

April 15, 2002

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

Before the Atomic Safety and Licensing Board

April 22, 2002 (1:16PM)

In the Matter of)
)
PRIVATE FUEL STORAGE, L.L.C.)
)
(Private Fuel Storage Facility))

Docket No. 72-22-ISFSI

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

**APPLICANT'S MOTION TO STRIKE PORTIONS OF THE TESTIMONY OF
DR. MARVIN RESNIKOFF ON UNIFIED CONTENTION UTAH L/QQ**

Pursuant to the Order (General Schedule Revisions) of the Atomic Safety and Licensing Board ("Board") dated September 20, 2001 and 10 C.F.R. § 2.743(c), Applicant Private Fuel Storage, L.L.C. ("Applicant" or "PFS") files this motion to strike portions of the pre-filed direct testimony of Dr. Marvin Resnikoff¹ on Unified Consolidated Contention Utah L/QQ ("Contention Utah L/QQ"). The portions of the proffered Resnikoff Testimony subject to the motion relate to his allegation that PFS has calculated inappropriately the radiological dose rate at the site boundary for *normal operating conditions*, a subject obviously outside the scope of the seismic issues that are the subject of Contention Utah L/QQ.

I. BACKGROUND

The history of the admission of Contention Utah L/QQ into this proceeding is complex, and is summarized in another motion concurrently being filed by PFS.² Dr. Resnikoff's testimony relates to one of the asserted bases for former Part B of Contention Utah L, now

¹ State of Utah Testimony of Dr. Marvin Resnikoff Regarding Unified Contention Utah L/QQ (Seismic Exemption - Dose Exposure) ("Resnikoff Testimony") (April 1, 2002).

Section E of Utah Contention L/QQ.³ Specifically, the portion of Section E addressed in the Resnikoff Testimony is Basis 2, which asserts: "PFS has failed to show that its facility design will provide adequate protection against exceeding the section 72.104(a) dose limits."⁴ Basis

Footnote continued from previous page

² See Applicant's Motion to Strike Portions of the Testimony of Dr. Farhang Ostadan on Unified Contention Utah L/QQ ("Ostadan Motion") (April 15, 2002).

³ Part B of Contention Utah L, now Section E of Contention Utah L/QQ, reads:

Relative to the PFS seismic analysis supporting its application and the PFS April 9, 1999 request for an exemption from the requirements of 10 C.F.R. § 72.102(f) to allow PFS to employ a probabilistic rather than a deterministic seismic hazards analysis, PFS should be required either to use a probabilistic methodology with a 10,000-year return period or comply with the existing deterministic analysis requirement of section 72.102(f), or, alternatively, use a return period significantly greater than 2,000 years, in that:

1. The requested exemption fails to conform to the SECY-98-126 (June 4, 1998) rulemaking plan scheme, i.e., only 1000-year and 10,000-year return periods are specified for design earthquakes for safety-important systems, structures, and components (SSCs) -- SSC Category 1 and SSC Category 2, respectively -- and any failure of an SSC that exceeds the radiological requirements of 10 C.F.R. § 72.104(a) must be designed for SSC Category 2, without any explanation regarding PFS SSC compliance with section 72.104(a).
2. PFS has failed to show that its facility design will provide adequate protection against exceeding the section 72.104(a) dose limits.
3. The staff's reliance on the reduced radiological hazard of stand-alone ISFSIs as compared to commercial power reactors as justification for granting the PFS exemption is based on incorrect factual and technical assumptions about the PFS facility's mean annual probability of exceeding a safe shutdown earthquake (SSE), and the relationship between the median and mean probabilities for exceeding an SSE for central and eastern United States commercial power reactors and the median and mean probabilities for exceeding an SSE for the PFS facility.
4. In supporting the grant of the exemption based on 2000-year return period, the staff relies upon the United States Department of Energy (DOE) standard, DOE-STD-1020-94, and specifically the category-3 facility SSC performance standard that has such a return period, notwithstanding the fact the staff categorically did not adopt the four-tiered DOE category scheme as part of the Part 72 rulemaking plan.
5. In supporting the grant of the exemption based on the 2000-year return period, the staff relies upon the 1998 exemption granted to DOE for the Idaho National Engineering and Environmental Laboratory (INEEL) ISFSI for the Three Mile Island, Unit 2 (TMI-2) facility fuel, which was discussed in SECY-98-071 (Apr. 8, 1998), even though that grant was based on circumstances not present with the PFS ISFSI, including (a) existing INEEL design standards for a higher risk facility at the ISFSI host site; and (b) the use of a peak design basis horizontal acceleration of 0.36 g that was higher than the 2000-year return period value of 0.30 g.
6. Because (a) design levels for new Utah building construction and highway bridges are more stringent; and (b) the PFS return period is based on the twenty-year initial licensing period rather than the proposed thirty- to forty-year operating period, the 2000-year return period for the PFS facility does not ensure an adequate level of conservatism.

