RAS 3979

RELATED CORRESPONDENCE

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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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 OBJECTIONS AND RESPONSES TO THE STATE OF UTAH'S FOURTEENTH SET OF DISCOVERY REQUESTS DIRECTED TO THE APPLICANT

Applicant Private Fuel Storage, L.L.C. ("Applicant" or "PFS") files the following objections and responses to "State of Utah's Fourteenth Set of Discovery Requests Directed to the Applicant" ("State's Fourteenth Discovery Request"), which was served on the Applicant on February 7, 2002.

I. GENERAL OBJECTIONS

These objections apply to the Applicant's responses to all of the State's Fourteenth Discovery Requests.

1. The Applicant objects to the State's instructions and definitions on the grounds and to the extent that they request or purport to impose upon the Applicant any obligation to respond in manner or scope beyond the requirements set forth in 10 C.F.R. §§ 2.740, 2.741 and 2.742.

2. The Applicant objects to the State's Request for Production of Documents to the extent that it requests discovery of information or documents protected under the attorney-client privilege, the attorney work product doctrine, and limitations on discovery of trial preparation

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SECY-02

materials and experts' knowledge or opinions set forth in 10 C.F.R. § 2.740 or other protection provided by law.

3. The Applicant objects to the discovery requests to the extent they refer to any issues other than the claims raised by the State in newly-admitted Contention QQ.

II. GENERAL DISCOVERY

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.

APPLICANT'S RESPONSE:

In addition to counsel for PFS, the following persons were consulted and/or supplied information in responding to the discovery requests for the contentions in the State's Fourteenth Discovery Requests:

Jerry Cooper
Assistant Project Manager & Project Engineer
Private Fuel Storage Facility Project
Stone & Webster, Inc.
7677 East Berry Avenue
Greenwood Village, CO 80111-2137

Paul J. Trudeau
Lead Geotechnical Engineer
Private Fuel Storage Facility Project
Stone & Webster, Inc.
100 Technology Center Drive
Stoughton, MA 02072

Dr. Anwar E. Z. Wissa
Ardaman & Associates
8008 South Orange Ave.
Orlando, FL 32809

Bruce Ebbeson
Senior Lead Structural Engineer
Stone & Webster
3 Executive Campus, 70 & Cuthbert Blvd.
Cherry Hill, NJ 08002-4167

Max DeLong
Executive Engineer
Xcel Energy, Inc.
414 Nicollet Mall, Ren. Sq. 7
Minneapolis, MN 55401

Robert Youngs
Geotechnical Consultant
Geomatrix Consulting, Inc.
2101 Webster Street
12th Floor
Oakland, CA 94612

C. Y. Chang
Principal Engineer
Geomatrix Consulting, Inc.
2101 Webster Street
12th Floor
Oakland, CA 94612

Kiat Lilhanand
Principal Engineer
International Civil Engineering Consultants, Inc.
1995 University Ave., Suite 119
Berkeley, CA 94704

Dr. Krishna P. Singh
President and CEO
Holtec International
555 Lincoln Drive West
Marlton, NJ 08053

Dr. Alan Soler
Holtec International
555 Lincoln Drive West
Marlton, NJ 08053

In response to whether the information or opinions of anyone who was consulted in connection with PFS's response to an interrogatory or request for admission differs from the PFS's written answer to the discovery request, PFS is unaware of any such difference among those consulted.

GENERAL INTERROGATORY NO. 2. To the extent that PFS has not previously produced documents relevant to any Utah admitted contention, including without limitation unified contention Utah L/QQ, identify all such documents not previously produced. PFS may respond to this request by notifying the State that PFS has updated its repository of documents relevant to admitted contentions at Parsons, Behle and Latimer.

APPLICANT'S RESPONSE:

See response to General Document Request No. 1.

GENERAL INTERROGATORY NO. 3. For each admitted Utah contention, including without limitation unified contention Utah L/QQ, give the name, address, profession, employer, area of professional expertise, and educational and scientific experience of each person whom PFS 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.

APPLICANT'S RESPONSE:

Applicant is filing simultaneously herewith Applicant's Ninth Supplemental Response to State's First Request for Discovery, dated February 19, 2002, containing a list of witnesses on which the Applicant intends to rely with respect to unified contention Utah L/QQ. Applicant will revise and update this list as necessary.

GENERAL INTERROGATORY NO. 4. For each admitted Utah contention, including without limitation unified contention Utah L/QQ, identify the qualifications of each

expert witness whom PFS 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.

APPLICANT'S RESPONSE:

See response to General Interrogatory No. 3.

GENERAL INTERROGATORY NO. 5. For each admitted Utah contention, including without limitation unified contention 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.

APPLICANT'S RESPONSE:

See response to General Interrogatory No. 3.

III. GENERAL DOCUMENT REQUESTS

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

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 the State's previous sets of Formal Discovery Requests to Applicant, PFS, (b) responding to the following interrogatories and requests for admissions in this document, or (c) responding to any subsequent interrogatories and requests for admissions filed with respect to the State's Contentions as admitted by the Board.

APPLICANT'S RESPONSE:

To the extent PFS has not previously produced documents responsive to previous discovery requests, Applicant will forward them to its repository of documents maintained at Parsons, Behle and Latimer in Salt Lake City, Utah. Applicant has previously provided documents relevant to unified contention Utah L/QQ at its document repository maintained at

Parsons, Behle and Latimer in Salt Lake City. To the extent that documents were used in responding to the interrogatories and requests for admissions contained in the State's Fourteenth Discovery Request and such documents have not already been provided to the State, PFS will update its repository of documents relevant to Utah L/QQ, subject to any applicable claims of privilege.

