



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

AUG 24 2000

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DNFSB SAFETY BOARD

The Honorable John T. Conway
Chairman, Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W., Suite 700
Washington, D.C. 20004

Dear Mr. Chairman:

SUBJECT: Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 96-1 –
Disposition of Tank 49 Material

REFERENCE: Ltr, Schepens to Conway, "Defense Nuclear Facilities Safety Board
Recommendation 96-1 Deliverables – July 1998", 7/17/98

In Enclosure 3 of the referenced letter, the Department of Energy (DOE) - Savannah River Operations Office (SR) addressed the safe lay-up of waste materials in Tanks 48 and 49. Tank 48 contains potassium tetraphenylborate (KTPB) and cesium tetraphenylborate (CsTPB) precipitates from the 1983 ITP demonstration and initial Cycle 1, Batch 1 operation from 1995. Tank 49 contains wash water from the 1983 ITP demonstration, which also includes phenylborate compounds. As part of the lay-up strategy, no process chemicals were to be added to Tanks 48 or 49, and tank temperatures were to be maintained as low as possible, not to exceed 35°C. Since that time, these two tanks have been maintained in accordance with those lay-up requirements. Disposition of Tank 49 material will entail the increase in tank temperature above 35°C and the addition of a chemical catalyst.

Recently, on August 2, the Board was briefed on the strategy for returning Tank 49 from waste pretreatment service to waste storage service. Prior to returning this tank to waste storage service, it will be necessary to destroy the phenylborate compounds in Tank 49 and remove the resulting benzene through the tank ventilation system. The destruction of phenylborate compounds will be accomplished in two phases and will involve: 1) elevating Tank 49 temperatures up to 45°C through the operation of slurry pumps; and 2) the addition of a chemical catalyst (soluble copper). As discussed during the briefing, a formal Authorization Basis Change packages for each of the two phases are being developed identifying the necessary and prudent controls in consideration of the hazards associated with this activity. DOE-SR will continue to work with your staff to resolve any open issues in preparation for heatup and chemical additions.

When destruction of the phenylborate compounds in Tank 49 has been successfully achieved plans for the removal of remaining waste material from Tank 49 and the removal of Tank 49 from the restrictions of Recommendation 96-1 will be submitted to the Board. Please direct any questions to me or W. F. Spader at (803) 208-7409.

Sincerely,

Ralph E. Erickson
Acting Assistant Manager
for High Level Waste

ED:JWM:kl

J. T. Conway

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cc:

M. W. Frei, (EM-40), HQ

R. S. Scott, (EM-5), HQ

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