

July 7, 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  
(Private Fuel Storage Facility) )

**APPLICANT'S RESPONSE TO STATE OF UTAH'S REQUEST FOR  
ADMISSION OF LATE-FILED AMENDED UTAH CONTENTION C**

**I. INTRODUCTION**

Applicant Private Fuel Storage L.L.C. ("Applicant" or "PFS") hereby responds to the "State of Utah's Request for Admission of Late-Filed Amended Utah Contention C," filed June 23, 1999. ("State Request") The State Request should be denied, first, for failing to meet the requirements for late filed contentions, and second, for failing to meet the Commission's contentions requirements set forth in 10 C.F.R. § 2.714.

**II. BACKGROUND**

Based on then existing Staff guidance, PFS's June 1997 License Application analyzed radiation dose consequences for compliance with 10 C.F.R. § 72.106(b) assuming a postulated loss of confinement accident involving a hypothetical, non-mechanistic breach of a spent fuel storage canister. See Safety Analysis Report ("SAR") at 8.2.7 (rev. 0). Based on the License Application, the State filed a contention (Contention C) challenging aspects of the dose analysis. On December 10, 1998, the NRC Staff sent PFS Requests for Additional Information ("RAIs") that, among other things, asked PFS to revise the SAR's radiation dose calculation using the NRC's new

Interim Staff Guidance-5 ("ISG-5"). PFS's February 10, 1999 response to RAI 7-1 included the revised dose analysis for a postulated canister leak accident applying ISG-5. PFS forwarded a copy of its RAI responses to Utah via overnight mail on February 11, 1999.<sup>1</sup>

On April 21, 1999, PFS moved for summary disposition of Contention C based on the dose calculation in the RAI 7-1 response, which rendered moot the issues raised in the contention. In its May 7, 1999 response to the State's motion to compel discovery, PFS expressly stated that it would be amending its application to formally incorporate the RAI responses into the License Application.<sup>2</sup> Utah's May 11, 1999 opposition to Applicant's Motion argued, among other things, that Contention C was not moot because PFS had not amended its application and that the RAI response was "mere correspondence".<sup>3</sup> On May 19, 1999, Applicant submitted License Application Amendment #3 ("Amendment") which revised SAR chapter 8 to incorporate the revised dose analysis. By Memorandum and Order, LBP-99-23 (June 17, 1999), the Board granted Applicant's motion for summary disposition.

On June 23, 1999, the State filed its Request, basing its amended contention upon the revised dose calculation set forth in the Amendment.

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<sup>1</sup> A copy of the calculations and other backup to PFS's responses, including the calculations for PFS's response to RAI 7-1, were sent to Utah for next business day delivery on February 13, 1999.

<sup>2</sup> Applicant's Response to State of Utah's Proprietary and Non-Proprietary Motions to Compel Applicant to Respond to State's First Set of Discovery Requests (May 7, 1999) at p. 6, n.12.

<sup>3</sup> State of Utah's Opposition To Applicant's Motion For Summary Disposition Of Contention C ("State Motion") (May 11, 1999) at pp. 7-11.

### III. ARGUMENT

#### A. The State's Request to File Amended Utah C is Unjustifiably Late

The State must demonstrate that a balancing of the five factors set forth in 10 C.F.R. § 2.714(a)(1)(i)-(v) supports admission of its late-filed contention. Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 167, 207-09 (1998). Since the State has failed to do so, its request for the admission of amended Contention C must be denied.

##### 1. The State Lacks Good Cause

The first and most important factor is good cause for lateness. 10 C.F.R. § 2.714(a)(1)(i). The State lacks good cause because it had the basis for its late-filed contention, the revised dose calculation, for more than four months before it submitted its Request. This period of time is far beyond the 45 days which the Board has observed "approach[es] the outer boundary of 'good cause.'" Private Fuel Storage L.L.C. (Independent Spent Fuel Storage Installation), LBP-99-3, 49 NRC 40, 47 (1999)