REQUEST NO. 2. All documents (including experts' opinions, workpapers, affidavits, and other materials used to render such opinion) supporting or otherwise relating to testimony or evidence that you intend to use at the hearings on each Utah admitted contention, including without limitation unified contention Utah L/QQ.

APPLICANT'S RESPONSE:

Applicant objects to this Request as being overly broad, vague, unduly burdensome and seeking privileged material. Applicant will provide such documents, with respect to its witnesses/experts, as agreed to by the State and PFS. See Applicant's Objections and Non-Proprietary Responses to State of Utah's Fourth Set of Discovery Requests and Supplemental Responses to State of Utah's Third Set of Discovery Requests *[Non-Proprietary Version]*, Response to General Interrogatory No. 5 (Dec. 6, 1999).

IV. DISCOVERY REQUESTS: CONTENTION UTAH L/QQ
(formerly contention Utah QQ)

A. Requests for Admissions - Contention Utah L, Part B.

REQUEST FOR ADMISSION NO. 1. Do you admit that PFS intends to use soil cement (or cement-treated soil) under the pads and around the Canister Transfer Building ("CTB") to assist in resisting the seismic loading from the design basis earthquake?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the phrase "resisting the seismic loading from the design basis earthquake" is vague and ambiguous and is not defined in the Request. To the

extent that "resisting the seismic loading from the design basis earthquake" means enhancing the ability of the pads and the CTB to resist sliding, the Request is admitted.

REQUEST FOR ADMISSION NO. 2. Do you admit that PFS has not presented any laboratory test plan and results of soil cement testing, including durability, strength and dynamic properties testing, for the storage pads and CTB areas?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 3. Do you admit that PFS has not conducted any site-specific testing and soil-structure interaction analyses to show that cement-treated soil will be able to resist earthquake loadings for the CTB and storage pad foundations?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the phrase "resist earthquake loadings" is vague and ambiguous and is not defined in the Request. To the extent that "resist earthquake loadings" means to provide resistance to sliding against the forces imparted by the design basis earthquake, the Request is denied.

REQUEST FOR ADMISSION NO. 4. Do you admit that PFS has not presented evaluations and analyses of the long term behavior of cement-treated soil under operational loading e.g., cask transport vehicle and environmental factors (e.g., curing, shrinkage, frost, dessication, salt and sulfide attack) over the proposed 40 year life of the facility?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 5. Do you admit that underestimating the dynamic Young's modulus of the cement-treated soil when subjected to impact during cask drop or tipover may significantly underestimate the impact forces?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 6. Do you admit that the pad foundations can not resist the dynamic loading and at the same time meet the required 1.1 factors of safety against sliding without the use of soil cement underneath the pads?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 7. Do you admit that the CTB foundations can not resist the dynamic loading and at the same time meet the 1.1 factors of safety against sliding without the use of soil cement around the perimeter of the CTB?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 8. Do you admit that Holtec's *Multi Cask Response at the PFS ISFSI from 2000 Year Seismic Event*, HI-2012640, is a non-linear analysis?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 9. Do you admit that the analysis in HI-2012640 is based on only one set of time histories?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 10. Do you admit that it is common practice in design to use a minimum of three sets of time histories for nonlinear analysis?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the phrase "common practice in design" is vague and ambiguous and is not defined in the Request. Without waiving this objection, PFS denies that it is "common practice in design" with respect to the design of components for spent fuel storage systems to use multiple time histories.

REQUEST FOR ADMISSION NO. 11. Do you admit that the non-linear analysis in HI-2012640 is sensitive to phasing in the time histories and thus must use multiple sets of time histories?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the terms "sensitive" and "phasing in the time histories" are vague and ambiguous and are not defined in the Request, and the alleged purpose of using such time histories is not stated.

REQUEST FOR ADMISSION NO. 12. Do you admit that HI-2012640 calculation assumes that the storage pad will act as a rigid mat?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 13. Do you admit that the assumption of pad rigidity used by Holtec in HI-2012640 is contradicted by Calculation No. 05996.02 G(P017)-2, *Storage Pad Analysis and Design* by International Civil Engineering Consultants?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 14. Do you admit that the flexible behavior of the storage pad under dynamic loading invalidates the assumption of uniform coefficient of sliding friction between the cask and the pad due to local deformations of the pad?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the term "flexible" is vague and ambiguous and is not defined in the Request, and because the Request incorrectly assumes that the storage pads exhibit flexible behavior under dynamic loading. Without waiving these objections, Applicant denies that the amount of deflection predicted in the analyses conducted by the pad designer would invalidate the assumption of a uniform coefficient of sliding friction between the cask and the pad.

REQUEST FOR ADMISSION NO. 15. Do you admit that the flexible behavior of the pad under dynamic loading invalidates the assumption that peak inertial forces can be estimated by multiplying peak ground acceleration times the mass of the pad?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the phrase "peak inertial forces" is vague and ambiguous without an identification of the source of the forces and the structure on which they act, neither of which is defined in the Request. Applicant further objects to this Request in that the term "flexible" is vague and ambiguous and is not defined in the Request and because the Request incorrectly assumes that the storage pads exhibit flexible behavior under dynamic loading.

