

June 25, 1999

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-ISFSI
)
(Independent Spent Fuel)
Storage Installation))

NRC STAFF'S RESPONSE TO APPLICANT'S
MOTION FOR PARTIAL SUMMARY DISPOSITION OF
UTAH CONTENTION H (INADEQUATE THERMAL DESIGN)

INTRODUCTION

Pursuant to 10 C.F.R. §2.749(a), the NRC Staff ("Staff") herewith responds to the "Applicant's Motion for Partial Summary Disposition of Utah Contention H (Inadequate Thermal Design)" ("Motion"), filed on May 19, 1999 by Private Fuel Storage L.L.C. ("Applicant" or "PFS"). For the reasons set forth below and in the attached Affidavit of Jack Guttmann ("Guttmann Aff."), the Staff submits that each of the issues raised by subparts 3, 4 and 5 of Utah Contention H and their supporting basis statements have been resolved, insofar as they involve the HI STORM 100 cask system, and there no longer exists a genuine dispute of material fact with respect to these subparts of the contention for the HI STORM 100 cask system.¹ Inasmuch as these issues have been resolved, the Applicant is entitled to a decision in its favor on these subparts of Utah Contention H, insofar as it involves the HI STORM 100 cask system, as a matter

¹ As discussed *infra* at 8 and in the attached Affidavit, the Staff expresses no opinion herein as to the TranStor cask system.

of law. The Staff therefore supports the Applicant's Motion and recommends that it be granted, in part, as it relates to the HI STORM cask system.

BACKGROUND

Utah Contention H (Inadequate Thermal Design) was filed by the State of Utah on November 23, 1997.² As admitted by the Licensing Board,³ the contention states as follows:

Utah H -- Inadequate Thermal Design⁴

CONTENTION: The design of the proposed ISFSI is inadequate to protect against overheating of storage casks and of the concrete cylinders in which they are to be stored in that:

1. Storage casks used in the License Application are not analyzed for the PFS maximum site design ambient temperature of 110°F.
2. The maximum average daily ambient temperatures for unnamed cities in Utah nearest the site do not necessarily correspond to the conditions in Skull Valley; PFS should provide information on actual temperatures at the Skull Valley site.
3. PFS's projection that average daily temperatures will not exceed 100°F fails to take into account the heat stored and radiated by the concrete pad and storage cylinders.

² "State of Utah's Contentions on the Construction and Operating License Application by Private Fuel Storage, LLC for an Independent Spent Fuel Storage Facility" ("Utah Contentions"), dated November 23, 1997, at 52-59.

³ *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7 (1998), 47 NRC 142, 188-89, 253 (1998).

⁴ By Order of May 18, 1998, the Licensing Board clarified that Paragraphs 3 through 7 of this contention are limited to site-specific issues -- *i.e.*, whether the PFS site conditions fall within the envelope of the cask vendors' designs, "with the understanding that the site conditions at issue may include conditions resulting from the effects of the site specific cask interactions specified in the contention."

4. In projecting ambient temperatures, PFS fails to take into consideration the heat generated by the casks themselves.
5. PFS fails to account for the impact of heating the concrete pad on the effectiveness of convection cooling.
6. PFS has not demonstrated that the concrete structure of the TranStor cask is designed to withstand the temperatures at the proposed ISFSI.
7. PFS has not demonstrated that the concrete structure of the HI-STORM cask is designed to withstand the temperatures at the proposed ISFSI.

In its motion for partial summary disposition of Utah Contention H, PFS asserts that the bases for subparts 3, 4 and 5 of the contention have been eliminated and that these subparts of the contention are therefore no longer valid. In support of this assertion, PFS states that Holtec International has revised the thermal calculation for its HI-STORM 100 storage cask system, that the revised thermal calculation takes into consideration the specific factors raised by the State of Utah in these portions of the contention, and that the calculated temperatures for spent fuel cladding in the HI-STORM 100 storage cask system is greater than and bounds thermal conditions for the TranStor cask system (all other conditions being equal). See Motion at 5-7 and n.11; Lewis Affidavit at 5; Rampall Affidavit at 2-6. Accordingly, PFS concludes that summary disposition of subparts 3, 4 and 5 of Utah Contention H should be entered in its favor.