The State's sole justification for its untimely filing is that its receipt of the RAI response in February was irrelevant and that only an amendment of the license application can be the triggering event for amending contentions. That position is clearly wrong. As the Commission has recently observed, "[u]nder our practice, a petitioner has an 'ironclad obligation' to examine the application, and other available documents, with sufficient care to uncover any information which could serve as the foundation for a

contention.”<sup>4</sup> This obligation applies to “publicly available documentary material pertaining to the facility in question. . . .”<sup>5</sup> Moreover, the Commission specifically has recognized that RAI responses may form the basis for contentions:

If a petitioner concludes that a staff RAI or an applicant RAI response raises a legitimate question about the adequacy of the application, the petitioner is free to posit that issue as a new or amended contention, subject to complying with the late-filing standards of section 2.714(a).<sup>6</sup>

Consistent with these principles, the submission of RAI responses, whether or not formally incorporated into a license application, trigger an obligation to file timely contentions relating to issues raised therein.

The State fails to distinguish this precedent. The State first argues that a contention must controvert a specific provision of the License Application, which it argues could not have been done until the Application was formally amended to incorporate the revised dose calculation. State Request at 15. This argument, however, elevates form over substance. That the revised dose calculation effectively replaced the calculation in the License Application is clear from the face of the RAI and RAI response. The RAI requested PFS to “[r]evise the [accident dose] calculation” per the new Staff guidance “to show compliance with the accident dose limits in 10 CFR 72.106(b).” PFS’s response stated equally clearly that “[t]he calculation . . . has been

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<sup>4</sup> Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 338 (1999).

<sup>5</sup> Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1045 (1983).

<sup>6</sup> Baltimore Gas & Electric Co., CLI-98-25, 48 NRC 325, quoting Baltimore Gas & Electric Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2) LBP-98-26, 48 NRC 232, 243 (1998). The Commission has

Footnote continued on next page

revised in accordance with ISG-5 to show compliance with the accident dose limits in 10 CFR 72.106(b).” Response to RAI 7-1 at 1 (emphases added). Thus, as the Staff observed by its May 11, 1999 response to Applicant’s summary disposition motion, the amendment of the license was “both expected and predictable.”

The State argues that PFS’s RAI response “constitutes merely an ‘ongoing [] dialogue’” with the NRC Staff and represents nothing more than “mere correspondence.” State Request at 15, 18. The Commission’s decision in Oconee, CLI-99-11, supra, the sole authority cited by the State for this proposition, neither holds nor suggests that RAI responses may be dismissed as “mere correspondence.” The Commission’s regulations explicitly authorize the Staff to require an applicant to provide additional information for its review of an application. 10 C.F.R. § 2.102(a). The NRC may deny an application if the applicant fails to respond to an RAI. 10 C.F.R. § 2.108(a). An applicant must ensure, subject to sanctions, that any information it provides to the Commission is “complete and accurate in all material respects”.<sup>7</sup> Thus Applicant’s RAI responses cannot be cavalierly dismissed as “mere correspondence.” The State’s arguments that it “had no reason to believe that PFS intended to amend the application when it filed the RAI response” (State Request at 16-17) is simply not credible. This is particularly true given that the State has

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also recognized that issues forming the basis for contentions may “emerge” from RAIs. CLI-99-11, 49 NRC at 338.

<sup>7</sup> 10 C.F.R. § 72.11(a). Violation of this obligation “can result in the full range of enforcement sanctions.” Enforcement Policy (NUREG-1600, “General Statement of Policy and Procedure for NRC Enforcement Actions”) 63 Fed. Reg. 26,630, 26,646 (May 13, 1998).

acknowledged that PFS has routinely updated its licensing application to formally incorporate RAI responses.<sup>8</sup>

Thus, the time clock for Utah's obligation to amend its contention based on the revised dose calculations in the RAI response began to run in mid-February when it received the RAI responses and the calculations, and not in May when it received the Amendment. Utah's suggestion that it can sit on information for months would make a mockery of the Commission's timeliness requirements. The State's arguments are simply post hoc rationalizations for its failure to timely file.

The State has shown no good cause for its four month delay in filing an amended contention.<sup>9</sup> Where good cause is lacking, a compelling showing must be made with respect to the other four factors, which, as discussed below, the State has not done here.

