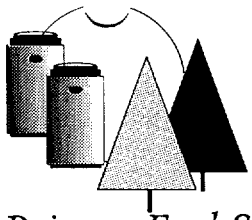
72-22



*Private Fuel Storage, L.L.C.*

*P.O. Box C4010, La Crosse, WI 54602-4010*
*Phone 303-741-7009 Fax: 303-741-7806*
*John L. Donnell, P.E., Project Director*

May 18, 1999

Mr. Mark Delligatti
Senior Project Manager
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

**SUBMITTAL OF COMMITMENT RESOLUTION**
**LETTER #6 INFORMATION**
**DOCKET NO. 72-22 / TAC NO. L22462**
**PRIVATE FUEL STORAGE FACILITY**
**PRIVATE FUEL STORAGE L.L.C.**

Reference: 1. May 7, 1999 meeting held in the offices of the Nuclear Regulatory Commission in Rockville, Maryland
2. PFS Letter, Donnell to Delligatti, Commitment Resolution Letter #6, dated May 10, 1999

In the May 7, 1999 meeting held in the offices of the Nuclear Regulatory Commission in Rockville, Maryland, NRC/CNWRA had several comments regarding the PFSF flooding analysis (second round safety RAI 2-3). In reference 2, Private Fuel Storage recorded the meeting comments and committed to provide a response by May 14, 1999. Additional unanticipated effort to incorporate the meeting resolutions into the documentation package has delayed issuance of the resolutions until May 18, 1999. The PFS response to the meeting comments is enclosed.

If you have any questions regarding this response, please contact me at 303-741-7009.

Sincerely,

John L. Donnell
Project Director
Private Fuel Storage L.L.C.

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NT26

cc:
John Parkyn
Jay Silberg
Sherwin Turk
Asadul Chowdhury
Murray Wade
Scott Northard
Denise Chancellor
Richard E. Condit
John Paul Kennedy
Joro Walker

# ENCLOSURE

**NRC Comment**

PFS needs to revise the flooding analysis for basin A to use a PMF flow of 85,000 cfs (CN=96 and TOC=11 hrs). Provide a drawing that defines the limits of the floodway for a flow of 85,000 cfs. Provide a drawing showing the profile of the access road and flood diversion berm and show the corresponding water elevations.

Response

Calculation 0599602 – G (B) – 17, Revision 1, entitled "PFSF Flood Analysis With Proposed Access Road and Rail Road" is attached. This calculation has been revised for Basin A to show the new PMF flow of 85,000 cfs (CN=96 and TOC=11 hrs). The limits of the floodway for this new flow of 85,000cfs are shown in Figure 8, Page 17 of 53. Two new SAR Figures are also attached after the calculation. A profile of the access road showing the PMF water elevation is included as Figure 2.4-4. Figure 2.4-5 shows a profile of the PFSF access road PMF berm and the corresponding PMF water elevation.

**NRC Comment**

PFS needs to revise the flooding analysis for basin B to calculate the PMF flow using CN=96 (current TOC=4.26 hrs is acceptable). Provide a drawing that defines the limits of the floodway for this new flow. Provide a drawing showing the profile of the rail line and flood diversion berm and show the corresponding water elevations.

Response

Calculation 0599602 – G (B) – 17, Revision 1, entitled "PFSF Flood Analysis With Proposed Access Road and Rail Road" is attached. This calculation has been revised for Basin B to show the new PMF flow of 102,000 cfs (CN=96 and TOC=4.17 hrs). The limits of the floodway for this new flow of 102,000 cfs are shown in Figure 8, Page 17 of 53. Two new SAR Figures are also attached after the calculation. A profile of the PFSF site PMF berm showing the PMF water elevation is included as Figure 2.4-2. Figure 2.4-3 shows a profile of the PFSF rail line and the corresponding PMF water elevation.

**NRC Comment**

Provide a discussion concerning the design of the culverts or trestle that will be used under the rail line.

Response

Multiple culverts will be provided beneath the railroad embankment to allow runoff to pass. Runoff will consist of sheet flow from the south moving along the natural drainage system northerly toward the Great Salt Lake. Culverts will be selected to minimize the amount of concentration of flow, to avoid high flow velocities and potential erosion. The culverts will be designed to adequately handle the 100-year storm event. Flooding due to the PMF will overtop the railroad embankment.

**NRC Comment**

Provide a discussion explaining that there will be no cross-flow between basin A and basin B.

Response

As stated in calculation 0599602 – G (B) – 17, Revision 1, page 5 of 53, section 3, there is a natural ridge characterized by sections of high ground dividing the two basins. There are no intermittent streams which cross this natural ridge. Additionally the PFSF access road PMF berm will provide separation between basin A and basin B. As shown in Figure 2.4-5 the PMF water level will not over top the berm, therefore there will be no cross flow between the two basins.

**NRC Comment**

Provide a statement discussing the planned "freeboard" (berm height above maximum expected water level) for the flood diversion berms.

Response

A freeboard of one foot is planned for the design of the flood diversion berms. The flood diversion berms will be a minimum one foot higher than the maximum calculated top of floodwater to provide a conservative design with an appropriate margin of safety.

**NRC Comment**

Provide a discussion on erosion protection for the flood diversion berms.

Response

Flood diversion berms will be constructed to resist erosive forces by using compacted soil with shallow side slopes (3 horizontal to 1 vertical for the access road PMF diversion berm and 4 horizontal to 1 vertical for the site PMF diversion berm). The berms will also be seeded with a mixture of indigenous grasses and shrubs to provide soil stability by rooting

plants. Ditches lined with rip rap will be provided along the base of the flood diversion berms where stormwater is collected and is conveyed.

**NRC Comment**

Add a cross-section to the flooding analysis that shows the elevation of the cask storage pads relative to the water elevation at this location.

Response

There are three figures in calculation 0599602 – G (B) – 17 that depict the elevation of the cask storage pads relative to the maximum PMF water surface elevations. For drainage basin A, Figure 3, page 11 of 53, shows the water surface profile for the floodway downstream of the access road and Figure 5, page 13 of 53, shows the water surface elevation for section A2. For drainage basin B, Figure 6, page 15 of 53, shows the water surface profile for the rail road floodway. As shown on all of these figures, the cask storage pads will not be flooded by the PMF event.

**NRC Comment**

Provide a discussion and/or analysis that demonstrates that a breach of the access road or rail line during a PMF event will not increase downstream flood levels.

Response

Section 6.1, page 9 of 53, of calculation 0599602 – G (B) – 17 provides a discussion of the affect on downstream water levels in the event of a breach of the access road.

Section 6.2, page 14 of 53, of calculation 0599602 – G (B) – 17 provides a discussion of the affect on downstream water levels in the event of a breach of the rail road embankment.

**NRC Comment**

Provide a definitive statement in the analysis that PMF flood levels will not contact the cask storage pads.

Response

See response to 7$^{th}$ NRC comment above. Section 6.1, page 9 of 53, and Section 6.2, page 14 of 53, of calculation 0599602 – G (B) – 17 provide statements that the cask storage pads are protected from flooding. Figure 3, page 11 of 53, Figure 5, page 13 of 53, and Figure 6, page 15 of 53 all show the cask storage pads above the calculated PMF flood elevations.