



U.S. Department of Energy
Office of River Protection

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DNFSB SAFETY BOARD

08-WTP-115

JUN 06 2008

The Honorable A. J. Eggenberger
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W., Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

THE U.S. DEPARTMENT OF ENERGY (DOE), OFFICE OF RIVER PROTECTION (ORP)
UPDATED STATUS ON STRUCTURAL STEEL FIRE PROTECTION AT THE WASTE
TREATMENT AND IMMOBILIZATION PLANT (WTP)

Reference: ORP letter from S. J. Olinger to A. J. Eggenberger, DNFSB, "The U.S.
Department of Energy (DOE), Office of River Protection (ORP) Status of
Structural Steel Fire Protection at the Waste Treatment and Immobilization Plant
(WTP), 07-WTP-189, dated July 19, 2007.

The referenced letter established a path forward for resolving the fire protection issues with
structural steel at the WTP which are summarized below as the three step solution:

1. Addressing the building stability in the event of a fire considering only the fireproofed primary load bearing beams and columns, and taking no structural credit for non-fireproofed structural steel members.
2. Assuring that the structural concrete slabs remain stable and capable of supporting prescribed loads without the support from non-fireproofed structural steel members.
3. Evaluating the impacts of thermal growth of the non-fireproofed steel on the fireproofed primary structural steel members.

Since our July 2007 letter there has been significant progress made in closing the fire protection issue through extensive interactions with the Defense Nuclear Facilities Safety Board (DNFSB) staff. These discussions led to submittal of several calculations addressing the first two steps for the Low Activity Waste (LAW) facility and the Analytical Laboratory facility. The submitted calculations were acceptable to your staff. Calculations for the High Level Waste (HLW) facility and Pretreatment (PT) facility have been delayed until an acceptable approach to step 3 has been determined.

The results from steps 1 and 2 for LAW were successful in showing that progressive collapse and loss of confinement are not an issue. ORP expects the same results for both HLW and PT. Resolution on a path forward to step 3 has proven problematic. While bounding calculations can be used to show confinement is maintained, several questions have been raised regarding DOE commercial risks associated with long periods of shutdown while repairs are made. Questions regarding the restart of DOE nuclear facilities after a catastrophic fire, problems associated with

Mr. A. J. Eggenberger
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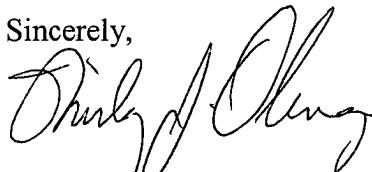
repair or replacement of primary steel suffering plastic deformation from thermal expansion of secondary steel challenging the effectiveness of fire protection coatings, etc. have been raised.

In order to resolve the path forward on step 3, ORP and Bechtel National, Inc. together with the support of our structural Peer Review Team and Fire Protection Engineer, are developing a white paper which organizes the steps into a defensible technical solution for WTP structural steel fire protection. This paper would be forwarded for the DNFSB staff review within the next few weeks.

After your review, we look forward to meeting with the DNFSB to address any remaining questions to be followed by rapid submittal from Bechtel National, Inc. of the remaining calculations.

If you have any questions, you may contact me, (509) 372-3062.

Sincerely,



Shirley J. Olinger, Manager
Office of River Protection

WTP:WA

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