## 2. The State Fails to Make a Compelling Showing on the Other Factors

The second and fourth factors, which concern the protection of the petitioner's asserted interest by other means or parties, are to be accorded less weight than the third and fifth factors. LBP-98-7, 47 NRC at 208. For these two factors, the State simply alleges that its interests will not be protected without any clear identification of the

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<sup>8</sup> State Motion at 10.

<sup>9</sup> In addition to the lack of good cause for the contention as a whole, several of the amended contention's bases are even more untimely. For example, Basis 5(b), concerning the omission of chlorine-36 from the dose calculation, could have been filed as a contention in 1997 since the off-site dose calculations in the original License Application (like those in the RAI response) did not include chlorine-36. SAR § 8.2.7 (Rev. 0) (listing H-3, Kr-85, I-129, Cs-134, Cs-137, Sr-90, Ru-106, and Co-60, but not Cl-36). Similarly, the anti-tank missile, hanging bomb and jet engine aspects of Basis 2 could have been filed in 1997. Basis 1 was, in fact, raised in the original Contention C. See infra.

precise interest or the nature or the degree of the harm that would befall its interests.

Thus, to the extent these factors support its admission, they do so only slightly.

The third factor is whether the petitioner will make a strong contribution to the record. To satisfy this factor, a petitioner should, "with as much particularity as possible, identify its proposed witnesses, and summarize their proposed testimony." LBP-98-7, 47 NRC at 208 (citations omitted). See Private Fuel Storage, LLC, LBP-98-29, 48 NRC at \_\_\_, slip op. at 13. Here the State simply refers to Dr. Resnikoff with no attempt to summarize his proposed testimony. Accordingly, this factor weighs against granting the admission of late-filed amended Contention C.

The fifth factor concerns the extent to which the petitioner's participation will broaden or delay the proceeding. The State argues that admitting amended Contention C will not broaden or delay the proceeding beyond the scope initially envisioned in LBP-98-7. However, Contention C has been dismissed. Admission of amended Contention C would clearly broaden this proceeding by raising issues that are not now part of it.

In sum, the remaining four factors weighed together militate against granting the State's late-filed motion, and do not make the compelling showing required to overcome the State's lack of good cause.

**B. THE STATE'S AMENDED CONTENTION C IS INADMISSIBLE**

The contention should also be rejected because neither the contention nor its bases satisfy the Commission's contentions requirements. The State begins with three pages of

background information.<sup>10</sup> The State next makes the same plea for rulemaking on off-site emergency planning that it made in its original Contention C.<sup>11</sup> The State then identifies the six specific issues that form the basis for its new contention.

Basis 1 – The License Application is deficient because it is based on storage cask designs that have not been fully reviewed and approved by the NRC;

Basis 2 – The accident evaluated is not a design basis or bounding event for storage cask leakage because: the Applicant has not justified a departure from its previous or bounding design basis event; the leakage rate is based on testing of transportation casks; the conditions of storage are different from those for transportation; and the event may not encompass anti-tank missiles and jet engine or hanging bomb impacts;

Basis 3 – The 30-day assumed release duration is unreasonable;

Basis 4 – The assumption that a person is located at the boundary of the PFSF owner-controlled area less than 24-hours-a-day, 365-days-a-year is unreasonable;

Basis 5(a) – The assumption of mixing ground-deposited radionuclides in the top 1 cm of soil is unreasonable;

Basis 5(b) – Omission of Chlorine-36 from the calculation of thyroid dose is unreasonable.

State Request at 7-14. The State's amended contention should be rejected in its entirety because none of the six bases asserted by the State provides the support required for an admissible contention.

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<sup>10</sup> The State recounts the Commission's regulations and summarizes the history of the State's original Contention C and the Applicant's revised dose calculations. State Request at 4-6. This background information does not establish a genuine dispute with the Applicant, and therefore does not provide a basis for a new contention.

<sup>11</sup> Compare *id.* at 6-7 with State's Contentions at 17 (Nov. 23, 1997). The State asserts that 10 C.F.R. § 72.32(a), which does not require offsite emergency planning measures for ISFSIs such as the PFSF, should be revisited because the State asserts that the basis underlying the rulemaking has changed. This statement, on its face, is a challenge to the Commission's regulations and cannot serve as the basis for an admissible contention. 10 C.F.R. § 2.758.