DISCUSSION

A. Legal Standards Governing Motions for Summary Disposition.

Pursuant to 10 C.F.R. §2.749(a), "[a]ny party to a proceeding may move, with or without supporting affidavits, for a decision by the presiding officer in that party's favor as to all or any part of the matters involved in the proceeding. The moving party shall annex to the motion a

separate, short, and concise statement of the material facts as to which the moving party contends that there is no genuine issue to be heard." In accordance with 10 C.F.R. §2.749(b), when a properly supported motion for summary disposition is made, "a party opposing the motion may not rest upon the mere allegations or denials of his answer; his answer by affidavits or as otherwise provided in this section must set forth specific facts showing that there is a genuine issue of fact."⁵ In addition, an opposing party must annex to its answer a short and concise statement of material facts as to which it contends there exists a genuine issue to be heard. 10 C.F.R. § 2.749(a). All material facts set forth in the moving party's statement will be deemed to be admitted unless controverted in the opposing party's statement. *Id.* Pursuant to 10 C.F.R. § 2.749(d), "[t]he presiding officer shall render the decision sought if the filings in the proceeding, depositions, answers to interrogatories, and admissions on file, together with the statements of the parties and the affidavit, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law."⁶

⁵ *Accord, Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units I and 2), ALAB-841, 24 NRC 64, 93 (1986). General denials and bare assertions are not sufficient to preclude summary disposition when the proponent of the motion has met its burden. *Advanced Medical Systems, Inc.* (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102 (1993). Although the opposing party does not need to demonstrate that it will succeed on the issues, it must at least demonstrate that a genuine issue of fact exists to be tried. *Id.*; *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-92-8, 35 NRC 145, 154 (1992) (to avoid summary disposition, the opposing party had to present contrary evidence that was so significantly probative as to create a material issue of fact).

⁶ Pursuant to 10 C.F.R. § 2.749(c), if a party opposing the motion demonstrates in its affidavits that valid reasons exist why it cannot provide facts essential to oppose the motion, the presiding officer may deny the motion, order a continuance to permit affidavits to be obtained, or take such other action as may be appropriate.

The Commission has encouraged the parties in its adjudicatory proceedings to utilize its summary disposition procedures "on issues where there is no genuine issue of material fact so that evidentiary hearing time is not unnecessarily devoted to such issues." Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452, 457 (1981).⁷ Further, the Appeal Board has recognized that summary disposition provides "an efficacious means of avoiding unnecessary and possibly time-consuming hearings on demonstrably insubstantial issues." *Wisconsin Electric Power Co.* (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16 NRC 1245, 1263 (1982); *Houston Lighting and Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 550 (1980).⁸

The Commission's summary disposition procedures have been analogized to Rule 56 of the Federal Rules of Civil Procedure. *See, e.g., Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753-54 (1977). Indeed, the Commission, when considering motions for summary disposition filed pursuant to 10 C.F.R. § 2.749, generally applies the same standards that the Federal courts use in determining motions for summary judgment under Rule 56 of the Federal Rules. *Advanced Medical Systems*, 38 NRC

⁷ The Commission recently endorsed its earlier policy statement, but indicated that "Boards should forego the use of motions for summary disposition except upon a written finding that such a motion will likely substantially reduce the number of issues to be decided, or otherwise expedite the proceeding." *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 20-21 (1998). The Staff submits that partial summary disposition of Utah Contention H will reduce the multiplicity of issues that require hearings in this proceeding, and will otherwise serve to expedite the proceeding.

⁸ It is well settled that an agency may ordinarily dispense with an evidentiary hearing where no genuine issue of material fact exists. *Veg-Mix, Inc. v. U.S. Dep't of Agriculture*, 832 F.2d 601, 607-08 (D.C. Cir. 1987).

at 102 (1993). Decisions arising under Rule 56 of the Federal Rules may thus serve as guidelines to the Commission's adjudicatory boards in applying 10 C.F.R. §2.749. *Perry*, 6 NRC at 754.

