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RELATED CORRESPONDENCE

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

OFFICE OF SECRETARY
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 OBJECTIONS AND RESPONSES TO STATE OF UTAH'S SEVENTH SET OF DISCOVERY REQUESTS

Applicant Private Fuel Storage L.L.C. ("Applicant" or "PFS") files this response to the December 28, 1999 "State of Utah's Seventh Set of Discovery Requests Directed to the Applicant" ("State's Seventh Discovery Requests"). The Applicant is filing this response on January 10, 1999 pursuant to an agreement with the State.

I. GENERAL OBJECTIONS

The general objections made in the Applicant's December 6, 1999 nonproprietary response to the November 19, 1999 "State of Utah's Fourth Set of Discovery Requests Directed to the Applicant and Skull Valley Band of Goshutes with Respect to Group II Contentions" ("State's Fourth Discovery Requests") are incorporated herein by reference.

II. DISCOVERY REQUESTS - UTAH CONTENTION H (Thermal Design)

A. REQUESTS FOR ADMISSION – Utah Contention H

REQUEST FOR ADMISSION NO. 1. Do you admit that the calculated temperature of the hypothetical reflecting boundary in the EHT model (e.g., the temperature at cell I=30, J=57 as reported in the FLUENT output (pg. 41, M68PFS.cas &

0503

M68PFS.DAT line print) is not the outer concrete surface temperature of a HI-STORM storage cask.

APPLICANT'S RESPONSE: PFS admits that the temperature calculated by the FLUENT Code for the hypothetical reflecting boundary does not represent the outer concrete surface temperature of a HI-STORM storage cask.

REQUEST FOR ADMISSION NO. 2. Do you admit that the outer surfaces of the HI-STORM casks in the PFS array will be separated by a distance of approximately four feet.

APPLICANT'S RESPONSE: Denied.

REQUEST FOR ADMISSION NO. 3. Do you admit that the HI-STORM casks in the PFS array will thermally interact with each other.

APPLICANT'S RESPONSE: PFS objects on the grounds that this question has previously been asked and answered by PFS. See Applicant's Objections and Responses to State of Utah's Fourth Set of Discovery Requests (nonproprietary version), December 6, 1999, Utah Contention H, Response to Request for Admission No. 1. Nevertheless without waiving this objection, PFS admits that as a matter of general principle the dry storage casks stored on the PFS ISFSI pad will likely be in thermal interaction with each other because of the expected variations in heat load in the different casks as actually loaded and the heat loss from the cask array at the boundary of the ISFSI storage cask field.

REQUEST FOR ADMISSION NO. 4. Do you admit that the relative thermal contribution of one heated body to another is not a linear function of distance separating the two bodies.

APPLICANT'S RESPONSE: PFS objects to this request as vague, Dubin v. E.F. Hutton, 125 F.R.D. 372, 376 (S.D.N.Y. 1989), in that the term "relative thermal contribution" is undefined, incomplete and open-ended. Without waiving this objection, PFS admits that, all other factors being equal, the incident radiant energy from one body to another is an inverse function of the distance separating the two bodies.

REQUEST FOR ADMISSION NO. 5. Do you admit that in an array of casks such as the PFS cask "Nx2" array, the cask surface closest to the adjacent casks will have a higher temperature than a cask surface that is further away from other casks.

APPLICANT'S RESPONSE: PFS cannot admit or deny this request. This question cannot be answered without additional definition of the relative contribution of competing thermophysical factors of the system.

REQUEST FOR ADMISSION NO. 6. Do you admit that only the top two inches of the 36 inch thick PFS concrete ISFSI pad are modeled in the EHT thermal analysis by the FLUENT code.

APPLICANT'S RESPONSE: Denied.

REQUEST FOR ADMISSION NO. 7. Do you admit that in the EHT model for the Holtec thermal analysis, the solar insolation energy is modeled as being evenly distributed throughout only the top 2 inches of the ISFSI pad outside the overpack footprint.