REQUEST FOR ADMISSION NO. 16. Do you admit that proximity of the PFS site to major active faults requires evaluation of the effects of waves with spatial and temporal variation?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 17. Do you admit that earthquake waves arriving at an angle may cause additional rocking and torsional motion of the structures above and beyond the vibration caused by the vertically propagating waves of the earthquake?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the term "the structures" is vague and ambiguous and is not defined in the Request. Without waiving this objection, if the term "the structures" refers to the pads, the Request is denied.

REQUEST FOR ADMISSION NO. 18. Do you admit that the design in Holtec's *Multi Cask Response at the PFS ISFSI from 2000 Year Seismic Event* and SWEC's calculation No. 05996.02, SC-5, *Seismic Analysis of Canister Transfer Building*, Stone and Webster [sic] is based on the assumption that only vertically propagating waves will strike the pads?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it erroneously assumes that the SWEC calculations address the design of the pads. Applicant further objects to the Request in that it incorrectly assumes that the Holtec calculation *Multi Cask Response at the PFS ISFSI from 2000 Year Seismic Event* sets forth the design of the pads and SWEC calculation No. 05996.02, SC-5 sets forth the design of the CTB. Without waiving these objections, the Request is admitted with respect to the cited Holtec calculation for the pads and denied with respect to the SWEC design of the CTB.

REQUEST FOR ADMISSION NO. 19. Do you admit that the analysis of the sliding, uplift, or rocking of the HI-STORM 100 cask system is very sensitive to the local stiffness values used in the analysis?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it falls outside the scope of the issues raised in newly-admitted contention Utah QQ. Applicant further objects to this Request in that the term "very sensitive" is vague and ambiguous and is not defined in the Request.

REQUEST FOR ADMISSION NO. 20. Do you admit that the value for sliding displacement specified in Holtec Report No. HI-2012653 is not a unique solution?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it falls outside the scope of the issues raised in newly-admitted contention Utah QQ.

REQUEST FOR ADMISSION NO. 21. Do you admit that the Holtec Report No. 2012653 did not consider the pad-to-pad interaction?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 22. Do you admit that in the seismic analysis of the CTB (Cal No. 05996.02-SC-5, *Seismic Analysis of the Canister Transfer Building,* (SWEC), PFS's contractor, Stone and Webster, assumes that the CTB foundation will behave as a rigid mat?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 23. Do you admit that assuming the CTB foundation behaves as a rigid mat leads to an overestimation of foundation damping and to an underestimation of seismic loads for the design of the CTB?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 24. Do you admit that PFS has not considered the effect that a large volume of soil cement around the CTB will have on the impedance functions and the kinematic motion of the foundation and the dynamic stresses developed in the soil cement at its interface with the mat foundation?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 25. Do you admit that relatively large shear strain is required to develop the needed passive earth pressure from soil cement to resist seismic loads?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the phrase "relatively large shear strain" is vague and ambiguous and is not defined in the Request. To the extent that the phrase "relatively large shear strain" seeks to draw a comparison between the shear strain required to develop the needed passive earth pressure from soil cement and the shear strain required to develop the needed passive earth pressure from untreated soil, the Request is denied.

REQUEST FOR ADMISSION NO. 26. Do you admit that the use of the soil's peak shear strength may be inappropriate for cases where passive earth pressure is required to resist sliding?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it incorrectly assumes that Applicant used the soil's peak shear strength in its sliding stability analyses, when in fact Applicant conservatively

assumed less than the peak shear strength. Without waiving the foregoing objection, the Request is denied.

REQUEST FOR ADMISSION NO. 27. Do you admit that results from direct shear tests show that a 10 to 20 percent reduction in the clayey soil's peak shear strength is appropriate for cases where shear strains may be large?

APPLICANT'S RESPONSE:

Denied.

REQUEST FOR ADMISSION NO. 28. Do you admit that 95 percent of peak shear strength of the clayey soil was used in the dynamic sliding analyses for the storage pads?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it fails to identify the dynamic sliding analyses in which the 95 percent of peak shear strength of the clayey soil was allegedly used. Without waiving this objection, to the extent that the term "dynamic sliding analyses" means design basis dynamic analyses, the Request is denied.

REQUEST FOR ADMISSION NO. 29. Do you admit that only a 5 percent reduction in peak strength is inconsistent with the 12.5 percent reduction used in the sliding calculations for the Canister Transfer Building?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the term "inconsistent" is vague and ambiguous and is not defined in the Request. Without waiving this objection, to the extent that the term "inconsistent" is intended to allege that there are methodological differences between the manner in which the peak strength of the soil is used in the sliding analyses for the pads and those for the CTB, the Request is denied.

REQUEST FOR ADMISSION NO. 30. Do you admit that the soil cement will experience tensile and bending stresses under seismic loading?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 31. Do you admit that PFS has not calculated the magnitude of the tensile and bending stresses that will develop in the soil and soil cement under seismic loading?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that it assumes that the magnitude of the tensile and bending stresses in the soil and the soil cement under seismic loading is relevant to the computation of the sliding resistance of the CTB. Without waiving the foregoing objection, the Request is admitted.

REQUEST FOR ADMISSION NO. 32. Do you admit that PFS has estimated a total settlement of 3 inches for the CTB due to static loading and consolidation settlement?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 33. Do you admit that differential settlement between the foundation of the CTB and the surrounding soil cement will cause cracking of the soil cement and impact passive resistance of the soil cement?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the term "cracking" is vague and ambiguous and is not defined in the Request. Without waiving the foregoing objection, and assuming the term "cracking" means the formation of vertical cracks in the soil cement, the Request is denied.

