

RELATED CORRESPONDENCE

February 5, 2002

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board

DOCKETED  
USNRC

2002 FEB 25 PM 12: 26

OFFICE OF THE SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of )  
 )  
PRIVATE FUEL STORAGE L.L.C. ) Docket No. 72-22  
 )  
(Private Fuel Storage Facility) ) ASLBP No. 97-732-02-ISFSI

**APPLICANT'S EIGHTH SET OF FORMAL DISCOVERY REQUESTS  
TO INTERVENOR STATE OF UTAH**

Applicant Private Fuel Storage L.L.C. ("Applicant" or "PFS") hereby makes the following formal discovery requests of the State of Utah.

General Definitions and Instructions

1. The term "document" means the complete original or a true, correct, and complete copy and any non-identical copies, whether different by reason of any notation or otherwise, of any written or graphic matter of any kind, no matter how produced, recorded, stored, or reproduced (including electronic, mechanical or electrical records or representation of any kind) including, but not limited to, any writing, letter, telegram, meeting minute or note, memorandum, statement, book, record, survey, map, study, handwritten note, working paper, chart, tabulation, graph, tape, data sheet, data processing card, printout, microfilm or microfiche, index, diary entry, note of interview

or communication, or any data compilation including all drafts of all such documents. The phrase "data compilation" includes, but is not limited to, any material stored on or accessible through a computer or other information storage or retrieval system, including videotapes and tape recordings.

2. The "State of Utah" means any branch, department, agency, division or other organized entity, of the State of Utah, as well as any of its officials, directors, agents, employees, representatives, and its attorneys.

3. "Consultant" means any person who provides professional, scientific, or technical input, advice and/or opinion to the State whether that person is employed specifically for this case or is a regular State employee or official.

4. "PFSF" and "PFS ISFSI" means the Private Fuel Storage Facility.

## **I. GENERAL INTERROGATORIES**

GENERAL INTERROGATORY NO. 1. State the name, business address, and job title of each person who was consulted and/or who supplied information for responding to interrogatories, requests for admissions and requests for the production of documents. Specifically note for which interrogatories, requests for admissions and requests for production each such person was consulted and/or supplied information.

If the information or opinions of anyone who was consulted in connection with your response to an interrogatory or request for admission differs from your written answer to the discovery request, please describe in detail the differing information or

opinions, and indicate why such differing information or opinions are not your official position as expressed in your written answer to the request.

GENERAL INTERROGATORY NO. 2. To the extent that the State has not previously produced documents relevant to any Utah admitted contention, including without limitation Unified Consolidated Contentions Utah L and Utah QQ (Geotechnical), as those contentions were submitted to the Board by the parties on January 17, 2002 (hereinafter "Consolidated Utah L/QQ"), identify all such documents not previously produced. The State may respond to this request by notifying PFS that relevant documents are available for its review and/or copying.

GENERAL INTERROGATORY NO. 3. For each admitted Utah contention, including without limitation Consolidated Utah L/QQ, give the name, address, profession, employer, area of professional expertise, and educational and scientific experience of each person whom the State expects to call as a witness at the hearing. For purposes of answering this interrogatory, the educational and scientific experience of expected witnesses may be provided by a resume of the person attached to the response.

GENERAL INTERROGATORY NO. 4. For each admitted Utah contention, including without limitation Consolidated Utah L/QQ, identify the qualifications of each expert witness whom the State expects to call at the hearing, including but not limited to a list of all publications authored by the witness within the preceding ten years and a listing of any other cases in which the witness has testified as an expert at a trial, hearing or by deposition within the preceding four years.

GENERAL INTERROGATORY NO. 5. For each admitted Utah Contention, including without limitation Consolidated Utah L/QQ, describe the subject matter on which each of the witnesses is expected to testify at the hearing, describe the facts and opinions to which each witness is expected to testify, including a summary of the grounds for each opinion, and identify the documents (including all pertinent pages or parts thereof), data or other information which each witness has reviewed and considered, or is expected to consider or to rely on for his or her testimony.

## **II. GENERAL DOCUMENT REQUESTS**

The Applicant requests the State of Utah to produce the following documents directly or indirectly within their possession, custody or control to the extent not previously produced during informal discovery:

GENERAL REQUEST NO. 1. All documents in your possession, custody or control identified, referred to, relied on, or used in any way in (a) responding to the interrogatories and requests for admissions set forth in Applicant's previous sets of Formal Discovery Requests to Intervenor State of Utah, (b) responding to the following interrogatories and requests for admissions in this document, or (c) responding to the any subsequent interrogatories and requests for admissions filed with respect to the State's Contentions as admitted by the Board.

