

To: Aaron Staub, 705-1C
Larry Romanowski, 705-1C

From: Steve Hommel, 705-1C

Date: July 11, 2022

Subject: Electronic Data Associated with the Saltstone Disposal Facility Performance Assessment, Transmittal 5

DOE Order 435.1 Performance Assessments (PAs) of the F-Tank Farm, H-Tank Farm, and Saltstone facilities rely on simulations of subsurface flow and solute transport using the PORFLOW and GoldSim codes among other software. The U.S. Nuclear Regulatory Commission (NRC) is currently reviewing the Saltstone Disposal Facility (SDF) PA (SRR-CWDA-2019-00001) in an oversight role under Section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005. In furtherance of that review, the NRC has requested access to certain electronic modeling files underlying the SDF PA, specifically, the *RUN.dat* file for the SDU 6 vadose zone flow simulation and the Excel flow budget data for each of the PORFLOW material types.

Per the Appendix, the Savannah River Site (SRS) Classification Office has previously reviewed modeling files supporting tank closure Performance Assessments and determined that

“Updates to the GoldSim and PORFLOW modeling files and programs, used for the calculations described above, do not require further review by the Classification Office. This also applies to modeling data for other waste tanks as we move through the decommissioning and closure process.”

and advised the Waste Disposal Authority to

“generate a Request for Information Review and Release and attach this email when updates or new tanks are modeled and require submission to the regulators.”

This memorandum serves as a unique identifier for the associated electronic files assembled for transmission to the NRC for a Request for Information Review & Release (ROI).

The model files being transmitted for this submittal include:

- *RUN_SDU6.dat*
 - Copy of the requested SDU 6 RUN.dat file for the Compliance Case of the SDF PA.
- *Excel_SDU6_CaseCV.6.tab*
 - Tab-delimited file generated from PORFLOW output that summarizes the flow field data for the Compliance Case of the SDF PA.
- *FlowDetail_SDU6_CaseCV.6_rev1.xlsx*
 - Excel file that organizes the flow data and presents it at 100 years, 1,000 years, and 10,000 years along with infiltration modeling results.
- *Excel_SDU6_CaseCV.6_rev1.xlsx*
 - Excel file created to present Darcy velocity, flow rate, and saturation data for modeled materials.

Appendix



Release of Information (PORFLOW and GoldSim Calculations)

John Monahan to: Steven Hommel

05/14/2012 12:59 PM

Dorinda Fountain, Kent Rosenberger, Richard Sheppard, Barry

Cc: Lester, Joann Wingard, Daniel Campbell, George Rodrigues, Michael
Burch, Reginald Waltz

Over the past few years, the Classification Office has performed several information release reviews of data files associated with calculations for radiation dose to a theoretical person that builds their house on top of an SRS decommissioned waste tank. These models will be required for each waste tank as we proceed through the decommissioning and closure process. The modeling software and tables containing basic science information for the residual radioisotopes in the tanks are unclassified subject areas.

Updates to the GoldSim and PORFLOW modeling files and programs, used for the calculations described above, do not require further review by the Classification Office. This also applies to modeling data for other waste tanks as we move through the decommissioning and closure process.

As we discussed, please generate a Request for Information Review and Release and attach this email when updates or new tanks are modeled and require submission to the regulators.

NOTE: If any technical discussion of SNM processing or how SNM is used in nuclear weapons is included, then the full document must be reviewed for information security concerns.

John J. Monahan
SRNS Classification Officer