REQUEST FOR ADMISSION NO. 34. Do you admit that PFS has estimated a total settlement of 1.7 inches for the storage pads due to static loading and consolidation settlement?

APPLICANT'S RESPONSE:

Admitted.

REQUEST FOR ADMISSION NO. 35. Do you admit that differential settlement between the pad foundation and the surround soil cement will cause cracking of the soil cement and impact the passive resistance of the soil cement?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the term "cracking" is vague and ambiguous and is not defined in the Request. Without waiving the foregoing objection, to the extent that the term "cracking" refers to the formation of vertical cracks in the soil cement, the Request is denied.

REQUEST FOR ADMISSION NO. 36. Do you admit that Holtec has filed with the NRC an amendment to the Holtec HI-STORM 100 cask system license/certificate of compliance for the inclusion of the HI-STORM 100S storage cask?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the HI-STORM 100S storage cask is not proposed for use at the PFS Facility and issues relating to that cask are outside the scope of this proceeding.

REQUEST FOR ADMISSION NO. 37. Do you admit that the HI-STORM 100S cask system is approximately 18 inches shorter than the HI-STORM 100 cask system?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the HI-STORM 100S storage cask is not proposed for use at the PFS Facility and issues relating to that cask are outside the scope of this proceeding.

REQUEST FOR ADMISSION NO. 38. Do you admit that one of the reasons for designing a shorter HI-STORM cask system is to make the storage cask less vulnerable to tip over from peak ground accelerations produced as a result of an earthquake?

APPLICANT'S RESPONSE:

Applicant objects to this Request in that the HI-STORM 100S storage cask is not proposed for use at the PFS facility and issues relating to that cask are outside the scope of this proceeding. Without waiving this objection, the Request is denied.

B. INTERROGATORIES[1]

INTERROGATORY NO. 1. To the extent that PFS denies any or all of Requests for Admission Nos. 2 through 5, in whole or in part, explain in each and every respect the basis for the denial.

APPLICANT'S RESPONSE:

Applicant objects to the form of this Interrogatory in that it improperly seeks to combine what in reality are four separate interrogatories into one, thereby circumventing the agreed-upon limit of fifteen interrogatories for this set of discovery requests.

Without waiving the foregoing objection, Applicant states as follows:

[1]. With respect to Request for Admission No. 2, Applicant has presented in Section 2.6.4.11 of the SAR a description of the testing program for soil cement that will be conducted prior to operation of the PFS facility. The commitments in that Section of the SAR include the performance of a laboratory test program in accordance with the plan set forth in ESSOW No. 05996.02-G010, Rev. 0. That test program is currently being implemented.

[2]. With respect to Request for Admission No. 3, Applicant is conducting a site-specific soil cement testing program in accordance with SAR commitments and ESSOW No. 05996.02-G010, Rev. 0. In addition, Applicant has performed soil-structure interaction analyses for the pads and the CTB. See, e.g., Calculation Nos. 05996.02-G(B)-04 and 05996.02-SC-5.

[3]. With respect to Request for Admission No. 4, Applicant is conducting a site-specific soil cement testing program in accordance with SAR commitments and ESSOW No. 05996.02-G010, Rev. 0. That program follows industry-accepted protocols designed to address environmental factors that may affect long-term soil cement performance including, among others, the methodology set forth in industry codes ASTM D 558 (1996); ASTM D 559 (1996) and ASTM D 560 (1996). Design and implementation of a soil cement and cement-treated soil application that takes into account the results of the referenced soil cement testing program will assure adequate performance of the soil cement and cement-treated soil over the 40-year life of the facility.

Footnote continued from previous page

[1] Counsel for the Applicant and the State have agreed that within the scope of Utah QQ each party may propound up to 15 interrogatories on each other.

[4]. With respect to Request for Admission No. 5, Holtec used a static Young's modulus for its cask drop and tipover calculations, so as to provide a conservative upper bound for the calculations. Therefore, an underestimation of the dynamic Young's modulus, if occurring, would have no bearing on the validity of the impact forces used in Holtec's calculations.

INTERROGATORY NO. 2. In Cal. No. G(B)-04 (Rev 9), *Stability Analyses of Cask Storage Pads,* SWEC, at p. 8, it states that Stone & Webster has "revised units weights of soil cement to reflect measured values obtained from ongoing laboratory testing program." Describe with specificity any soil cement laboratory testing program that PFS has conducted to date as well as any ongoing soil cement laboratory testing program, including a description of the objectives of the test program(s), any measured values obtained from any such laboratory testing program(s) and the conclusions drawn from the test program(s).

APPLICANT'S RESPONSE:

[5]. Applicant is conducting a site-specific soil cement testing program in accordance with SAR commitments and ESSOW No. 05996.02-G010, Rev. 0. The objectives of the testing program are described in the ESSOW. Only preliminary results from the test program are currently available; thus, no conclusions can be drawn from the program at this point.

INTERROGATORY NO. 3. Name any PFS contractor, laboratory, or PFS representative who has performed, is performing, or will perform soil cement testing (hereafter "PFS contractor"), describe with specificity the engineering scope of work for each PFS contractor, and describe the qualifications of each PFS contractor to perform the work.