Under Rule 56 of the Federal Rules, the party seeking summary judgment has the burden of proving the absence of genuine issues of material fact. *Adickes v. S. H. Kress & Co.*, 398 U.S. 144, 157 (1970); *Advanced Medical Systems*, 38 NRC at 102. In addition, the record is viewed in the light most favorable to the party opposing the motion. *Poller v. CBS, Inc.*, 368 U.S. 464, 473 (1962); *Kerr-McGee Chemical Corp. (West Chicago Rare Earths Facility)*, ALAB-944, 33 NRC 81, 144 (1991). However, if the moving party makes a proper showing for summary disposition and the opposing party fails to show that there is a genuine issue of material fact, the District Court (or Licensing Board) may summarily dispose of all of the matters before it on the basis of the filings in the proceeding, the statements of the parties, and affidavits. Rule 56(e), Fed. R. Civ. P. *Accord, Advanced Medical Systems*, 38 NRC at 102; 10 C.F.R. § 2.749(d).

The Licensing Board in this proceeding has recently had occasion to rule upon a motion for summary disposition filed by PFS. See "Memorandum and Order (Granting Motion for Summary Disposition Regarding Contention Utah C), LBP-99-23, 49 NRC ___ (June 17, 1999). Therein, the Licensing Board succinctly summarized the standards governing the granting of summary disposition, as follows:

Under 10 C.F.R. § 2.749(a), (d), summary disposition may be entered with respect to any matter (or all of the matters) in a proceeding if the motion, along with any appropriate supporting material, shows that there is "no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law." The movant bears the initial burden of making the requisite showing that there is no genuine issue as to any material fact, which it attempts to do by means of a required statement of material facts not at issue and any supporting materials (including

affidavits, discovery responses, and documents) that accompany its dispositive motion. An opposing party must counter each adequately supported material fact with its own statement of material facts in dispute and supporting materials, or the movant's facts will be deemed admitted. See Advanced Medical Systems, Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102-03 (1993).

LBP-99-23, slip op. at 10.

As more fully set forth below, the Staff submits that summary disposition is appropriate in accordance with these established standards, with respect to subparts 3, 4 and 5 of Contention Utah H, insofar as they involve the HI STORM 100 cask system.

B. Adequacy of the Applicant's Cask Thermal Design.

1. Applicable Regulatory Standards.

As filed by the State of Utah, Contention H asserts that the Applicant fails to comply with 10 C.F.R. §§ 72.122(b) and 72.128(a) (*see* Utah Contentions at 52). Pursuant to 10 C.F.R. §72.122(b), an applicant for an independent spent fuel storage installation (ISFSI) must demonstrate that "structures, systems, and components important to safety must be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI . . . and to withstand postulated accidents." Also, as set forth in 10 C.F.R. §72.128(a), an ISFSI applicant's spent fuel storage systems "must be designed to ensure adequate safety under normal and accident conditions"; and the design must include, *inter alia*, "suitable shielding for radioactive protection under normal and accident conditions" and a "heat-removal capability having testability and reliability consistent with its importance to safety."

2. The Applicant's Thermal Analysis.

As set forth in the attached Affidavit of Jack Guttman, the Staff has reviewed the revised thermal-hydraulic analysis for the HI-STORM 100 storage cask system, which PFS submitted on February 10, 1999 in response to the Staff's Requests for Additional Information (RAIs). On the basis of this review, the Staff has determined that the HI-STORM 100 thermal-hydraulic analysis satisfactorily addresses each of the concerns raised by subparts 3, 4 and 5 of Utah Contention H, for that cask system. Further, the Staff has determined that the Statement of Material Facts submitted in support of the Applicant's Motion is correct, except with respect to the third and fourth sentences of Material Fact No.4, as to which the Staff expresses no opinion at this time (Guttman Aff. at 2).⁹

