363c Pilot-Scale Studies of Requirements for Suspending Settled Solids in Srs Process Tanks

Michael Poirier, David T. Herman, Erich Hansen, and Samuel D. Fink

The Savannah River Site is developing a process to remove strontium and select actinides from high level radioactive waste streams. The process produces a sludge (i.e., metal oxides and hydroxides) and monosodium titanate (MST) slurry that is subsequently transferred to a process tank. Depending on the waste processing strategy selected, this slurry could be stored for up to six months before processing through the Defense Waste Processing Facility (DWPF). As the sludge and MST settles and sits undisturbed in the process tanks, it can develop Bingham plastic properties, such as a yield stress.

The authors investigated the impact of the slurry settling and aging at elevated temperature. This work included measuring the impact of different aging times and temperatures on slurry rheology and pilot-scale re-suspension tests.

The author will present the results and conclusions from this work.