Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

AUG 2 9 2008

Ms. Donna Antonucci, Chair
Savannah River Site Citizens Advisory Board
8601 Creighton Place West
Savannah, GA 31406

Dear Ms. Antonucci:

SUBJECT: Citizens Advisory Board (CAB) Recommendation Number 256 – Infrastructure Investment in System Planning (Your letter, 7/31/08)

Thank you for your recommendation concerning infrastructure in the overall system planning for disposal of liquid waste at the Savannah River Site (SRS). The Department of Energy (DOE) is pleased to respond by presenting the overviews and assurances as outlined below for each of the four items identified in your recommendation.

The following points address your recommendation at a higher level and are intended to provide some initial information which may be helpful to you as a preliminary overview in advance of more detailed briefings to the Waste Management Committee on each topic:

1. Provide an overview of how infrastructure risks on operations, closures and regulatory milestones are evaluated over the entire Liquid Waste System.

The Liquid Waste Program uses a rigorous and disciplined risk management process to identify and handle all risks potentially threatening its successful and on schedule execution. This process is comprised of the following steps: Planning, Identification, Grading, Handling, Impact Determination, and Integration.

Infrastructure risk is evaluated at the project level during project risk assessments and at the program level during the Annual Program Risk Management Plan (RMP) update and during ongoing Risk Management Board activities. Both project risks and program risks are assessed for impact to the entire liquid waste system (i.e., how an infrastructure failure might impact a critical element of operation). In addition, risks associated with regulatory milestones are evaluated to determine any potential impacts to the overall program completion date.

The CAB will be briefed in detail on the risk management process as well as on the Liquid Waste Program RMP. These briefings will be coordinated with the Waste Management Committee.

2. Provide assurances that the planned operating capacity of the Liquid Waste System is adequate to meet the planned liquid waste mission by 2028 and that all efforts have been made to identify major equipment failures and risks that could potentially jeopardize this end date.

The Life-Cycle Liquid Waste Disposition System Plan, including its operability and throughput assumptions, form the basis for achieving successful completion of the liquid waste mission.

The ability to remove all waste from the waste tanks by 2028, as required by the SRS Site Treatment Plan (STP), is driven by the quantity of salt waste requiring processing (90.3 million gallons), the September 2012 startup date of Salt Waste Processing Facility (SWPF), and the SWPF throughput of 3.75 million gallons in the first year and then 5.5 million gallons per year average afterward including Defense Waste Processing Facility (DWPF) melter replacement outages. Using these inputs, the modeling performed to develop the System Plan, Revision 14, forecasted that all waste will be removed from the tanks in 2030. The Department is exploring opportunities to accelerate waste disposition – such as increasing salt processing throughput, increasing DWPF processing rate, and enhancing waste removal and tank cleaning techniques – in order to assure that it meets the STP required completion date.

To maintain operability goals and achieve throughput targets, system and equipment health monitoring and evaluations, combined with extensive predictive and preventive maintenance, are implemented as part of daily operations. Risks relating to major equipment and infrastructure that could challenge operability and throughput are systematically identified, handling strategies developed and implemented, and effectiveness monitored by assigned risk owners. Opportunities are handled in a similar manner and when realized, their positive benefit is integrated into the System Plan. For example, in Fiscal Year 2008, the opportunity for low temperature aluminum dissolution was successfully matured and integrated into the System Plan resulting in reduction of one hundred Defense Waste Processing Facility (DWPF) canisters and avoiding six months of DWPF operations.

DOE is looking forward to working with the CAB in identifying and maturing potential opportunities to accelerate the completion of the liquid waste mission and to meet our regulatory commitments.

3. Identify any existing limiting equipment or facilities from Recommendation 2 above. For this equipment, the SRS CAB is interested in the operational criticality of equipment; the most likely modes of failure; the effects these failures might have on other equipment and operational commitments; and what critical spares will be required in the event of a failure. The emphasis should be on how impacts to equipment or facility failure affect the functional ability of the entire Liquid Waste System to perform its mission and to meet regulatory milestones.

The risk management process assesses risks to critical Liquid Waste System processes, including facilities, equipment, infrastructure and interfaces. Critical facilities and equipment include the Saltstone Processing Facility, DWPF melter, evaporators, waste storage tanks, transfer lines and utilities (e.g., steam, air, etc.). Risks have been identified for all critical facilities and equipment. An example of a critical equipment risk is potential for DWPF melter failure immediately after replacement with no spare available which could halt processing and extend the program for up to four years. The handling of this risk drives SRS towards having on hand two spare melters. An example of a critical infrastructure risk is the catastrophic failure of the steam supply. This risk is being handled by ongoing predictive and preventive maintenance, as well as the initiation of remedial modifications such as the Tank Farm Steam System upgrade project.

Examples of interface risks include close coupling of facilities, Tank Farm space limitations, tank use conflicts, and flow sheet/processing incompatibilities. An example of a risk handling strategy for tank space limitations is the beneficial use of recycle for sludge washing.

DOE will provide additional details regarding critical facilities, equipment, infrastructure, and interface risks that could affect system performance in briefings to the Waste Management Committee.

4. Identify any new (or larger size) equipment or facilities that could be installed to actually increase the capacity of the Liquid Waste System to accelerate the 2028 mission and note the infrastructure investments required to achieve this increase in capacity.

DOE is evaluating a number of opportunities for accelerating the liquid waste mission. Some of these include:

Salt Processing:
- Increasing salt processing throughput (e.g., augmentation of salt processing throughput at SWPF).
- Providing lag storage for strip effluent and decontaminated salt solution from SWPF to increase SWPF availability by decoupling it from downstream facilities.
- Increasing tank farm salt waste feed capacity to exceed the SWPF processing rate.

AUG 2 9 2008

Sludge Processing:
- Increasing sludge processing throughput (e.g., installation of alternate melter technologies at DWPF to increase melt rate and/or waste loading).
- Improving melter feed preparation cycle time at DWPF.
- Increasing tank farm sludge feed capacity to exceed the DWPF processing rate.

Further information on these opportunities will be provided to the Waste Management Committee during briefings and interactions as we develop Revision 15 of the System Plan.

In summary, DOE assures the CAB that it has integrated infrastructure needs and risks into system planning to ensure that the Department effectively maintains its facilities and dispositions liquid waste in a timely manner. We look forward to presenting additional information and seeking further input from the CAB as we continue to update and improve our System Plan and RMP.

If you have any questions, please contact me or have your staff contact Terrel J. Spears at (803) 208-6072.

Sincerely,

Jeffrey M. Allison
Manager

WDPD-08-072

cc: J. Ortaldo, WMC
D. Olson, WSRC, 766-H