### **III. REQUESTS DIRECTED AT CONSOLIDATED UTAH L/QQ**

#### **A. Interrogatories – Consolidated Utah L/QQ**

1. With respect to paragraph C.3.c of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS has failed to consider or analyze the impact on the properties of the native soil caused by the construction and placement of cement-treated soil, state the consequences on the safety of the PFS facility of each such failure, and explain the bases therefor.

2. With respect to paragraph C.3.d of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS has failed to show that its proposal to use cement-treated soil will perform as intended and has failed to adequately address possible mechanisms that may crack or degrade the function of cement-treated soil over the life of the facility, state the consequences on the safety of the PFS facility of each such mechanism, and explain the bases therefor.

3. With respect to paragraph C.3.e of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS has underestimated the dynamic Young's modulus of the cement-treated soil when subjected to impact during a cask drop or tipover accident scenario, state the consequences on the safety of the PFS facility of such an underestimation, and explain the bases therefor.

4. With respect to paragraphs D.1.a and D.2.d of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that it is unconservative for PFS to assume that only vertically propagating in-phase waves will strike the Canister Transfer Building ("CTB"), the storage pads, casks and foundations and to account for horizontal variation of ground motion, state the consequences on the

safety of the PFS facility of each such failure or lack of conservatism, and explain the bases therefor.

5. With respect to paragraphs D.1.b and D.2.a of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that it is incorrect for PFS to assume that the CTB mat foundation and storage pads will behave rigidly during a design basis earthquake and that such an assumption of rigidity results in significant underestimation of the dynamic loading and overestimation of foundation damping, state the consequences on the safety of the PFS facility, and explain the bases therefor.

6. With respect to paragraph D.1.c(i) of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS has failed to properly consider the effects of soil-cement around the pads and the unsymmetrical loading that the soil cement would impart on the pads once the pads undergo sliding, state the claimed effect of each such failure on the motion of the casks sliding on the pads and the consequences on the safety of the PFS facility, and explain the bases therefor.

7. With respect to paragraph D.1.c(ii) of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS's claimed failure to consider the flexibility of the pad under DBE loading fails to provide a realistic evaluation of the foundation pad motion with cement treated soil under and around the pads in relation to the motion of the casks sliding on the pads, state the consequences on the safety of the PFS facility, and explain the bases therefor.

8. With respect to paragraphs D.1.c(iii) of Consolidated Utah L/QQ, identify and fully describe the variation of the coefficient of sliding friction that the State claims will exist between the bottom of the casks and the top of the pads due to local

deformation of the pad at the contact points with the cask fully identifying the deformation that the State claims will exist at the contact points, the claimed effects of such deformation on the coefficient of friction, and the relationship, if any, to the cement treated soil under and around the pads, state the consequences on the safety of the PFS facility of each such claimed effect, and explain the bases therefor.

9. With respect to paragraph D.1.d of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS has failed to consider lateral variations in the phase of ground motions and their effects on the stability of the pads and casks, state the consequences on the safety of the PFS facility of each such failure, and explain the bases therefor.

10. With respect to paragraph D.1.e of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that the PFS calculations for cask sliding do not address the frequency dependency of the springs and damping values used to model the foundation soils, state the consequences on the safety of the PFS facility of such failure, and explain the bases therefor.

11. With respect to paragraph D.1.f of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that the PFS has failed to consider the potential for cold bonding between the casks and the pads, state the consequences on the safety of the PFS facility of such failure, and explain the bases therefor.

12. With respect to paragraph D.1.g of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that the PFS has failed to analyze for the potential of pad-to-pad interaction in its sliding analyses for pads spaced

approximately five feet apart in the longitudinal direction, state the consequences on the safety of the PFS facility of such failure, and explain the bases therefor.

13. With respect to paragraph D.1.h of Consolidated Utah L/QQ, identify and fully describe each reason why the State contends that PFS's use of only one set of time histories in its non-linear analyses inadequately accounts for phasing of the input ground motion and fault fling, state the consequences on the safety of the PFS facility associated with each such reason, and explain the bases therefor.

14. With respect to paragraph D.2.b of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS improperly ignores in its calculations the presence of a cement-treated soil cap around the CTB and the related impacts on soil impedance parameters and kinematic motion of the CTB foundation, state the consequences on the safety of the PFS facility of this deficiency in the calculations, and explain the bases therefor.