1. Basis 1 – License Application is deficient because it is based on storage cask designs that have not been fully reviewed and approved by the NRC

The State admits that Basis 1 is the same as the basis rejected by the Board in the original Contention C. See State Request at 3, n.3. The Board should reject this Basis as it did in 1998 as an impermissible challenge to the Commission's regulations. LBP-98-7, 47 NRC at 186.<sup>12</sup>.

2. Basis 2 – Accident evaluated is not a design basis or bounding event for storage cask leakage because: the Applicant has not justified a departure from its previous or bounding design basis event; the leakage rate is based on testing of transportation casks; the conditions of storage are different from those for transportation; and the event may not encompass anti-tank missiles and jet engine or hanging bomb impacts

In Basis 2, the State contends that PFS has not demonstrated that the accident evaluated by PFS is a bounding event. The State has provided no basis or alternative credible event that would suggest that the evaluated accident is not bounding. Instead, the State attempts to escape its burden of establishing a general dispute of material fact by offering immaterial and unsupported arguments that focus on the leakage that might result from a hypothetical, non-credible accident.

First, the State claims that PFS must justify departing from its previous bounding design basis accident. No such requirement exists. The events evaluated need only meet

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<sup>12</sup> PFS incorporates by reference its prior response to this issue. Applicant's Answers to State's Contentions at 44-45 (Dec. 24, 1997) (basis should be rejected because: (1) the storage casks are the subject of separate Commission rulemaking proceedings; (2) the State provides no regulatory basis for its assertion that use of this data is *per se* deficient; and (3) the State's assertion has no factual basis because the State's general assertion in Basis 1 fails to identify any specific facts or data).

the regulatory definitions. 10 C.F.R. § 72.3 (“design bases). Because it “advocate[s] stricter requirements than those imposed by the regulations,” this argument must be rejected as “an impermissible collateral attack on the Commission’s rules.” Public Service Company of New Hampshire (Seabrook Station Units 1 and 2), LBP-82-106, 16 NRC 1649, 1656 (1982). The State suggests that a larger breach of a canister is credible because of the potential impact of a jet engine or a hanging bomb but has failed to show that such an accident is credible,<sup>13</sup> or even that such an accident would breach a welded steel canister contained within a thick concrete overpack. State Request at 9.

Next, the State takes issue with PFS’s use of a leakage rate partially based on a dose analysis for transportation casks, in accordance with ISG-5, but offers no reason for why this is material. The State claims that the assumed leakage rate is not conservative because the NRC has no empirical data for leakage rates from storage casks. The State fails to understand that storage casks are not required to be periodically leak-tested because (1) they are welded shut, unlike transportation casks, which are bolted, and (2) they are not reopened, unlike transportation casks, which may be. In addition, the State has offered no reason to suggest that the leakage rate would be greater for storage casks, much less that an increased leakage rate would result in radiation exposure above the regulatory limit. Thus, this justification for Basis 2 is immaterial and lacks factual support.

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<sup>13</sup> The credibility of such events is already the subject of the pending motion for summary disposition of Contention K.

The State also makes the obvious claim that conditions of storage are different than conditions of transportation. The State fails, however, to provide a sufficient factual basis that even suggests that the different conditions would cause an increased leakage rate, let alone one that would cause doses above the regulatory limit.

Also, the State seeks to impermissibly attack Commission regulations, which only require a dose analysis “from accidents and natural phenomena events.” 10 C.F.R. § 72.24(m). An attack by an anti-tank weapon is neither accidental nor natural, but is an act of sabotage. In addition, an attack by anti-tank weapons is beyond the scope of a design basis sabotage event. Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-653, 16 NRC 53, 75 (1981).

Basis 3 – Assumption of a release duration of 30-days is unreasonable

In Basis 3, the State alleges that the assumed 30-day release duration based on ISG-5 is unreasonable. Basis 3 states that the 30-day release duration in ISG-5 is based on the assumption that the “accident condition . . . would be detected . . . and corrective actions would be completed prior to the end of this 30-day period.” State Request at 11. Thus, the State alleges that “[I]n order to ensure the termination of all radioactive releases within 30 days, ‘corrective actions’ would have to include both the cessation of airborne releases and the clean-up of any gamma radiation deposited offsite.” Id. at 11. The State alleges that the 30-day offsite release is unreasonable for the PFSF because “no such offsite measures are included in PFS’s license application.” Id. At 11-12. Basis 3 must be rejected because it is based on a mistaken understanding of fact, it is a challenge to the

Commission's regulations, and it is not material to the granting or denial of the license application.

