

INTEROFFICE MEMORANDUM

SRR-CWDA-2014-00121

January 8, 2015

TO: K. H. ROSENBERGER, 705-1C

FROM: S. P. HOMMEL, 705-1C

DATASET FOR THE FY2014 SDF SPECIAL ANALYSIS MODELING

References:

- 1: SRR-CWDA-2014-00006, *FY2014 Special Analysis for the Saltstone Disposal Facility at the Savannah River Site*, Rev. 2, Savannah River Site, September 30, 2014.
- 2: SRR-CWDA-2013-00062, *FY2013 Special Analysis for the Saltstone Disposal Facility at the Savannah River Site*, Rev. 2, Savannah River Site, October 3, 2013.
- 3: SRR-CWDA-2014-00099, *Comment Response Matrix for U.S. Nuclear Regulatory Commission Staff Request for Additional Information on the Fiscal Year 2013 Special Analysis for the Saltstone Disposal Facility at the Savannah River Site*, Rev. 1, Savannah River Site, January 8, 2015.
- 4: E-mail J. J. Monahan to S. P. Hommel, *Release of Information (PORFLOW and GoldSim Calculations)*, May 14, 2012.

This memo describes the dataset that was prepared for transmittal to the U. S. Nuclear Regulatory Commission (NRC) in support of their review of the *FY2014 Special Analysis for the Saltstone Disposal Facility at the Savannah River Site* (Reference 1) as well as responses to Requests for Additional Information (RAIs) from their review of the *FY2013 Special Analysis for the Saltstone Disposal Facility at the Savannah River Site* (References 2 and 3).

This data represents a number of scientific and engineering modeling activities developed to support waste disposal activities at the Savannah River Site (SRS). The NRC has provided the U. S. Department of Energy (DOE) with an external hard drive upon which the data will be transmitted. The external hard drive contains approximately 810 GB of data in more than 780,000 files.

This memo is used to generate a unique identifier number to support the Request for Information Review and Release.

Based on an e-mail sent by John Monahan, SRNS Classification Officer, dated May 14, 2012 (Reference 4 – attached), the data files described below present no Information Security concerns and may be released to the NRC without restriction.

This dataset contains the model files that were developed during the preparation of References 1 and 3. Table 1 provides a summary of the various file types included in this dataset. Table 2 provides a summary of the directory structure. None of the files relate to the sale of items or technology. Additional PORFLOW files used to support a separate column degradation model¹ are also included in the directory: “SDF_FY2014_SA_ColumnDeg”. These files are organized in an equivalent structure to those described in Table 2.

Table 1. Summary of File Types in the Dataset

File Extension(s)	Description
.doc (or .docx), .pdf	Document files
.txt	Text files
.xls (or .xlsx)	Excel files
.zip, .gz	Zipped directories
.gsm	GoldSim model files
.ACR	PORFLOW read files
.dat	Data files
.loc, .sh, .skr, .sp	PORFLOW read files
.out, .tab, .tec	PORFLOW output files
.flx	PORFLOW flux output files
.lst	PORFLOW list files
.end, .f, .f90, .pbs, .phy, .ply, .py, .sav, .sum, .tmp	Other PORFLOW process files
.in	PORFLOW input files
.log	PORFLOW log files
.ps, .dos	Process scripting files
.ppt	Presentation files
.png, .wmf	Figure files
.plt, .lay, .mcr	Tecplot figure files

¹ The column degradation model was developed to support responses to RAIs (Ref. 3: SRR-CWDA-2014-00099) associated with the FY2013 SDF SA (Ref. 2: SRR-CWDA-2013-00062).

Table 2. Summary of Directory and File Listing

Location (SDF_FY2014_SA)	Description
..\GoldSimRunFiles	GoldSim (*.gsm) model files representing dose calculations, sensitivity modeling, and probabilistic modeling.
..\SDF_FY14Data01.zip	Flow data created in PORFLOW and formatted to be read as inputs to GoldSim.
..\Rev2_Supporting_Files	Analysis files (GoldSim and Excel) organized according to the associated sections from the FY2014 SDF SA.
.. \PORFLOW\AquiferGSA	PORFLOW modeling results from transport runs at the seep line.
.. \PORFLOW\AquiferZ	PORFLOW modeling results from transport runs at 100m boundary.
.. \PORFLOW\AquiferZ_1m_rev	PORFLOW modeling results from transport runs at 1m boundary.
.. \PORFLOW\Common	PORFLOW input data.
.. \PORFLOW\ForGoldSim	PORFLOW flow fields used as inputs to parametric flow modeling in GoldSim.
.. \PORFLOW\TimelineFlow	PORFLOW flow timing result data.
.. \PORFLOW\TimelineTransport	PORFLOW transport timing result data.
.. \PORFLOW\Tracer_6.30.2	Tecplot files and figure files used to visually illustrate the PORFLOW-generated plume data.
.. \PORFLOW\VadoseSDU1	PORFLOW flow and transport files, specific to SDF Vault 1.
.. \PORFLOW\VadoseSDU2	PORFLOW flow and transport files, specific to the 150-ft Diameter Saltstone Disposal Units (SDUs).
.. \PORFLOW\VadoseSDU4	PORFLOW flow and transport files, specific to SDF Vault 4.
.. \PORFLOW\VadoseSDU6	PORFLOW flow and transport files, specific to the 375-ft Diameter SDUs.
.. \PORFLOW\VadoseSDU6_1pct	Sensitivity PORFLOW flow and transport files, specific to the 375-ft diameter SDUs with an assumed roof slope of 1%.
.. \PORFLOW\VadoseSDU6_2pct	Sensitivity PORFLOW flow and transport files, specific to the 375-ft diameter SDUs with an assumed roof slope of 2%.
.. \PORFLOW\VadoseSDU6_margin	Sensitivity PORFLOW flow and transport files, specific to the 375-ft diameter SDUs with an assumed design margin.

cc: M. Layton, 705-1C
L. Romanowski, 705-1C
J. J. Monahan, 703-45A



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