

April 25, 2001

MEMORANDUM TO: Susan M. Frant, Deputy Director  
Licensing and Inspection Directorate  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

FROM: Mark S. Delligatti, Senior Project Manager **/RAI original signed by /s/**  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF THE APRIL 18, 2001, MEETING BETWEEN THE  
NUCLEAR REGULATORY COMMISSION STAFF AND PRIVATE FUEL  
STORAGE, LIMITED LIABILITY COMPANY

On April 18, 2001, staff from the Spent Fuel Project Office (SFPO) and the Office of the General Counsel met with representatives of Private Fuel Storage, Limited Liability Company (PFS) in San Antonio, Texas at the offices of the Center for Nuclear Waste Regulatory Analyses (CNWRA), the staff's technical assistance contractor. Also in attendance at the meeting were representatives of CNWRA, Southwest Research Institute, Oak Ridge National Laboratories, Holtec International, Stone and Webster, and Geomatrix Consultants. An attendance list is included as Attachment 1. The purpose of the meeting was to discuss the license application (LA) amendment recently submitted by PFS and to seek clarification to some responses to a request for additional information (RAI) regarding the probability of aircraft accidents in the vicinity of the proposed PFS facility (PFSF). This meeting was noticed on April 4, 2001.

The discussion of the LA amendment was divided into three parts, focusing on proposed changes to the analysis of the natural system, changes to the geotechnical approach, and changes to the surface facilities and components of the proposed PFSF. For each area, the staff expressed concern regarding missing or incomplete information. Attachment 2 is a list of the information identified by the staff and the CWNRA which is needed for the completion of the LA amendment. The staff reiterated its belief that PFS also needed to provide a stand-alone document to accompany the LA amendment which discussed each of the proposed changes. The staff believes that such a document could significantly reduce the need for a follow-on RAI and would help PFS demonstrate its process for integration of changes throughout the LA. The staff noted that until all missing information is submitted to the staff, a schedule for completion of the review of the LA amendment and development of a possible supplement to the SER could not be determined.

S. Frant

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Regarding the aircraft crash RAI, the staff asked several clarification questions. These questions dealt primarily with aspects of the flight of the F-16 aircraft. Unfortunately, Col. Ronald Fly (USAF, Ret.), the PFS consultant most familiar with the F-16, was not available to participate in the meeting. Therefore, it was decided that a telephone conference call would be scheduled to discuss these points of clarification.

Attachments: 1. Attendance List  
2. Information Needed for the Completion of the LA Amendment

Docket No. 72-22

cc: Service List

Regarding the aircraft crash RAI, the staff asked several clarification questions. These questions dealt primarily with aspects of the flight of the F-16 aircraft. Unfortunately, Col. Ronald Fly (USAF, Ret.), the PFS consultant most familiar with the F-16, was not available to participate in the meeting. Therefore, it was decided that a telephone conference call would be scheduled to discuss these points of clarification.

- Attachments: 1. Attendance List
- 2. Missing Information

Docket No. 72-22

cc: Service List

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AChowdhury, CNWRA	RWeisman, OGC		

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OFC:	SFPO*	E	SFPO*			
<b>NAME:</b>	MDelligatti:dd	EZiegler				
<b>DATE:</b>	04/ 25/01	04/25 /01				