First, Basis 3 is supported, in part, by a mistaken understanding of the release event. The State mistakenly asserts that a 30-day duration for release of radionuclides would be mitigated by "the clean-up of any gamma radiation deposited offsite," which the State labels an "emergency response measure[]." Id. at 11. The ISG-5 release duration that Basis 3 addresses, however, refers to the release of radionuclides from the on-site storage cask, not to subsequent off-site exposure from the release. See ISG-5, Att. at 9-14 (Rev. 1, May 1999). The Applicant's analysis assumes at least a 2,000 hour duration, over the course of a year, for exposure to radionuclides "deposited offsite." See Response to RAI 7-1 at 3-4. Basis 3 confuses the duration for exposure to radionuclides "deposited offsite" (2000 hours over the course of a year) with the duration for release of radionuclides from the on-site storage cask (30 days). A mistaken understanding of the Applicant's documents cannot serve as the basis for an admissible contention. Georgia Power Co. (Vogtle Electric Generating Plant, Units 1 and 2), LBP-91-21, 33 NRC 419, 424 (1991).

Second, the State's allegation that the Applicant must establish off-site emergency response measures for the PFSF, State Request at 11-12, is directly contrary to the Commission's regulations. The Commission's regulations do not require off-site emergency response measures for ISFSIs. See 10 C.F.R. § 72.32. Therefore, Basis 3 alleging that the Applicant must take "emergency response measures...offsite" must be

rejected as an impermissible collateral attack on the Commission's regulations. See 10 C.F.R. § 2.758.

Third, Basis 3 must be rejected because it is not material to the outcome of the license proceeding. The State alleges that the 30-day duration for release is unreasonable because the Applicant has no measures for the "cessation of airborne releases" within 30-days. State Request at 11-12. No such requirement exists. In any event, the maximum off-site dose calculated for a 30-day release is less than 80 mrem. See Response to RAI 7-1 at 3-4; SAR at 8.2-41 to 42. Even if this maximum exposure were postulated to continue unabated for a year, total effective dose equivalent would still be a small fraction of the 5 rem regulatory limit. 10 C.F.R. § 72.106(b). Applicant has committed to retrieve and process site boundary radiation detectors every three months. See SAR at 3.3-7 (TLDs monitored on a periodic basis); Response to RAI 7-5 (May 19, 1998) (TLDs retrieved and processed quarterly); Response to RAI 8-1 (Feb. 10, 1999) (TLDs evaluated on a quarterly basis). Therefore, these postulated maximum exposures would be detected well before the regulatory limit was approached. The Commission requires that any issue of law or fact raised in a contention must be material to the granting or denial of the license application in question, i.e., they must make a difference in the outcome of the licensing proceeding. See 10 C.F.R. § 2.714(d)(2)(ii); 54 Fed. Reg. 33,168, 33172 (1989). Hence, even if Basis 3 were resolved in the State's favor, the Applicant's off-site dose analysis would still demonstrate compliance with 10 C.F.R. § 72.106. Thus, Basis 3

must be rejected by the Board as not material because it would not make a difference in the granting or denial of the license application.

Basis 4 – Assumption that a person is located at the boundary of the PFSF owner-controlled area less than 24-hours-a-day, 365-days-a-year is unreasonable

In Basis 4, the State alleges that PFS's "assum[ption] that a person at the boundary of the PFS facility is exposed for only 2,000 hours a year" is "unsupported and unreasonable" because "[t]here are 8,760 hours in a year."<sup>14</sup> The State asserts that "PFS must assume that people are present at the fence post . . . year-round" for "24 hours a day, or 8,760 hours/year." Id. at 12. The State fails to cite any regulatory support whatsoever for its assertion. This basis must be rejected for three reasons.