⁴ See Appendix to the Ostadan Motion for the complete text of Contention Utah L/QQ.

2's reference to the dose limits in Section 72.104(a) stems from the State's assertion in Basis 1 that the exemption allowing the use of a 2,000 year mean return period design basis earthquake for the PFSF fails to comply with the Rulemaking Plan presented in SECY-98-126.⁵ See State of Utah's Request for Admission of Late-Filed Modification to Basis 2 of Contention Utah L, dated November 9, 2000 at 6 ("Request for Admission"). Under the proposed Rulemaking Plan in SECY-98-126 (which has since been changed), an applicant could use a design basis earthquake with a return period of 1,000 years for a safety-related structure, system or component ("SSC") if the applicant could demonstrate that an accident involving seismic failure of the SSC would result in radiation dose levels less than or equal to those specified in Section 72.104(a) – i.e., normal operations dose levels; otherwise, an earthquake with a return period of 10,000 years had to be used in the design of the SSC. SECY-98-126 at 5. This was clearly the context in which Basis 2 was raised, and admitted by the Board.⁶

Thus, the reference in the SECY and in the State's contention is to whether a seismic event would cause a radiological dose greater than that allowed by Section 72.104(a). The underlying methodology for computing normal operation doses is not a subject of dispute in this contention; nor can it be, since the contention deals with what doses would result from a seismic event, not for normal plant operations.

II. DISCUSSION

Under NRC regulations governing testimony at hearings, "[o]nly relevant, material, and

⁵ U.S. NRC SECY-98-126, from L. Joseph Callan (EDO) to the Commissioners, "Rulemaking Plan: Geological and Seismological Characteristics for Siting and Design of Dry Cask Independent Spent Fuel Storage Installations, 10 CFR Part 72," dated June 4, 1998.

reliable evidence which is not unduly repetitious will be admitted. Immaterial or irrelevant parts of an [otherwise] admissible document will be segregated and excluded so far as is practicable.” 10 C.F.R. § 2.743(c). As the Commission has recently stated: “Our own longstanding practice requires adjudicatory boards to adhere to the terms of admitted contentions” Louisiana Energy Services, L.P. (Clairborne Enrichment Center), CLI-98-3, 47 NRC 77, 105 (1998) (citing Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 & n.11 (1988), *petition for review denied sub nom. Commonwealth of Massachusetts v. NRC*, 924 F.2d 311, 332-33 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991)). *See also, e.g., Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Nuclear Power Station), ALAB-876, 26 NRC 277, 284 (1987). Accordingly, testimony that is outside a contention’s admitted scope has no place in an NRC proceeding.

The portion of the Resnikoff Testimony that is outside the scope of Contention L/QQ is contained in answers 8 and 10 through 12, as follows:⁷

A. 8: . . . b. There is an inconsistency between the occupancy time at the controlled area boundary used in the Holtec CoC and that used at the PFS site. The Holtec CoC used a duration time of 8,760 hours per year whereas at the PFS site only 2,000 hours per year was used to compute dose exposure at the fence post. *See ¶ 10 below.*

* * * *

Q. 10: Has PFS appropriately calculated the dose rate?

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⁶ See State of Utah’s Request for Admission of Late-Filed Modification to Basis 2 of Utah Contention L (January 26, 2000) at 8-9 (referenced in the State’s Request for Admission); Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-01-03, 53 NRC 84, 96 (2001).

⁷ The same claim is raised in paragraphs II and III of the Preface to the Resnikoff Testimony. To the extent that the State makes claims relating to normal radiation doses elsewhere, they should also be stricken.

A. 10: PFS calculated a 5.85 mrem/year dose for a 2,000 hour/year occupancy time at the controlled area boundary under normal operating conditions. The Holtec dose calculation at the PFS controlled area boundary is inconsistent and less conservative than other Holtec dose calculations which likely used an occupancy rate of 2,080 hour/year. PFS has significantly underestimated the dose rate. To assure that the public is protected, PFS must calculate a radiation dose assuming a hypothetical individual is located at the site boundary the entire year or 8,760 hours/year because PFS cannot control who is at the site boundary or for what length of time. Although PFS does not control property beyond the site boundary, it calculated a dose rate at a distance of 2 miles from the site boundary. In the CoC for the HI-STORM 100 System, NRC Staff agreed with my position in response to comment B.18, stating: "The NRC agrees that 8,760 hours/year should be used [for estimating the dose at the site boundary]." See 65 Fed. Reg. 25241, 25245 (2000). Thus, using an 8,760 hour/year assumption is consistent with the NRC Staff position in approving the HI-STORM 100 CoC.

