

SRR-CWDA-2021-00050

Revision 0

May 20, 2021

To: K. H. Rosenberger, 705-1C

From: S. P. Hommel, 705-1C

Electronic Data Associated with the 2020 Saltstone Disposal Facility Performance Assessment, Transmittal 3

DOE Order 435.1 Performance Assessments (PAs) of the F-Tank Farm, H-Tank Farm, and Saltstone facilities rely on model simulations of subsurface flow and solute transport using the PORFLOW and GoldSim codes among other software. The US 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 staff has requested additional information (*Request for Additional Information Regarding the 2020 Savannah River Site Saltstone Disposal Facility Performance Assessment*, Letter from Stephen S. Koenick (NRC) to James L. Folk, Jr. (DOE) dated March 1, 2021 [ML21040A492]). Some of these requests for additional information require electronic modeling files to support the responses. For example, the response to IHI-1 requires providing GoldSim model files associated with the inadvertent human intruder (IHI) analyses in the SDF PA.

Per the Appendix, the 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 SRR 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 GoldSim files being transmitted for this submittal include:

- *SRS Saltstone v5.051_PF_CaseCV.8_SL_Ratio_IHI_SoilDrill_Aa.gsm*
 - Used for estimating the Chronic IHI doses assuming soil drill cuttings
- *SRS Saltstone v5.051_PF_CaseCV.8_SL_Ratioa.gsm*
 - Used for estimating the Chronic IHI doses assuming no soil drill cuttings (groundwater doses only)
- *SRS Saltstone v5.057_PF_CaseCV.9_SL_Ratio_IHI_SDUI_Drill.gsm*
 - Used for estimating the Chronic IHI doses assuming drill cuttings into SDU 1



- *SRS Saltstone v5.057_PF_CaseCV.9_SL_Ratio_IHI_SDU3B_Drill.gsm*
 - Used for estimating the Chronic IHI doses assuming drill cuttings into a 150-foot diameter SDU
- *SRS Saltstone v5.057_PF_CaseCV.9_SL_Ratio_IHI_SDU4_Drill.gsm*
 - Used for estimating the Chronic IHI doses assuming drill cuttings into SDU 4
- *SRS Saltstone v5.057_PF_CaseCV.9_SL_Ratio_IHI_SDU7_Drill.gsm*
 - Used for estimating the Chronic IHI doses assuming drill cuttings into a 375-foot diameter SDU
- *SRS Saltstone v5.051_PF_CaseCV.8_SL_Ratio_IHI_SoilDrill_Aa_Solids.gsm*
 - Used in the response to IHI-3 to evaluate soil sorption impacts on drill cuttings.

Additionally, two Excel files used to develop inputs to the GoldSim model files will also be transmitted to the NRC:

- *SoilDrillCuttings_rev3.xlsx*
- *SDUDrillCuttings_11.26.2019.xlsx*

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