APPLICANT'S RESPONSE: PFS admits that solar insolation is modeled as a uniform energy source in the top two inches of the ISFSI pad surface outside the overpack footprint.

REQUEST FOR ADMISSION NO. 8. Do you admit that the temperature of the air-ISFSI pad interface (the air immediately above the pad) is not used in the EHT model

for the Holtec thermal analysis in determining the chimney effect (buoyancy force) due to insolation.

APPLICANT'S RESPONSE: Denied.

REQUEST FOR ADMISSION NO. 9. Do you admit that the temperature of the ISFSI pad outside the cask footprint in the top inch is modeled in the EHT model for the Holtec thermal analysis as cooler than the temperature of the ISFSI in the bottom inch in the "refined mesh" analysis, *i.e.* the FLUENT runs represented in the line print files M68PFS2.CAS & M68PFS2.DAT, M68EH.CAS & M68EH.DAT.

APPLICANT'S RESPONSE: PFS objects to this request as vague, Dubin v. E.F. Hutton, 125 F.R.D. 372, 376 (S.D.N.Y. 1989), in that the term "modeled" is vague and ambiguous in the context of the question. Without waiving this objection, PFS admits that the temperature computed by FLUENT in the top one inch of the ISFSI pad outside the cask footprint is lower than the temperature computed in the bottom one-inch of the two-inch energy source in the refined mesh analysis.

REQUEST FOR ADMISSION NO. 10. Do you admit that the temperature of the ISFSI concrete pad outside of the cask footprint is modeled in the EHT model for the Holtec thermal analysis as 372 °K (212°F), and the temperature of the outside of the cask at its midpoint (*e.g.*, cell I=31, J=46 in the file M68PFS2.CAS & M68PFS2.DAT) is modeled as 336 °K (145°F).

APPLICANT'S RESPONSE: Denied.

REQUEST FOR ADMISSION NO. 11. Do you admit that everything that is required as input to the Holtec analysis, and all outputs yielded by the analysis (given in the FLUENT code), are provided in the zip disk and ASCII printouts provided to the State by way of Mr. Hollaway's November 30, 1999, transmittal letter to Ms. Curran.

APPLICANT'S RESPONSE: PFS admits that all required inputs to the Holtec analysis and all outputs yielded by the analysis are provided in the Zip disk and ASCII printouts provided to the State.

REQUEST FOR ADMISSION NO. 12. Do you admit that the FLUENT code can be run and achieve the results listed in M68PFS.DAT, M68PFS2.DAT, and M68EH.DAT files using only the information provided in the M68PFS.CAS, M68PFS2.CAS, and M68EH.CAS files.

APPLICANT'S RESPONSE: Admitted.

B. DOCUMENT REQUESTS FOR ADMISSION – Utah Contention H

DOCUMENT REQUEST NO. 1. To the extent that the Applicant admits Requests for Admission Nos. 1-5 above, please provide the State with all documents, calculations, correspondence, and methodologies used to conclude that the distance of the hypothetical reflecting boundary accurately portrays the thermal interaction of heated casks for both arrangement of cask arrays, referred to as the "NxN" and "Nx2" arrangements, in terms of both the amount of ambient air available to each cask and the thermal interactions between closely spaced casks.

APPLICANT'S RESPONSE: PFS has already provided to the State the documents in its possession, custody, or control responsive to this request. This includes the PFS calculation package "HI-STORM Thermal Analysis for the PFS RAI," Holtec report no. HI-992134, Rev. 0 dated February 2, 1999; the Zip disk containing the *.CAS and *.DAT files for the EHT mode; the ASCII printouts of the EHT model *.CAS and *.DAT files; and the relevant sections of the FLUENT code User's Manual. In addition, the State has been provided directly from Holtec a copy of the HI-STORM Topical Safety Analysis Report, Holtec report no. HI-951312.