For these reasons, as more fully set forth in the attached affidavit, the Staff submits that there does not exist any genuine issue of material fact with respect to subparts 3, 4 and 5 of Utah Contention H insofar as it concerns the HI STORM 100 cask system, and the Applicant is entitled to a decision in its favor on this aspect of the contention as a matter of law.¹⁰

⁹ In the third and fourth sentences of Material Fact No. 4, PFS states as follows:

A fully loaded HI STORM 100 cask will experience higher temperatures, all other conditions being equal, than a fully loaded TranStor cask. Therefore, the revised thermal calculation for the HI STORM 100 cask is bounding.

¹⁰ The Staff is continuing to evaluate the design of the TranStor cask system and whether the statements made in the third and fourth sentences of Material Fact No. 4 are correct. In the event that the Staff is able to state a position with respect to the cited portions of Material Fact No. 4 during the next week, and to state its position on the Applicant's assertion that the HI STORM thermal analysis is bounding, the Staff will seek leave to file a supplemental affidavit setting forth that position.

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Sherwin E. Turk
Counsel for NRC Staff

CONCLUSION

For the reasons set forth above, as more fully set forth in the attached Affidavit of Jack Guttman, the Staff submits that the Applicant is entitled to a decision in its favor as a matter of law, on subparts 3, 4 and 5 of Contention Utah H, insofar as they relate to the HI STORM 100 cask system.

Respectfully submitted,



Sherwin E. Turk
Counsel for NRC Staff

Dated at Rockville, Maryland
this 25th day of June 1999

June 25, 1999

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

PRIVATE FUEL STORAGE, L.L.C.)

(Independent Spent Fuel
Storage Installation))

* Docket No. 72-22-ISFSI

AFFIDAVIT OF JACK GUTTMANN
CONCERNING CONTENTION UTAH H
(INADEQUATE THERMAL DESIGN)

I, Jack Guttman, having first been duly sworn, do hereby state as follows:

1. My name is Jack Guttman. I am employed as a Senior Nuclear Engineer in the Spent Fuel Project Office (SFPO), Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission (NRC), in Washington, D.C. A statement of my professional qualifications is attached hereto.

2. This Affidavit is prepared in response to the "Applicant's Motion for Partial Summary Disposition of Utah Contention H - Inadequate Thermal Design" (Motion), filed on May 19, 1999, by Private Fuel Storage L.L.C. (Applicant or PFS), and the "Statement of Material Facts on Which No Genuine Dispute Exists" (Statement of Material Facts) attached thereto.

3. As part of my official responsibilities, I reviewed the adequacy of the thermal-hydraulic analysis for the Holtec International HI STORM-100 cask system, as described in the HI-STORM 100 Safety Analysis Report, and am involved in preparing the related section of the NRC Staff's Safety Evaluation Report (SER) for the HI-STORM 100 cask system. In addition,

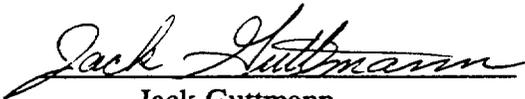
I have reviewed Holtec's thermal-hydraulic analysis for 125° F ambient temperature conditions, submitted by PFS in its February 10, 1999 response to the NRC Staff's Requests for Additional Information (specifically, RAI 4-2). I have also read and am familiar with the PFS Safety Analysis Report, as revised on May 19, 1999.

4. Also as part of my official responsibilities, I have reviewed the Applicant's Motion and the attachments thereto, in which PFS seeks summary disposition of subparts 3, 4 and 5 of Utah Contention H. On the basis of my review of the Holtec thermal-hydraulic analysis, and the Applicant's SAR and its responses to the Staff's RAIs, I am satisfied that the Statement of Material Facts attached to the Applicant's Motion is correct, except for the third and fourth sentences of Material Fact. No. 4, in which PFS states as follows:

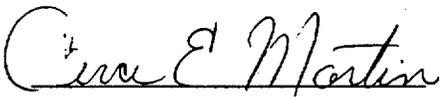
A fully loaded HI STORM 100 cask will experience higher temperatures, all other conditions being equal, than a fully loaded TranStor cask. Therefore, the revised thermal calculation for the HI STORM 100 cask is bounding.