Q.11: What is a more appropriate calculation of the dose rate?

A. 11: I calculated the correct annual dose rate assuming a hypothetical individual remained at the site boundary for 8,760 hours. The dose rate is $5.85 \text{ mrem/year} \times 8,760 \text{ hours/year} \div 2,000 \text{ hours/year} = 25.6 \text{ mrem/year}$, which is in excess of the allowable 25 mrem/year specified in 10 CFR § 72.104(a). This is the dose rate under normal operating conditions, absent a seismic event.

Q.12: How does your calculation of the dose rates differ from PFS's calculation?

A. 12: In addition to PFS's selection of 2,000 hour per year exposure duration being at odds with the Holtec CoC, it is also unjustified. The PFS facility is expected to have an operational life of at least 40 years. PFS SER (2002), Table 4-3, p.4-8. The site is located on the northwestern edge of the Skull Valley reservation abutting privately owned property. In my opinion it is nonconservative and unrealistic to analyze dose exposure for 40 hours per week for 50 weeks a year (*i.e.*, 2,000 hours per year). There should be an expectation that residential housing will abut the PFS site boundary. Moreover, by definition an "uncontrolled" area is an area not controlled by PFS.

(footnotes omitted).

Whatever the purpose and arguable merit of Dr. Resnikoff's assertions, it is clear that Contention Utah L/QQ does not deal with "normal operating conditions" but with a seismic

event, and any radiation doses that are estimated should be those that would occur following such an event, not during the course of normal operations.⁸ Therefore, Dr. Resnikoff's proffered testimony relating to normal operating doses is on its face irrelevant and should be stricken.⁹

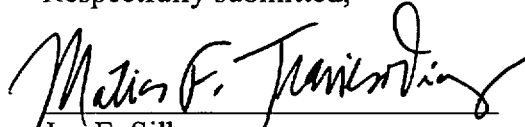
⁸ PFS disagrees with the assumption in Basis 2 of Section E of Contention Utah L/QQ that the applicable dose limits in a seismic event are those in 10 CFR § 72.104(a) (which are those for "normal operations and anticipated occurrences." PFS believes that the dose limits that apply to a seismic event are those in 10 CFR § 72.106(b) for "design basis accidents." See Applicant's Testimony of Krishna P. Singh, Alan I. Soler, and Everett L. Redmond II on Radiological Dose Consequence Aspects of Basis 2 of Section E of Unified Contention Utah L/QQ, Q/A 13 through 16 (April 1, 2002). The deficiency in the portion of the Resnikoff Testimony subject to the instant motion, however, is that it deals with *how* the doses for normal operations should be computed, not *whether* the dose limits for normal operations should apply for computing the dose consequences from a seismically failed SSC under earthquake accident conditions, as claimed by the State.

⁹ The State has previously challenged PFS's calculation of the normal operation doses in proposed Contention FF. See State of Utah's Request for Consideration of Late-Filed Contentions EE and FF, dated December 23, 1997. (Contention FF was subsequently withdrawn by the State; see Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 209 (1998)). In Proposed Contention FF, the State challenged the adequacy of the normal operation dose calculations, including an alleged inconsistency in the modeling of the doses, the alleged use of extrapolation in the calculations, the alleged failure to take into account the entire cask array, and the alleged failure to show all potentially relevant contributors to skyshine doses. The State, however, did not challenge the appropriateness of using a 2,000 hour exposure period for measuring boundary dose levels under 72 CFR 104. Thus, if the State had wanted to challenge the use of the 2,000 hour exposure period, it should have done so when it originally challenged the normal dose calculations, and should have proceeded with the litigation of Proposed Contention FF on that basis. It did neither, and thus cannot challenge for the first time *at the hearing* the correctness of the normal dose calculations.

III. CONCLUSION

For the foregoing reasons, Applicant respectfully requests that the Board strike the cited portions of the testimony of Dr. Marvin Resnikoff as outside the scope of Contention Utah L/QQ.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Matias F. Travieso-Diaz", written over a horizontal line.

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April 15, 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 Motion To Strike Portions Of The Testimony Of Dr. Marvin Resnikoff On Unified Contention Utah L/QQ" 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 15th day of April, 2002.

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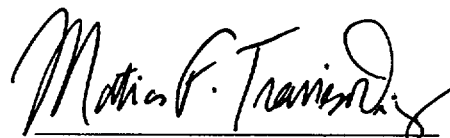
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