APPLICANT'S RESPONSE:

[6]. The current soil-cement testing is being performed by:

Applied Geotechnical Engineering Consultants, Inc. (AGEC)
600 West Sandy Parkway
Sandy, UT 84070
AGEC's scope is described in ESSOW 05996.02-G010, Rev. 0.

PFS has retained Dr. Anwar E. Z. Wissa as a consultant to assist in the soil cement program. His business address is:

Dr. Anwar E. Z. Wissa

Ardaman & Associates

8008 South Orange Ave.

Orlando, FL 32809

PFS anticipates that Ardaman & Associates will be performing additional relevant soil cement testing, but the scope of such testing has not been defined at this time.

INTERROGATORY NO. 4. Describe the quality assurance and quality control procedures ("QA/QC") referring or relating to PFS's soil cement testing program to which any PFS contractor (see Interrogatory No. 2) must adhere.

APPLICANT'S RESPONSE:

[7]. Applicant objects to this Interrogatory in that its subject matter is outside the scope of unified Contention L/QQ.

INTERROGATORY NO. 5. Describe any audits and reviews of quality assurance program(s) – for any PFS soil cement testing program – that demonstrates that the program has been implemented to meet the standards in 10 CFR Part 21, Part 50 Appendix B, and Part 72; and Reg. Guide 1.138, Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants, and the bases thereof.

APPLICANT'S RESPONSE:

[8]. Applicant objects to this Interrogatory in that its subject matter is outside the scope of unified Contention L/QQ.

INTERROGATORY NO. 6. To the extent that PFS denies any or both Requests for Admission Nos. 6 or 7, in whole or in part, explain in each and every respect the basis for the denial.

APPLICANT'S RESPONSE:

Applicant objects to the form of this Interrogatory in that it improperly seeks to combine what in reality are two separate interrogatories into one, thereby circumventing the agreed-upon limit of fifteen interrogatories for this set of discovery requests.

Without waiving the foregoing objection, Applicant states as follows:

[9]. With respect to Request for Admission No. 6, the strength of the soils under the pads is sufficient to resist sliding due to the forces imparted by a design basis earthquake. The use of cement-treated soil under the pads is intended to provide an additional margin of safety.

INTERROGATORY NO. 7. To the extent that PFS denies any or all of Requests for Admission No. 13 through 15, in whole or in part, explain in each and every respect the basis for your denial.

APPLICANT'S RESPONSE:

Applicant objects to the form of this Interrogatory in that it improperly seeks to combine what in reality are three separate interrogatories into one, thereby circumventing the agreed-upon limit of fifteen interrogatories for this set of discovery requests.

Without waiving the foregoing objection, Applicant states as follows:

[10]. With respect to Request for Admission No. 13, Holtec Calculation HI-2012640 analyzes the cask/pad interface in order to characterize interface forces and displacements between the cask and the pad. With respect to the characterization of these forces and displacements, any flexibility of the pad would produce only second order effects that would not affect the validity of the results of Holtec's calculation.

The results of Calculation No. 05996.02 G(P017)-2, *Storage Pad Analysis and Design* by International Civil Engineering Consultants ("ICEC") do not contradict the assumption of pad rigidity in Holtec's analyses. The displacements shown in Table 5.2.5-1 of the ICEC calculation are due to a load applied to a single node of the finite element model. This node is near the corner of the pad. The ICEC calculation for which results were shown in Table 5.2.5-1 was performed by ICEC only to compare the results from ICEC's analysis using the CECSAP code to those that would be obtained using the SASSI code.

For an asymmetric load, which the above referenced load is, vertical displacements will vary from node to node. That is to be expected. The only way the displacements of a rigid pad would be the same at all nodes would be if the load were symmetric about the centerlines of the pad. The ICEC calculation includes one case of symmetric loading. The results for that case are presented in Table S-2 (page 229), for the live load of 8 casks. For that case, the vertical displacements at all nodes are similar, especially for the case of subgrade modulus = 2.75 kcf., thus confirming the rigid behavior of the pad.

[11]. With respect to Request for Admission No. 14, and without waiving the objections set forth in Applicant's Response to the Request, Applicant states that the results of the analyses conducted by the pad designer show that any local flexibility of the pad is not large enough to affect the interface between the cask and the pad so as to have an effect on the coefficient of friction.

INTERROGATORY NO. 8. To the extent that PFS denies any or all of Requests for Admission No. 17 through 19, in whole or in part, explain in each and every respect the basis for your denial.

APPLICANT'S RESPONSE:

Applicant objects to the form of this Interrogatory in that it improperly seeks to combine what in reality are three separate interrogatories into one, thereby circumventing the agreed-upon limit of fifteen interrogatories for this set of discovery requests.

Without waiving the foregoing objection, Applicant states as follows:

[12]. With respect to Request for Admission No. 17, there will be insignificant additional rocking and torsional motion of the storage pads as a result of earthquake waves arriving at an angle because of the small angles of incidence of the incoming earthquake waves and the small pad dimensions. The difference in arrival time for waves at opposite edges of a storage pad (30 feet apart in the east-west direction) is estimated to be on the order of 0.001 to 0.002 seconds. These arrival time differences are much smaller than the minimum time step of the time histories developed for the site (0.005 seconds), and thus have an insignificant effect on the analysis.

