

Summary Notes from 14 June 2007 Savannah River Site F-Area Tank Farm Performance Assessment Input Meeting and 27 June 2007 Follow-up Teleconference

Attendees: Representatives from Department of Energy-Savannah River (DOE-SR), and the South Carolina Department of Health and Environmental Control (SCDHEC) met at the SCDHEC offices in Columbia, South Carolina on 14 June 2007. Due to flight cancellations, the U.S. Nuclear Regulatory Commission (NRC) was unable to attend and the NRC Staff subsequently transmitted issues for clarification by the Department of Energy – Savannah River (DOE-SR). A follow-up teleconference between the Department of Energy - Savannah River and U.S. Nuclear Regulatory Commission was held on 27 June 2007.

Discussion: DOE is pursuing final closure on the F-Area Tank Farm (FTF) located at Savannah River Site (SRS). At some point in the future, DOE and NRC will consult on waste determinations for these tank closures, additionally these tanks will be closed in coordination with EPA and SCDHEC in accordance with the Federal Facility Agreement for the Savannah River Site and the State-approved closure plans pursuant to the State Industrial Wastewater permit. The appropriate agencies met for the sixth in a series of technical exchanges on the proposed inputs for a revision to the FTF Performance Assessment (PA). The technical exchanges are intended to capitalize on early interactions between the agencies with a goal of improving DOE's FTF PA. Technical discussions allowed for the clarification of general modeling parameter values and identifying other specific questions. Future meetings for additional input parameter topics were discussed.

Topics: The discussions related to a progress update on the FTF closure cap conceptual design which is being used to support the parameter value assumptions used in the FTF PA.

Summary: The following summarizes the discussion during the meeting.

- DOE explained that the conceptual design for the FTF PA for the proposed

FTF cover is a single closure cap over the F-area Tank Farm operable unit - all 22 tanks and ancillary equipment.

- DOE noted that analysis showed that separate closure caps over up to four tank groupings did not appear to provide cost effective drainage provisions and did not cover ancillary equipment appropriately.
- DOE plans to address storm water drainage of the installed cap in the final design package for the FTF PA.
- DOE-SR will schedule a tour for NRC staff of local quarries and analogs to demonstrate methods for supporting the cover degradation assumptions in the conceptual design inputs package for the FTF PA.
- DOE plans to prepare a second revision of the SRNL cover conceptual design report for the FTF PA to incorporate revisions/additions to address SCDHEC and NRC Staff questions such as:
 - The range of years the engineered closure cap is estimated to provide physical stabilization of the closed site according to the current conceptual design;
 - The range of years the engineered closure cap is estimated to minimize infiltration of surface waste according to the current conceptual design;
 - The range of years the engineered closure cap is estimated to serve as an intruder deterrent to prevent a person from being able to contact buried radioactive material, e.g., discussion on the estimated backfill thickness remaining above the erosion barrier after 10,000 years.
 - Lowering the riprap hump at the top surface to side slope interface to alleviate any concerns of rainwater holdup;
 - Adding discussion on QA/QC features for local riprap quality;
 - Expanding the discussion on above and below ground weathering rates from granite analogs;
 - Short-term and long-term water balance and water circulation in and off the engineered cover;

- Short-term and long-term processes that work inside the closure cap to minimize water flow to the waste, e.g., lateral drainage, evapotranspiration in the upper backfill.
- Expanding the technical basis for short-term and long-term evapotranspiration rates;
- Expanding the technical basis on exclusion of preferred fast pathways and increased infiltration through the surface cover potentially caused by intense rain events combined with desiccation cracks originating during conditions of drought.
- Adding discussion on filter fabric and lateral drainage layer clogging over time being insignificant;
- Expanding the discussion of lateral movement of cap materials to side slope at final design;
- Adding technical basis for HELP model default parameter selections; and
- Adding discussion of other software modeling codes versus HELP being considered as part of the follow-on PA maintenance/monitoring plans.