With respect to the cited portions of Material Fact No. 4, no opinion is expressed herein.

5. I hereby certify that the foregoing is true and correct to the best of my knowledge, information and belief.


Jack Guttmann

Subscribed and sworn to before me
this 25th day of June, 1999.


Notary Public

My commission expires: March 1, 2003



Jack Guttman
Senior Nuclear Engineer
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards (NMSS)
U. S. Nuclear Regulatory Commission

B.S. in Mechanical Engineering, Michigan Technological University, 1973
M.S. Nuclear Engineering, University of Michigan, 1974

Mr. Guttman has experience in nuclear engineering related to thermal-hydraulic and mechanical engineering analysis. Mr. Guttman worked at the Idaho National Engineering Laboratory as a contractor to the NRC in the area of thermal-hydraulic computer code validation and analysis. He performed analyses that quantified the conservatism between the accident analysis requirements for licensing nuclear power plants (10 C.F.R. Part 50, Appendix K), validated the computer code RELAP for regulatory application by the NRC, and performed independent confirmatory transient and accident analyses of operating reactor events and safety issues defined by the NRC.

While working at the NRC, Mr. Guttman was responsible for reviewing and approving the computer codes used by the nuclear industry for transient and accident analysis. He was the Office of Nuclear Reactor Regulation (NRR) representative on the Advanced Code Review Committee, the Loss of Fluid Test Facility, and the Semiscale Test Facility. Mr. Guttman performed independent analyses of plant operating events, including regulatory responses to the TMI event. He was a member of the BWR Bulletins and Orders Task Force that reviewed the ramifications of the TMI-2 events for boiling water reactors. He reviewed and approved emergency operator procedures for PWR designs and performed quality assurance inspections. Mr. Guttman developed standard review plans for analyzing reactor transient and accident events, developed regulatory guidance and NUREG documents for implementing Risk-Informed In-Service Testing of Piping, and was on the task force for developing Risk-Informed regulatory guidance documents.

With respect to policy development, Mr. Guttman served as a technical assistant to Commissioner Forrest J. Remick. He advised Commissioner Remick on policy development of advanced nuclear power plants, operating reactor issues, research needs, and represented the Commission as an observer on INPO inspections.

Mr. Guttman is currently performing thermal and containment evaluations of spent nuclear fuel transportation and storage casks. His work includes the evaluation of normal, off-normal and accident dose analyses, and the adequacy of the thermal design of spent nuclear fuel casks.

PROFESSIONAL CHRONOLOGY: Jr. Engineer, Detroit Edison Co., Enrico Fermi Atomic Power Plant-I, 1972-73; Research Engineer, Idaho National Engineering Laboratory, 1975-1976; Nuclear Engineer, Office of Nuclear Reactor Regulation, NRC, 1976-1985; Technical Coordinator, Office of the Secretary, NRC, 1985-1990; Technical Assistant, Office of the Commission, NRC, 1990-1994; Sr. Reliability and Risk Assessment Engineer, Office of Nuclear Regulatory Research, NRC, 1994-1999; Sr. Nuclear Engineer, Office of Nuclear Material Safety and Safeguards, NRC, 1999-present.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
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PRIVATE FUEL STORAGE L.L.C.) Docket No. 72-22-ISFSI
)
(Independent Spent)
Fuel Storage Installation))

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO APPLICANT'S MOTION FOR PARTIAL SUMMARY DISPOSITION OF UTAH CONTENTION H (INADEQUATE THERMAL DESIGN)" in the above captioned proceeding have been served on the following through deposit in the Nuclear Regulatory Commission's internal mail system, or by deposit in the United States mail, first class, as indicated by an asterisk, with copies by electronic mail as indicated, this 25th day of June, 1999:

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