Summary Notes from 19-20 March 2007 Savannah River Site F-Area Tank Farm Performance Assessment Input Meeting

Attendees: Representatives from Department of Energy-Savannah River (DOE-SR), DOE-Headquarters (DOE-HQ), the U.S. Nuclear Regulatory Commission (NRC), the South Carolina Department of Health and Environmental Control (SCDHEC) and the U.S. Environmental Protection Agency, Region IV (EPA-IV) met at the SCDHEC offices in Columbia, South Carolina from 19-20 March 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 DOE, NRC, EPA, and SCDHEC met for the second 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 discussion allowed for the clarification of general modeling parameter values and identifying other specific questions. Future meetings for additional input parameter topics were discussed with the next meeting planned for 17-19 April 2007 to discuss waste release mechanism, vadose zone parameters, modeling code integration and ancillary equipment design. Another meeting was discussed for 8-9 May 2007 to discuss the overall integrated conceptual model.

Topics: The following three specific topical areas were discussed during the meeting:

1. Risk Assessment Approach – DOE's proposed conceptual site model for the FTF and how it will be applied to identification of contamination sources and potential future exposure pathways to humans, ecological receptors, and the environment, consistent with that currently used by the SRS Soil and Groundwater Closure Projects.
2. Hydrogeology – DOE's proposed approach for using the existing SRS General Separations Area Database in the FTF PA modeling, and in particular the data sources and representations of general site-wide hydrogeology processes

described therein.

3. Waste Tank Design – DOE's proposed initial conceptual models for the Type I, Type III/IIIA and Type IV tank designs in FTF, including design details presented from construction photos for each tank type.

Summary: The following summarizes the discussion during the meeting, by topical area.

Risk Assessment Approach

- Because DOE anticipates assuming that a closure cap greater than four-foot thick will cover FTF, DOE plans to address the potential for reduced exposure risk via surface and subsurface soil for the FTF PA. DOE will discuss media under consideration in its risk assessment, including deep soil, surface water, and groundwater.
- DOE plans to address potential contaminated soil in FTF as part of its composite analysis and CERCLA closure documentation.
- DOE plans to include ancillary equipment in the integrated site conceptual model for the FTF PA, and plans to clarify what equipment will be removed and what equipment is expected to remain in place.

Hydrogeology

- DOE plans to use the PORFLOW code to model groundwater flow and transport for the FTF PA.
- DOE plans to address the risk significance/uncertainty in the continuity and thickness of the tan clay confining zone with respect to its ability to attenuate contaminant releases for the FTF PA.
- DOE plans to provide information about the vadose zone (both unsaturated soil around the tanks and backfill soil) in future input packages for the FTF PA.
- DOE plans to review reports, such as annual reports, for information about past spills, and specifically, the movement and transport from spill areas as a source of information to potentially validate hydrogeology assumptions and modeling for the FTF PA.
- DOE acknowledges that SCDHEC supports the use of the General Separations

Area Database and has no general comments on the presented hydrogeology package for the FTF PA. A substantial portion of the database has previously been validated by DOE and is used under FFA work with SCDHEC.

Waste Tank Design

- DOE plans to present the integration of individual conceptual models for the FTF PA in the discussion of the overall integrated conceptual model in May, 2007.
- DOE plans to include tank cooling coils in scenarios presented in the overall integrated conceptual model for the FTF PA. DOE will address the technical issues associated with either grouting in place or removal of cooling coils that have experienced failures.
- DOE plans to address the impacts associated with current plans to not fill the air channels under the secondary steel liner in the Type III/IIIA tanks. DOE will include consideration of the air channels in the FTF PA.
- DOE plans to address NRC Staff's recommendation that the conceptual tank model for the FTF PA include the rimmed dome of the Type IV tanks to investigate potential water channeling to the edge of the tanks.
- DOE plans to address material degradation modeling and conceptual models for preferential flow and transport through fast pathways for the FTF PA in a future meeting.