

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

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July 28, 1999

**COMMITMENT RESOLUTION LETTER #12**  
**DOCKET NO. 72-22 / TAC NO. L22462**  
**PRIVATE FUEL STORAGE FACILITY**  
**PRIVATE FUEL STORAGE L.L.C.**

This letter is issued to correct a typographical error in COMMITMENT RESOLUTION LETTER #12 dated July 27, 1999. The error is on page 2, item 2. & 3. In the 5<sup>th</sup> line the symbol  $\phi$  did not print. The 5<sup>th</sup> line has been corrected to read ".....stress parameters (  $c$  and  $\phi$  ), based on the results.....". The remainder of the letter is unchanged.

In accordance with our July 23, 1999 telephone call, Private Fuel Storage (PFS) submits the following resolution to NRC/CNWRA comments regarding the Private Fuel Storage Facility (PFSF) Geotechnical Program:

**NRC Comments**

1. The source of the earthquake forces that are used in Calculation 05996.02-G(C)-13, Rev 0, "Allowable Bearing Capacity of the Canister Transfer Building Supported on a Mat Foundation," is not clear. S&W explained that the earthquake forces are developed in Calculation 05996.02-SC-09, Rev 0. The CNWRA will locate the calculation and review it.

Nevertheless, it was noted by the CNWRA that calculation 05996.02-G(C)-13 is missing one of the required loading combinations. The missing 100/40/40 combination is the one that includes 40% vertical earthquake down, 100% horizontal earthquake in the north-south direction, and 40% horizontal earthquake in the east-west direction. S&W explained this case was deemed to be not controlling, but agreed to revise the calculation to include it.

2. Foundation Configuration 2 on Page 14 of Calculation 05996.02-G(B)-4, Rev 3, "Stability Analyses of Storage Pads," identifies the pad as being constructed on top of compacted crushed stone or gravel. The calculation should indicate the thickness of the cohesionless layer. S&W explained that all of the pads are to be constructed on in situ material (cohesive soil) and the reference to cohesionless soil will be deleted from the calculation.

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3. PFS should revise the determination of the sliding resistance of the foundations to utilize a shear strength for the soils that is dependent on the normal stress, which is decreasing during portions of the earthquake.
4. PFS should use a consistent coefficient of friction between the cask and the pad in determining the overturning stability of the pad as is used in the tipover analysis of the cask.
5. PFS should update SAR Figure 2.6-5, "Foundation Profile A-A'," to incorporate the results of the recently performed cone penetration testing, which indicates that there are three layers within the upper ~25-ft thick layer at the site.

#### **PFS Response**

1. Calculation 05996.02-G(C)-13 will be revised to include the specified load combination.
- 2.&3. Calculations 05996.02-G(B)-4 and 05996.02-SC-09 will be revised to address these two items. In these revised analyses, the driving forces will be determined based on the revised design earthquake (peak horizontal ground acceleration = 0.4g and peak vertical ground acceleration = 0.39g, SAR Section 3.2.10.1.1). The soil strengths will be defined based on total stress parameters (  $c$  and  $\phi$  ), based on the results of the triaxial tests that have been performed to date.
4. PFS will review the cask and storage pad analyses and will provide any necessary clarification to ensure that the coefficient of friction between the casks and the pad is incorporated in a consistent manner.
5. PFS will incorporate the results of the cone penetration testing on SAR Figure 2.6-5.

PFS will provide calculations and necessary responses to the above items by August 6, 1999. If you have any questions regarding this response, please contact me at 303-741-7009.

Sincerely



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Project Director  
Private Fuel Storage L.L.C.

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