August 10, 2006

Jeffrey M. Allison, Manager
Department of Energy
Savannah River Operations Office
P. O. Box A
Aiken, SC 29802

Robert A. Pedde
President
Washington Savannah River Company
Building 730-1B
Aiken, SC 29808

Dear Mr. Allison and Mr. Pedde,

Subject: Independent Technical Review (ITR) of SRS Tank 48 Path Forward

The ITR Team is pleased to submit herewith our final report, ***Independent Technical Review of the Path Forward for Savannah River Site Tank 48*** [ITR-T48-2006-001].

As directed by the ITR Charter that you jointly approved, our eleven-member ITR team examined the SRS Tank 48 problem in depth and in breadth. We conducted a retrospective assessment of previous WSRC evaluations of alternatives and thorough technical evaluations of the tetraphenylborate (TPB) processing systems currently being considered for use. We examined other elements of the path forward, including plans for tank cleanup and release after removal of the TPB-contaminated waste, and we considered technical and programmatic risks attendant to the individual steps and to the composite path forward. The enclosed report presents our best judgments on all of these issues and our recommendations on how to proceed so as to best achieve your stated objectives.

Among our most significant conclusions:

1. We judge that both of the processing systems being carried forward by WSRC as leading candidates for Tank 48 applications, Fluidized Bed Steam Reforming and Wet-Air Oxidation (WAO), are technically sound, are likely to prove technically viable for this application, and offer the best prospects for success among the approximately 80 alternatives investigated by WSRC.

   Of these two candidates, Steam Reforming is the more mature and presents fewer technical challenges for implementation at SRS. For that reason, and in light of the very challenging schedule constraints, the ITR Team recommends that Steam Reforming be designated the lead technology, and that continuing work on WAO be limited to that needed to confirm viability.

2. The team considers that Tank 48 heel treatment - the block of activities, following removal of its bulk contents, to clean the tank sufficiently so that it can be returned to service – presents significant technical challenges. The team has proposed a regimen of flushes for heel treatment and also has conceptualized an approach for an acceptance criterion for tank return-to-service that is both conservative and practically achievable.

3. In accordance with the approved SRS Disposition Processing Plan (DPP), the need date for Tank 48 return-to-service (necessary in turn to support the overall processing sequence to meet SRS FFA tank closure commitments) is January 2010. We do not believe that date can be achieved with the sequential processing strategy currently envisioned by WSRC. Rather, it is the team's judgment that with the work sequence currently planned, Tank 48 is unlikely to be returned to service before early-to-mid 2011, and that additional delays of a year or more beyond that date are quite possible.

   The team has proposed a parallel path strategy to deal with this schedule incompatibility. In concept, this strategy involves relocation of the bulk contents of Tank 48 to a separate staging tank on-site, so that TPB processing and Tank 48 heel removal and cleanout can be accomplished in parallel, rather than in series as presently planned. This alternative approach carries significant challenges as well – notably adapting an existing tank or building a new tank for interim staging of the Tank 48 contents. But after much consideration, the ITR Team concludes that this approach offers the best potential to achieve Tank 48 return-to-service by January 2010.

The attached report, with appendices and references, provides substantial detail on these and on many other topics relevant to the Tank 48 path forward. The Executive Summary is both included in the main report, and excerpted and printed separately, for your use and distribution as needed.

For the entire team, let me thank you for your support and for the opportunity to engage in this important work. The WSRC staff was extraordinarily open and helpful in this effort, and we very much appreciate their assistance. Finally, let me assure you that we have done everything we can to meet your primary criteria – technical strength and independence – in delivering this product.

We are available to answer any questions, to provide briefings, or to perform other follow-up tasks as you need.

Yours truly,

John C. DeVine, Jr.
ITR Team Leader

Attachment

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