

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 18, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi, SRS Site Representative
SUBJECT: SRS Report for Week Ending March 18, 2005

Staff members Jon Malen, Chip Martin, Bill Yeniscavich, Larry Zull, and outside expert Bob Lewis were onsite for a review of the Tritium Extraction Facility. Staff members Farid Bamdad, Roy Kasdorf, and Chuck March were onsite for a review of the plutonium storage and disposition plans at the Savannah River Site.

Inadvertent Transfers: In response to recent inadvertent transfers, the Department of Energy (DOE) formally requested Westinghouse Savannah River Company (WSRC) to identify corrective actions to preclude further inadvertent transfers. In early February 2005, WSRC self identified the adverse trend in transfer events and established the following corrective actions which will be implemented site wide:

- Review of causal factors and corrective actions,
- Identify any new causal factors, and
- Implement additional corrective actions identified from the review of the recent inadvertent transfer events.

WSRC has reconvened a Senior Management Review Team (SMRT) to evaluate the recent events. Previously, the SMRT was effective in identifying causal factors and corrective actions for inadvertent transfers occurring between April 2003 and March 2004. Eight good practices for improved transfer performance were developed to improve procedure implementation, transfer controls, and transfer execution. Following the initial SMRT interactions, inadvertent transfers were reduced. Unlike previous events, the recent inadvertent transfers all exhibited human factors errors, which may explain the recent increase in events.

Pilot Scale Cesium Removal: To alleviate near-term high-level waste tank space issues, DOE has directed WSRC to implement a pilot scale caustic-side solvent extraction facility for low-curie salt processing. In addition to the expected space gains, the pilot plant may also provide useful feedback for the Salt Waste Processing Facility (SWPF), which will utilize a similar flowsheet. Procurement and site preparations have begun and the facility is expected to begin operations in mid-2007. However, technical issues have begun to emerge despite previous peer reviews. Of particular concern is the amount of organic carryover into the aqueous phase following separation in the centrifugal contactors. To mitigate the identified issues, WSRC has established four teams to evaluate experimental data, equipment selection, downstream impacts of organic carryover, and to integrate issue resolution.

The baseline mid-2007 startup date for the pilot plant may be too late to provide useful input into the SWPF design, and acceleration of the project may not be feasible with the recently identified technical issues.