



Department of Energy
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The Honorable A. J. Eggenberger
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue NW, Suite 700
Washington, D.C. 20004

**SUBJECT: Design Approach for Providing Performance Category 3 (PC-3) Confinement
for the Salt Waste Processing Facility (SWPF)**

Dear Mr. Chairman:

In your letter of August 27, 2004, you requested the Department take action to provide consistent and adequate natural phenomena hazard (NPH) design guidance where systems, structures and components are relied upon to confine radioactive materials. In the absence of clarified guidance, your letter requested that the Department assign a NPH performance category (PC) designation of PC-3 where safety analysis for the Salt Waste Processing Facility (SWPF) determines confinement of radioactive materials is necessary for worker safety. Your letter also recommended consideration of the use of a safety-related active ventilation system at SWPF similar to the confinement concept applied at the Highly Enriched Uranium Materials Facility (HEUMF) at the Y-12 National Security Complex.

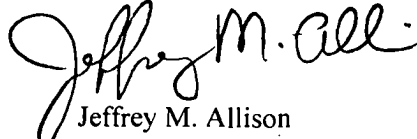
In response to your concerns, the Department considered several options for assuring reliable confinement of SWPF high-hazards materials in the event of an earthquake or other natural phenomena. These options included use of a local, safety-related PC-3 confinement barrier (e.g., piping) housed within a PC-3 building; use of a local, safety-related PC-3 confinement barrier housed within a PC-2 building; and use of a safety related PC-3 active ventilation system housed within either a PC-2 or PC-3 building.

The Department has concluded that adopting a local, safety-related PC-3 confinement barrier housed within a PC-3 building to be the most prudent course of action for SWPF. Where safety analysis indicates confinement barriers are necessary for worker protection, the SWPF Preliminary Design will be revised to incorporate a PC-3 designation for safety-related piping, process vessels, and other components that would provide a local confinement barrier. Portions of the facility housing safety-related PC-3 local confinement barriers will also be designated as PC-3 and designed to resist natural phenomena events. As a defense-in-depth measure, safety-related active ventilation systems will be provided to protect workers from process upsets involving a significant release of radioactive material due to non-NPH events (e.g., tank overflow or spills). Since the SWPF design will now incorporate local safety-related confinement barriers designed to resist natural phenomena (i.e., PC-3), safety-related ventilation systems will not have to resist natural phenomena to protect facility workers. The confinement strategy described above is similar to the confinement concept applied at HEUMF.

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This enhanced approach for SWPF confinement design provides additional margin for safety and is anticipated to adequately address the DNFSB's confinement issues with the SWPF. Actions to implement this approach were approved by the Deputy Secretary of Energy on November 21, 2005. I would like to thank you and your staff for their assistance in helping to resolve these issues. If you have any questions, please contact me at (803) 952-6337.

Sincerely,


Jeffrey M. Allison
Manager

cc: I. Triay, EM-3
M.B. Whitaker, Jr., DR-1