DOCUMENT REQUEST NO. 2. To the extent that the Applicant admits Requests for Admissions No. 6 – 8 above, provide benchmark calculations or any documents showing how the conclusions in Nos. 6-8 accurately reflect the behaviour of solar energy input onto a concrete pad. Do you admit that the calculated temperature of the hypothetical reflecting boundary in the EHT model (e.g., the temperature at cell I=30, J=57 as reported in the FLUENT output (pg. 41, M68PFS.cas & M68PFS.DAT line print) is not the outer concrete surface temperature of a HI-STORM storage cask.

APPLICANT'S RESPONSE: See Applicant's Response to Document Request No. 1, above.

DOCUMENT REQUEST NO. 3. Please provide a copy of a proprietary report that was submitted to the NRC under cover of a letter from Gary Tjersland, Holtec, to Mark Delligatti, NRC, dated May 1, 1997. The report is numbered HI-971619, Rev. 1, and entitled "Benchmarking the HI-STAR/HI-STORM Thermal Model with TN-24P Test Data."

APPLICANT'S RESPONSE: PFS objects to this request as beyond the scope of contention Utah H, as admitted by the Board. Utah H concerns the ambient temperature of the PFSF site, and the heat transfer characteristics of the ISFSI pad, storage cask overpack, and storage cask annulus. In contrast, the requested document, deals with the unrelated matter of heat transfer inside the sealed canister. This issue is squarely within the general rulemaking proceeding for the HI-STORM cask, and therefore beyond the scope of this site-specific licensing proceeding. See Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), LBP-00-01, 50 NRC ___, Slip Op. at 7-10 (2000). Moreover, the requested document was not developed for PFS, is not specific to the PFSF site, and is not in the possession, custody, or control of PFS.

DOCUMENT REQUEST NO. 4. Please provide a copy of any revisions to the Holtec report requested in Request for Admission No. 3 above.

APPLICANT'S RESPONSE: PFS is unable to comply with this request as no report is requested in Request for Admission No. 3 above. To the extent that the State's intent was to refer to Document Request No. 3 above, PFS objects on the grounds as stated in its response to Document Request No. 3.

DOCUMENT REQUEST NO. 5. Please provide a copy of the new run of Holtec's licensing calculations, in which it analyzed three cases using the FLUENT computer code. In addition, please provide a copy of the Holtec sensitivity study that assumed no sunset. These calculations and sensitivity study, which were submitted by Holtec to the NRC on December 13, 1999, were described in the NRC Staff Position on Group I and II Contentions.

APPLICANT'S RESPONSE: PFS will produce to the State a Zip disk containing electronic copies of all the *.CAS and *.DAT files for the three cases analyzed using the FLUENT code (December 13, 1999 letter to NRC) and a sensitivity study that assumed no sunset along with their ASCII printouts. PFS will forward these documents to its repository of documents maintained at Parsons Behle and Latimer in Salt Lake City, Utah.

Respectfully submitted,

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Dated: January 10, 2000

Counsel for Private Fuel Storage L.L.C.

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NUCLEAR REGULATORY COMMISSION

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DECLARATION OF INDRESH RAMPALL

Indresh Rampall states as follows under penalties of perjury:

1. I am a Principal Engineer employed by Holtec International in Marlton, New Jersey.

2. I am duly authorized to verify Private Fuel Storage's Responses to State's Seventh Discovery Requests; specifically, those responses to Contention Utah H, Request for Admission Nos. 1 through 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 January 10, 2000

Indresh Rampall

Indresh Rampall

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CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Objections and Responses to State of Utah's Seventh Set of Discovery Requests" and the declaration of Indresh Rampall were served on the persons listed below (unless otherwise noted) by e-mail with conforming copies by U.S. mail, first class, postage prepaid, or next business day hand delivery, this 10th day of January, 2000.

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* Adjudicatory File
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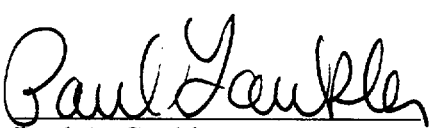

Paul A. Gaukler

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