[13]. With respect to Request for Admission No. 18, SWEC's design of the CTB follows the recommendations of industry code ASCE 4-98 (American Society of Civil Engineers, *Seismic Analysis of Safety-Related Nuclear Structures and Commentary*), which allows the seismic analyses of structures such as the CTB to assume incoming seismic waves to be vertically propagating waves provided a mass eccentricity factor is incorporated into the actual design of the structures to address the effects of inclined and incoherent waves. SWEC is following this recommendation in the design of the CTB.

INTERROGATORY NO. 9. To the extent that PFS denies any or all of Requests for Admission No. 19 through 21, in whole or in part, explain in each and every respect the basis for your denial.

APPLICANT'S RESPONSE:

Applicant objects to the form of this Interrogatory in that it improperly seeks to combine what in reality are three separate interrogatories into one, thereby circumventing the agreed-upon limit of fifteen interrogatories for this set of discovery requests. Applicant further objects to this Interrogatory insofar as it refers to Request for Admission No. 19 in that it is duplicative of Interrogatory No. 8.

Without waiving the foregoing objections, Applicant states as follows:

[14]. With respect to Request for Admission No. 21, Holtec has evaluated the possibility of pad-to-pad interactions and concluded that any such interaction would have only second order effects that would not affect the validity of the Holtec calculations. Therefore, Holtec did not expressly incorporate pad-to-pad interaction effects in its calculations in the cited Report.

INTERROGATORY NO. 10. Describe in each and every respect whether PFS takes issue or disagrees with the methodology, assumptions, analysis, and conclusions in *Analytical Study of Hi-Storm 100 Cask System for Sliding and Tip-Over Potential During High Seismic Activity* performed by Altran Corporation, dated November 30, 2001,[2] and the bases thereof.

APPLICANT'S RESPONSE:

[15]. Applicant objects to this Interrogatory in that the subject of the Interrogatory falls outside of the scope of the issues raised in newly-admitted Contention Utah QQ.

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[2] *See* Attachment F to the Joint Declaration of Steven Bartlett, Mohsin Kahn, and Farhang Ostadan, State's Response to the Applicant's Motion for Summary Disposition of Part B, Utah Contention L (December 7, 2001).

INTERROGATORY NO. 11. In modeling the sliding of the storage pad over the soil cement, describe how and to what extent Holtec took into account the effect of soil-cement around the pad and the unsymmetric loading that the soil-cement will impart on the pad once the pad undergoes sliding movement, the bases thereof, and if Holtec did not take the foregoing into account, the bases thereof.

APPLICANT'S RESPONSE:

[16]. Applicant objects to this interrogatory in that it exceeds the number of agreed upon interrogatories to be propounded by the parties. Without waiving this objection, Applicant states that under the 2000-year design basis earthquake, the storage pad does not undergo sliding, with or without soil cement. Therefore, the modeling of the sliding of the pad performed by Holtec was for the analysis of a beyond-design-basis event. This analysis was performed solely to demonstrate the conservatism in the PFS design basis. Holtec did not take into consideration the effect of soil cement or any other material (e.g., soil) around the pad in performing its beyond-design-basis evaluation of the sliding of the pad because such effects would have no significant impact on the results of the analysis.

INTERROGATORY NO. 12. Describe in detail and with specificity any other spent nuclear fuel storage facility that uses an unanchored dry cask storage systems resting on at-grade pads and has been designed to safely resist strong ground motions similar to those imposed by the design basis earthquake at the PFS site.

APPLICANT'S RESPONSE:

[17]. Applicant objects to this interrogatory in that it exceeds the number of agreed upon interrogatories to be propounded by the parties. Applicant further objects to this Interrogatory in that the subject of the Interrogatory falls outside of the scope of the issues raised in newly-admitted Contention Utah QQ.

INTERROGATORY NO. 13. Describe with specificity what redundancies are built into Holtec's HI-STORM 100 cask design other than Holtec's assumption that the casks will slide on the pad in a controlled manner during an earthquake and the basis thereof.

APPLICANT'S RESPONSE:

[18]. Applicant objects to this interrogatory in that it exceeds the number of agreed upon interrogatories to be propounded by the parties. Applicant further objects to this Interrogatory in that the phrase "what redundancies are built" is vague and ambiguous and is not defined in the Interrogatory. Applicant further objects to this Interrogatory in that the subject of the Interrogatory falls outside of the scope of the issues raised in newly-admitted Contention Utah QQ.

INTERROGATORY NO. 14. Describe with specificity whether and to what extent PFS took into account the actual behavior of soil cement under tensile and bending stresses, caused by vibration of the CTB building and the impact of static and consolidation settlement in its computation of the passive resistance that PFS claims soil cement will provide to stabilize the building (CTB) under seismic loads.

APPLICANT'S RESPONSE:

[19]. Applicant objects to this interrogatory in that it exceeds the number of agreed upon interrogatories to be propounded by the parties. Without waiving this objection, Applicant states that the behavior of soil cement under tensile and bending stresses would not result in a decrease in the ability of the soil cement to provide the horizontal resistance required to obtain a factor of safety against sliding of 1.1. Further, even if the soil cement failed to provide sufficient resistance against sliding and if the CTB were to slide as a result of the earthquake, there would be no safety-related consequence of such movement, because there are no connections between the CTB and any other safety-related systems, structures or components.

Further, any postulated sliding of the CTB would be expected to decrease the dynamic loads imparted to the building from the ground during the design earthquake, as was demonstrated in the Holtec's cask sliding and tipover analysis that includes horizontal displacements of the pad as large as 6 inches.

