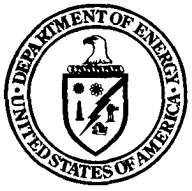

Department of Energy
Washington, DC 20585

SEP 2 0 2010

The Honorable Peter S. Winokur
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW, Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

In the Defense Nuclear Facilities Safety Board's (Board) letter on December 2, 2009, the Board requested that it be kept apprised of the status of the Peer Review Team's (PRT) Structural Steel efforts on a quarterly basis through a list of issues developed and their status and resolution until all issues have been resolved. Enclosed is the requested information to the Board.

The majority of PRT activities this quarter have focused on resolution of composite construction design issues. The Board's letter of December 2, 2009, presented staff comments on the design of the Waste Treatment and Immobilization Plant Pretreatment facility (PTF), High Level Waste (HLW) facility, and the Low Activity Waste facility. The Office of Environmental Management (EM) responded to these comments on March 29, 2010, with commitments to prepare and complete calculations responding to the issues raised by your staff. These calculations and a summary of the PRT conclusions were presented in the PRT report of June 10, 2010, and provided to the Board on June 30, 2010.

During this quarter the PRT concurred with responses to 16 HLW and 23 PTF comments from the October 2009 PRT review. There are five HLW and five PTF comments that remain open from that review. The Enclosure to this letter lists the current open items; EM expects to close these items within six months.

The next PRT structural review is scheduled to take place in October 2010 followed by a second review in January 2011. The agenda for the October meeting will be provided to your staff approximately one week before the meeting.

If you have any further questions, please contact me or Dr. Steven L. Krahn, Deputy Assistant Secretary for Safety and Security Program at (202) 586-5151.

Sincerely,

Inés R. Triay

Inés R. Triay,
Assistant Secretary for
Environmental Management

Enclosure

Enclosure - ORP Structural PEER Review

Comments Open from October 2009 Structural Peer Review

Document 24590-HLW-S0C-S15T-00229, HLW Steel Finite Element Model for RSA and Static Analysis				
Item	**Section**	**Page**	**Comment**	**Disposition**
5		7	Page 7 briefly explains the study used for the basis of splitting the beams into 4 elements for dynamic modeling purposes and states that the comparison with an 8 element beam results in a 1% difference. In the PTF evaluation, 24590-PTF-SOC-515T-00062, page 12, it was concluded that based on the study in 24590-HLW-SOC-S15T-00229 that six elements were required to achieve a 2% convergence. Later in Section 7.6, page 17 a comparison to a 10 segment case is reported and indicates that the shear needs to be scaled up by 10%. Provide a consistent story between page 7 results, page 17 conclusions and the PTF conclusions.	**OPEN**
6		15	On the Table "fl-f2 Frequency Pairs" the General Model Combination coefficients are given for f1 and f2. The method for calculating f1 applicable to single peak response spectra as discussed in the United States Nuclear Regulator Commission Regulatory Guide (USNRC RG) 1.92. The value for broadened peak is given by figures 2 and 3 in the RG 1.92. Using the method in the NRC discussion the f1 values for the horizontal spectra would be 6 Hz and the f1 value for the vertical spectra would be about 16 Hz. The basis for f2 is not provided. The USNRC RG1.92 provides two methods for establishing f2. Looking at the response spectra plots in calculation ***24590-HLW-50C-SIST-00009*** to see where the spectra for different damping values converge, one would expect a higher value of f2 to be selected and looking at the ISRS figure on page 14 of the calculation one would expect different f2 values for East West, North South and Vertical, but East West and North South used are the same.. Note lower frequency values used on the down slope of the spectra should result in higher responses, but the basis for the values should be specified and if a conservative approach is used then so state. Provide more detail in the calculation for the selection of f1 and f2. Provide a response that explains why the method used to calculate f1 is at variance with USNRC RG 1.92.	**OPEN**
7		18	The table called '100/400 Mode Stress Ration needs an explanation of what Frame Index means.	**OPEN**
8		19	The tables on page 19 and 20 are incorrectly labeled as fraction accumulation and should be percent mass associated with Ritz Vector frequency.	**OPEN**

Document 24590-HLW-SSC-S15T-00223, HLW Elevation 58' Column Base Plate Design				
Item	**Section**	**Page**	**Comment**	**Disposition**
17		Gen.	The Methodology states that "Anchor bolt design is not within the scope of this calculation". The Anchor bolt design may have been needed earlier, but this calculation should reference the calculation for the anchor bolts and should summarize bolt size, details, etc., in this calculation.	**OPEN**

Document 24590-PTF-SOC-S15T-00062, PTF Roof Steel Structure RSA				
Item	**Section**	**Page**	**Comment**	**Disposition**
26		38	On figure 7-26 the absolute displacement for the Qx load combination is given. It appears that the relative displacement between the base of the steel structure and the roof is on the order of 0.04 inches. This appears low. If the plots are to scale, it would appear that the relative displacement is about 35% of the displacement at Elevation at 97-6". Please extract results from the Structural Analysis Program analyses to confirm that the relative displacements, at least on the average are correct. A similar comment applies to the Qy load combination results where the roof displacement appears to be a much higher percent of the base displacement than the numbers reported.	**OPEN**
27		E5	Please provide the basis for the f1 and f2 values in Table E-5.1 Note: see more details related to this comment in by reference to a comment 6 for the HLW response spectra analysis in HLW calculation SOC S15T00229, above.	**OPEN**
32	Gen		Years ago, the PRT reviewed a load path study for the PTF. One of the few concerns expressed dealt with the potential collectors or transfers from the floor diaphragms to the tops of the concrete walls. Now that the design of the Elevation 77 and 98 floor diaphragms is being completed, there is no evidence of any added reinforcing bars or non-typical steel beam/embed connections at the top of the shear walls. Please confirm that the load transfers to the tops of the shear walls have been properly addressed.	**OPEN**

Document 24590-PTF-SOC-S15T-00020, PTF Control Building - Structural Model)				
Item	**Section**	**Page**	**Comment**	**Disposition**
46	App C		Are the beam members connected to the slab members at each intermediate point between support locations? For example, on page C-8.	**OPEN**

Document 24590-PTF-S0C-S15T-00022, PTF Control Building - Generation of In-Structure Response Spectra				
Item	**Section**	**Page**	**Comment**	**Disposition**
53		14	Inspection of the response spectra show that there is a lot of response in the high frequency regions of the spectra, for example the spectra on Page C-49 where the 5% damped spectra is greater than 4g between about 9 Hz and 15 Hz. There are several similar spectra at other locations. This could be a problem in equipment qualification, particularly for functionality and possibly some structural qualification problems. Suggest that a conclusion be included to discuss this potential qualification issue in Section 8 of the report.	PTF Calculation 022 (high ISRS at PT Control Bldg)—The ISRS are not high at the basemat where most of the equipments are expected to be located. However, there are some high accelerations in the out-of-plane direction of elevated slabs and of walls which are due to the out-of-plane responses at their own individual frequencies. **OPEN – requires additional information.**