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**NMSS MEETING WITH PRIVATE FUEL STORAGE, LLC  
APRIL 18, 2001**

Attendance List

<b>NAME</b>	<b>ORGANIZATION</b>	<b>TELEPHONE NO.</b>
Mark Delligatti	NRC/NMSS/SFPO	301-415-8518
Michael Waters	NRC/NMSS/SFPO	301-415-3875
Scott Flanders	NRC/NMSS/SFPO	301-415-1172
Greg Zimmerman	ORNL	865-574-5815
Jack Guttman	NRC/NMSS/SFPO	301-415-8510
Amitava Ghosh	CNWRA	210-522-3314
Mahendra J. Shah	NRC/NMSS/SFPO	301-415-8537
Asad Chowdhury	CNWRA	210-522-5151
Daniel J. Pomerening	SwRI	210-522-2310
John L. Donnell	PFS	303-741-7009
John Hunt	Stone & Webster	303-741-7441
Kiat Lilhanand	ICEC	510-841-7328
Alan Soler	Holtec	856-797-0900
Jerry Cooper	Stone & Webser	303-741-7139
Jeff Johns	Stone & Webster	303-741-7318
Wes Patrick	CNWRA	210-522-5158
James Weldy	CNWRA	210-522-6800
Sherwin Turk	NRC/OGC	301-415-1575
Paul Trudeau	Stone & Webster	617-589-8473
Thomas Chang	Stone & Webster	617-589-5245
Bruce Ebbeson	Stone & Webster	856-482-4654
Robert Young	Geomatrix consultants	510-663-4231
Martin McCann	Jack Benjamin & Assoc	650-473-9955
John Stamatakos	CNWRA	210-522-5247
Goodluck Ofoegbu	CNWRA	210-522-6641

## **DATA NEEDED FOR THE COMPLETION OF THE PFS LA AMENDMENT**

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### **Seismic Hazard Analysis:**

The following data is needed to complete a review of the new seismic hazard attenuation results submitted in the PFS LA Amendment:

1. Deaggregated hazard curves (mean and fractiles) for horizontal and vertical ground motion for each attenuation and site response model at all 16 frequencies.
2. Site velocity measurements, the 30 random property models (all parameters - shear wave velocity, damping, modulus reduction ratio as a function of shear strain, results of simulations, and input spectra (earthquake magnitude and distance matrix of inputs).
3. Results of the soil structure interaction calculations - spectral ratio or free field vs. building structural foundation (top) motion.
4. Confirmation from the Bay Geophysical experts that the new shear wave velocities will not alter conclusions of the shallow seismic reflection profiles.
5. Complete description of the site soil characterization update including:
  - a. site data,
  - b. discussion of the site investigation timeline,
  - c. complete description of the evolution of the site model, noting parameters that have remained constant as well as those that have changes,
  - d. suite of sensitivity results that show the ramifications of changing from a "soil" model to a "rock" model,
  - e. sensitivity results to demonstrate the sensitivity (or insensitivity) of the weighting factor (empirical vs model).
6. Complete revised hazard analysis report (or at least a complete section 6).
7. Well data for soil below 30 ft.
8. More site specific data (i.e., beyond the one existing deep well) for the soil between 30 ft and the Tertiary strata or provide an analysis that shows that the applicant has captured the uncertainty of the soil properties sufficiently such that any new information will not again significantly change the ground motions (i.e., sensitivity study of the site response model that would incorporate the variability of the soil parameters expected for this site).

### **Soil Engineering:**

1. A site plan showing location of any new borings and test pits used to support PFS analyses.

2. Logs for any new borings or test pits used to support PFS analyses.
3. Revised analyses of the stability of the storage pads to include a clear identification of the potential failure modes and failure surfaces and the material strengths required to satisfy the regulatory requirement, considering the critical failure modes and failure surfaces.

### **Design of Facility:**

#### Storage Pads

1. Assessment of the edge effects on the stability of the Storage Pads under new seismic loads.

#### Cask Transfer Building

1. General description of the major structural elements of the CTB. This should include the reinforced concrete walls, columns, roof, and slab and the structural steel elements including the roof support beams
2. New calculation package (SC) for Design of Tornado Doors on cells in canister transfer building (CTB).
3. New SC for Design of roof steel members.
4. Updated letter from Ederer, Incorporated on impact of new seismic levels.
5. Updated G(B)-11 Dynamic Settlements of the soils underlying the site.
6. Updated SC-4 Impedance Functions for CTB.
7. Assessment of the design changes to the slab in terms of load transfer from the walls to the slab and resulting loads on soils. Emphasis should be on the pad areas extending beyond the building walls.
8. Assessment of fire impact on the new design of the CTB.
9. Assessment of the drop of a cask onto the slab of the CTB.

cc: Private Fuel Storage

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