INTERROGATORY NO. 15. For any issue in unified contention Utah L/QQ, describe in each and every respect, what additional studies, evaluations, or analyses, if any, PFS, its experts, or its consultants is conducting or plans to conduct prior to April 22, 2002.

APPLICANT'S RESPONSE:

[20]. Applicant objects to this interrogatory in that it exceeds the number of agreed upon interrogatories to be propounded by the parties. Applicant further objects to this interrogatory in that it is overbroad and seeks the discovery of privileged information. Applicant will advise the State of those non-privileged analyses it conducts with respect to issues in unified contention Utah L/QQ as those analyses are completed.

C. DOCUMENT REQUESTS

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

DOCUMENT REQUEST NO. 1. All documents referring or relating to any PFS defenses to the claims made by the State in unified contention Utah L/QQ.

APPLICANT'S RESPONSE:

Applicant objects to this Request (1) as vague and ambiguous in that the term "any PFS defenses to the claims raised by the State" is not defined; (2) in that it seeks privileged materials or information; and (3) in that it seeks information outside the scope of newly-admitted

contention Utah QQ. Notwithstanding these objections, all non-privileged materials relating to the claims made by the State in newly-admitted contention Utah QQ have been or are being provided in accordance with Applicant's Response to General Document Request Nos. 1 and 2.

DOCUMENT REQUEST NO. 2. All documents, calculations, analyses, data or other information generated, reviewed, considered or relied upon by any expert or consultant with respect to unified contention Utah L/QQ.

APPLICANT'S RESPONSE:

See Response to General Document Request Nos. 1 & 2.

DOCUMENT REQUEST NO. 3. All documents, data or other information referring or relating to any evaluation of the use of soil cement or cement-treated soil at the PFS site performed by PFS expert, consultant or representative.

APPLICANT'S RESPONSE:

Applicant objects to this request (1) as overbroad, (2) in that it seeks privileged materials or information; and (3) in that it seeks information outside the scope of newly-admitted contention Utah QQ. Notwithstanding these objections, PFS has previously provided to the State non-privileged documents concerning the planned use of soil cement or cement-treated soil at the PSFS in response to State discovery requests and, to the extent not previously provided, will cause non-privileged documents responsive to this Request and within the scope of newly-admitted contention Utah QQ to be forwarded to its repository of documents maintained at Parsons, Behle and Latimer in Salt Lake City, Utah.

DOCUMENT REQUEST NO. 4. All documentation (e.g., QA/QC plans, inspections, audits, etc.) referring or relating to whether QA/QC procedures have met the standards in 10 CFR Part 21, Part 50 Appendix B, and Part 72; and Reg. Guide 1.138, Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants.

APPLICANT'S RESPONSE:

Applicant objects to this document request as outside the scope of unified contention Utah L/QQ.

DOCUMENT REQUEST NO. 5. All documents, data test results or other information obtained from or generated by any PFS-related soil-cement testing program.

APPLICANT'S RESPONSE:

Applicant objects to this request (1) as overbroad, (2) in that it seeks privileged materials or information; and (3) in that it seeks information outside the scope of newly-admitted contention Utah QQ. Notwithstanding these objections, PFS has previously provided to the State non-privileged documents concerning the soil-cement testing program being conducted for the PFS facility and, to the extent not previously provided, will cause non-privileged documents responsive to this Request and within the scope of newly-admitted contention Utah QQ to be forwarded to its repository of documents maintained at Parsons, Behle and Latimer in Salt Lake City, Utah.

DOCUMENT REQUEST NO. 6. All documents, data or other information relating to any evaluation performed by any PFS expert or consultant with respect to the seismic analysis of the storage pads, casks and their foundation soils at the PFS facility.

APPLICANT'S RESPONSE:

Applicant objects to this request (1) as overbroad, (2) in that it seeks privileged materials or information; and (3) in that it seeks information outside the scope of newly-admitted contention Utah QQ. Notwithstanding these objections, PFS has previously provided to the State non-privileged documents concerning the seismic analysis of the storage pads, casks and their foundation soils at the PFS facility in response to State discovery requests and, to the extent not

previously provided, will cause non-privileged documents responsive to this Request and within the scope of newly-admitted contention Utah QQ to be forwarded to its repository of documents maintained at Parsons, Behle and Latimer in Salt Lake City, Utah.

DOCUMENT REQUEST NO. 7. All documents, data or other information relating to any evaluation performed by and PFS expert or consultant with respect to the seismic analysis of the CTB and its foundation.

APPLICANT'S RESPONSE:

Applicant objects to this request (1) as overbroad, (2) in that it seeks privileged materials or information; and (3) in that it seeks information outside the scope of newly-admitted contention Utah QQ. Notwithstanding these objections, PFS has previously provided to the State non-privileged documents concerning the seismic analysis of the CTB and its foundation in response to State discovery requests and, to the extent not previously provided, will cause non-privileged documents responsive to this Request and within the scope of newly-admitted contention Utah QQ to be forwarded to its repository of documents maintained at Parsons, Behle and Latimer in Salt Lake City, Utah.

DOCUMENT REQUEST NO. 8. All documents referring or relating to any reviews or analysis conducted by PFS, its experts, consultants or representatives, of *Analytical Study of Hi-Storm 100 Cask System For Sliding and Tip-Over Potential During High Seismic Activity* performed by Altran Corporation, dated November 30, 2001. *See* footnote 2.