15. With respect to paragraph D.2.c of Consolidated Utah L/QQ, identify and fully describe each respect in which the State contends that PFS improperly ignores in its calculations the out-of-phase motion of the CTB and the cement-treated soil cap, state the consequences on the safety of the PFS facility of this deficiency in the calculations, and explain the bases therefor.

**B. Document Requests – Consolidated Utah L/QQ**

The Applicant requests the State of Utah produce the following documents directly or indirectly within their possession, custody or control to the extent not previously produced during discovery:

1. All documents related to the claims raised by the State in Consolidated Utah L/QQ.
2. All documents, data or other information generated, reviewed, considered or relied upon by any expert or consultant with respect to Consolidated Utah L/QQ.
3. All documents, data or other information relating to any evaluation performed by any State expert or consultant with respect to the potential use of cement-treated soil at the PFS facility.
4. All documents, data or other information relating to any evaluation performed by any State expert or consultant with respect to the seismic analysis of the storage pads, casks and their foundation soils at the PFS facility.
5. All documents, data or other information relating to any evaluation performed by any State expert or consultant with respect to the seismic analysis of the CTB and its foundation.

Respectfully submitted,



Jay E. Silberg  
Ernest L. Blake, Jr.  
Paul A. Gaukler  
Matias F. Travieso-Diaz  
SHAW PITTMAN LLP  
2300 N Street, N.W.  
Washington, DC 20037  
(202) 663-8000  
Counsel for Private Fuel Storage L.L.C.

Dated: February 5, 2002

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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(Private Fuel Storage Facility) ) ASLBP No. 97-732-02-ISFSI

CERTIFICATE OF SERVICE

I hereby certify that copies of Applicant's Eighth Set of Formal Discovery Requests to the State of Utah were served on the persons listed below (unless otherwise noted) by e-mail with conforming copies by U.S. mail, first class, postage prepaid, this February 5, 2002.

Michael C. Farrar Esq., Chairman  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [MCF@nrc.gov](mailto:MCF@nrc.gov)

Dr. Peter S. Lam  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [PSL@nrc.gov](mailto:PSL@nrc.gov)

Dr. Jerry R. Kline  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [JRK2@nrc.gov](mailto:JRK2@nrc.gov); [kjerry@erols.com](mailto:kjerry@erols.com)

\*Office of Commission Appellate  
Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Attention: Rulemakings and Adjudications  
Staff  
e-mail: [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov)  
(Original and two copies)

Catherine L. Marco, Esq.  
Sherwin E. Turk, Esq.  
Office of the General Counsel  
Mail Stop O-15 B18  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
e-mail: [pfscase@nrc.gov](mailto:pfscase@nrc.gov)

John Paul Kennedy, Sr., Esq.  
David W. Tufts, Esq.  
Confederated Tribes of the Goshute  
Reservation and David Pete  
Durham Jones & Pinegar  
111 East Broadway, Suite 900  
Salt Lake City, Utah 84105  
e-mail: [dtufts@djplaw.com](mailto:dtufts@djplaw.com)

Diane Curran, Esq.  
Harmon, Curran, Spielberg &  
Eisenberg, L.L.P.  
1726 M Street, N.W., Suite 600  
Washington, D.C. 20036  
e-mail: [dcurran@harmoncurran.com](mailto:dcurran@harmoncurran.com)

\* Adjudicatory File  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Denise Chancellor, Esq.  
Assistant Attorney General  
Utah Attorney General's Office  
160 East 300 South, 5<sup>th</sup> Floor  
P.O. Box 140873  
Salt Lake City, Utah 84114-0873  
e-mail: [dchancel@state.UT.US](mailto:dchancel@state.UT.US)

Joro Walker, Esq.  
Land and Water Fund of the Rockies  
1473 South 1100 East  
Suite F  
Salt Lake City, UT 84105  
e-mail: [lawfund@inconnect.com](mailto:lawfund@inconnect.com)

Tim Vollmann, Esq.  
Skull Valley Band of Goshute Indians  
3301-R Coors Road, N.W.  
Suite 302  
Albuquerque, NM 87120  
e-mail: [tvollmann@hotmail.com](mailto:tvollmann@hotmail.com)

Paul EchoHawk, Esq.  
Larry EchoHawk, Esq.  
Mark EchoHawk, Esq.  
EchoHawk PLLC  
P.O. Box 6119  
Pocatello, ID 83205-6119  
e-mail: [pechohawk@hollandhart.com](mailto:pechohawk@hollandhart.com)

\* By U.S. mail only



Paul A. Gaukler