operations Office
Saltstone Permit Reports
[sro.srs.gov/saltstone.htm]

Website User's Guide

Introduction

The information in this website is based in part on quarterly reports submitted to the South Carolina Department of Health and Environmental Control in compliance with permit requirements. It also includes additional quarterly information required by a Consent Order of Dismissal approved by the South Carolina Administrative Law Court. This website is updated four times a year. Chemical laboratory analysis is required on a quarterly basis by permit and radionuclide laboratory analysis is required on a semi-annual basis by permit.

Website Contents

For each reporting period, the initial quarterly posting (i.e., Revision 0) may contain "Estimated Values". The "Estimated Values" contained in the tables represent estimated values based on the best available chemical and radionuclide concentration information available at the time of initial reporting. The "Updated Value" represents the values once they have been updated to reflect final characterization information. The "Updated Value" field will remain empty until all final characterization information has been received and updated values based on this information have been determined. The "Updated Values" will be provided as a revision (i.e., Revision 1) to the quarterly posting. The Revision 1 update will only add the additional information into the "Updated Value" fields all other information previously provided in Revision 0 will remain unchanged.

If the Saltstone Production Facility does not operate during any given reporting period, this fact will be noted on the appropriate website pages.

Description of Quarterly Posting Contents

Page 1: Z-Area Saltstone Disposal Facility Permit General Condition B.5. a-h Information

The data contained in this table presents the information provided to the South Carolina Department of Health and Environmental Control under the *Modified Permit for the Savannah River Site (SRS) Z-Area Saltstone Disposal Facility, Facility ID No. 025500-1603* (hereafter referred to as "Permit") under General Conditions B.5.a-h. The values for curies disposed for the reporting period and cumulative inventory of curies disposed represent the total curies for those radionuclides listed in Attachment III of the Permit.

A revised methodology for determination of radiological inventories of the Saltstone Disposal Facility (SDF) was incorporated beginning with the first quarter 2012. The "Cumulative inventory of curies disposed to date" (Permit Condition B.5.f) and "Cumulative inventory of highly radioactive radionuclides disposed to date" (Permit Condition B.5.h) have been updated, as necessary, using the revised methodology in the first quarter 2012 report. It should be noted that the previously reported inventory included only that added to SDF Vault 4 beginning with the Deliquification, Dissolution, and Adjustment (DDA) waste stream on March 5, 2007. The

revised inventory includes the radiological inventory of SDF Vaults 1 and 4 in their entirety. It should also be noted that the radiological inventory is radioactive decay corrected.

Previous methods used to determine radiological inventory relied on sample results, which were limited to specific radionuclides and detection limits of sample analysis instrumentation. Sample results added conservatism to the reported radionuclide inventory because, at times, the detection limit value was greater than the true activity concentration based on equilibrium, decay chains, calculated concentrations and solubilities, or process knowledge. The conservatism sometimes was greater than the actual value by orders of magnitude. Special analysis and methods are now being used to allow for more accurate reporting of the radiological inventory.

Beginning with the first quarter of 2015, the SDF cumulative curies disposed reported in the SDF quarterly inventory reports is being updated to remove the radioactive decay correction incorporated in the first quarter 2012 inventory report. Removing the decay will increase the cumulative inventory of curies disposed to date and the cumulative inventory of highly radioactive radionuclides disposed to date by approximately 23 kCi, as reflected in the one-time change in the first quarter 2015 report. This is a conservative approach for accounting of curies in the SDF.

The volumes reported under General Conditions B.5.a-d are actual volumes based on production data available at the time of initial reporting and determination of the volumes is not pending any additional information. Therefore, the fields under the "Estimated Value" are marked as not applicable and final volumes are recorded in the "Updated Value" field.

The remaining vault volume is based on available volume in the eight cells in Vault 4 (B,D,E,F,H,J,K,L) which are equipped with a drainwater return system and suitable exterior coating.

Pages 2 & 3: Chemical and Radiological Composition of Salt Waste

The data contained in these tables represents the chemical and radiological composition of the salt waste in the applicable feed tank (e.g., Tank 50) entering the Saltstone Production Facility for those chemicals and radionuclides listed in Attachment III of the Permit. The values represent a weighted average for the reporting period.

Page 4: Formulation of Grout Used to Treat and Solidify Salt Waste

The information contained on this page presents the formulation of grout used to treat and solidify the salt waste. The values are based on a weighted average for the reporting period.

Pages 5 & 6: Chemical and Radiological Composition of Saltstone

The data contained in these tables represents the chemical and radiological composition of the saltstone for those chemicals and radionuclides listed in Attachment III of the Permit. The values represent a weighted average for the reporting period. Saltstone composition is determined based on composition of the salt waste entering the Saltstone Production Facility and the formulation of grout used to treat and solidify the salt waste.