APPLICANT'S RESPONSE:

Applicant objects to this document request as outside the scope of newly-admitted contention Utah QQ.

DOCUMENT REQUEST NO. 9. All documents not previously provided, referring or relating to the evaluation or analysis of the potential sliding or tipover of the HI-STORM 100 cask under seismic peak ground accelerations at the proposed PFS facility.

APPLICANT'S RESPONSE:

Applicant objects to this document request as outside the scope of newly-admitted contention Utah QQ.

DOCUMENT REQUEST NO. 10. All documents not previously provided, referring or relating to the evaluation or analysis of the potential for the HI-STORM 100 cask to crack as a result of peak ground acceleration at the proposed PFS facility.

APPLICANT'S RESPONSE:

Applicant objects to this document request as outside the scope of newly-admitted contention Utah QQ.

DOCUMENT REQUEST NO. 11. All documents not previously provided, referring or relating to the Holtec's estimation or determination of the zero period acceleration for the HI-STORM 100 cask at the PFS site.

APPLICANT'S RESPONSE:

Applicant objects to this document request as outside the scope of newly-admitted contention Utah QQ.

Respectfully submitted,

Jay E. Silberg
Ernest L. Blake
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 19, 2002

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the Applicant's Objections and Responses To The State of Utah's Fourteenth Set of Discovery Requests Directed to the Applicant and the declarations of Paul Trudeau, Bruce Ebbeson, Kris Singh, Alan Soler, Robert Youngs, C. Y. Chang and Paul Gaukler 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 19th day of February, 2002.

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e-mail: MCF@nrc.gov

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Administrative Judge
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
e-mail: JRK2@nrc.gov; kjerry@erols.com

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

*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
(Original and two copies)

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

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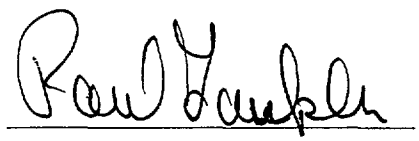


Paul A. Gaukler

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF PAUL J. TRUDEAU

Paul Trudeau states as follows under penalties of perjury:

1. I am the Lead Geotechnical Engineer for the Private Fuel Storage Facility Project with Stone & Webster, Inc.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Requests for Admission Nos. 2-4, 6, 25-29, 33, 35, and Interrogatory No. 1, Items 1-3, Interrogatory Nos. 2-3, Interrogatory No. 6.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002.

Paul J. Trudeau

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF BRUCE EBBESON

Bruce Ebbeson states as follows under penalties of perjury:

1. I am the Senior Lead Structural Engineer with Stone & Webster.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Request for Admission Nos. 13, 18, 23-24 and Interrogatory No. 7, Item 10, Interrogatory No. 8, Item 13.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February __, 2002.

_____
Bruce Ebbeson

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF DR. KRISHNA P. SINGH

Dr. Krishna P. Singh states as follows under penalties of perjury:

1. I am the President and CEO of Holtec International

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Requests for Admission Nos. 5, 10, 13-14, 21, 38, and Interrogatory No. 1, Item 4, Interrogatory No. 7, Items 10-11, Interrogatory No. 9, Interrgatory No. 11.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002

Dr. Krishna P. Singh

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF DR. ALAN SOLER

Dr. Alan Soler states as follows under penalties of perjury:

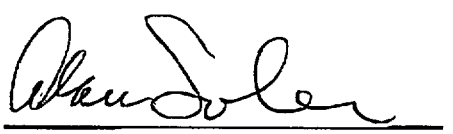
1. I am an Executive Vice-President with Holtec International.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Requests for Admission Nos. 5, 10, 13-14, 21, 38, and Interrogatory No. 1, Item 4, Interrogatory No. 7, Items 10-11, Interrogatory No. 9, Interrgatory No. 11.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002



Dr. Alan Soler

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF ROBERT YOUNGS

Robert Youngs states as follows under penalties of perjury:

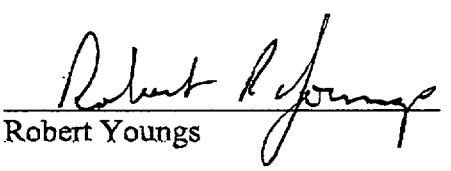
1. I am a Geotechnical Consultant with Geomatrix Consulting, Inc.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Requests for Admission Nos. 16-18, and Interrogatory No. 8, Item 12.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002



Robert Youngs

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF C. Y. CHANG

C. Y. Chang states as follows under penalties of perjury:

1. I am the Principal Engineer with Geomatrix Consulting, Inc.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, Requests for Admission Nos. 17-18, and Interrogatory No. 8, Items 12.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002

C. Y. Chang

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety And Licensing Board

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

DECLARATION OF PAUL A. GAUKLER

Paul A. Gaukler states as follows under penalties of perjury:

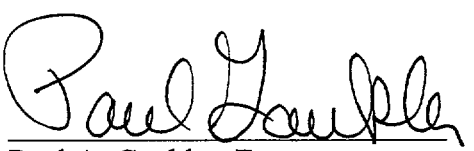
1. I am an attorney with Shaw Pittman, LLP.

2. I am duly authorized to verify Applicant's Objections and Responses to State's Fourteenth Set of Discovery Requests Directed to the Applicant; specifically, General Interrogatory Nos. 1-5.

3. I certify that the statements and opinions in such responses are true and correct to the best of my personal knowledge and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 19, 2002



Paul A. Gaukler, Esq.

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