First, the State's assertion that PFS's off-site dose calculations must assume a hypothetical "fence-post person" at the PFSF site boundary for every hour of the entire year is contrary to the Commission's regulations. 10 C.F.R. § 72.106 requires analysis of the annual off-site dose for "[a]ny individual located on or beyond the nearest boundary of the controlled area." 10 C.F.R. § 72.106(b) (emphasis added). There is no requirement that the analysis assume a hypothetical individual at the site fence continuously throughout the year. The Commission has stated that 10 C.F.R. § 72.106 "incorporate[s] the part 20 methodology." 63 Fed. Reg. 54,559, 54,560 (1998). Part 20 states that "[a]

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<sup>14</sup> The State also asserts without support that "[i]t appears that PFS is assuming that the person near the fence is a worker" and charges that "PFS cannot dictate that only workers will be in the area." State Request at 12 (emphasis added). There is no such assumption that the individual located at the PFSF site boundary in the Applicant's dose calculations is a worker. See generally Response to RAI 7-1, SAR at 8.2-36 to 43. The State provides neither basis nor citation for its supposition.

licensee shall show compliance with [dose limits for individual members of the public] by – (1) [d]emonstrating by . . . calculation that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed operation does not exceed the annual dose limit.” 10 C.F.R. § 20.1302(b)(emphasis added). Thus, the Part 20 methodology only requires the Applicant to evaluate “the individual most likely to receive the highest dose.” The State’s assertion that the regulation requires an assumed continuous man-at-the-fence is contrary to the Commission’s regulations and therefore must be rejected as an impermissible collateral attack on the Commission’s regulations. 10 C.F.R. § 2.758.

Second, Basis 4 must be rejected for lack of factual basis. The State provides no facts regarding individuals residing or otherwise located on the Skull Valley Indian Reservation at the boundary of the PFSF owner controlled area. The State only asserts, without any citation or support, that “indigenous people, ranchers, farmers, and mothers with non-school age children, tend to stay on their land more than others.” State Request at 12. The location of the nearest resident is approximately 2 miles from from the Facility. SAR § 2.1.3 The State provides no facts whatsoever to support its assertion that “the individual most likely to receive the highest dose” is an (unnamed and unidentified) person located at the fence of the PFSF site boundary.

Third, Basis 4 must fail for lack of materiality. The State alleges in Basis 4 that the Applicant should have assumed continuous exposure or “8,760 hours/year” rather than “2,000 hours/year” in its annual dose calculations. The State fails to recognize that

the Applicant assumes continuous exposure during the 30 day canister leakage accident event and that the 2000 hour/year exposure is used only for calculating the exposure from environmental pathways, i.e., exposure resulting from deposition of radionuclides. The radiation from environmental pathways contributes only 2.7 mrem of the total maximum annual offsite dose of approximately 80 mrem. See Response to RAI 7-1 at 4; SAR at 8.2-41 to 42. Even if PFS were to base its environmental pathways dose calculations on 8,760 hours/year, the resultant annual dose would only increase by a factor of 4.38,<sup>15</sup> or 9.1 mrem. Hence, even if the State's Basis 4 were correct, the resultant total off-site dose would still be less than 90 mrem, which is still a very small fraction of the regulatory limit of 5 rem. 10 C.F.R. §72.106(b). Thus, Basis 4 must be rejected by the Board as immaterial because it would not make a difference in the outcome of the licensing proceeding.

Basis 5(a) – Assumption of mixing ground-deposited radionuclides in the top 1 cm of soil is unreasonable

Basis 5(a) argues that the Applicant's assumption that radionuclides deposited on the ground are "mixed within the top 1 cm of soil" is "[u]nreasonable." State Request at 12-13. The State claims that there is "no basis" for this assumption and "no logical reason to believe this will happen." Id. at 13. In its place, the State proposes that the Applicant "should have directly calculated a direct gamma dose from the surface density pCi/m<sup>2</sup>" using the "method for making this calculation . . . provided in EPA Federal

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<sup>15</sup> The ratio of 8,760 hrs/yr. (proposed by the State) to 2,000 hrs/yr. (used by PFS) is 4.38.

Guidance Report ("FGR") #12, which is referenced in ISG-5." Id. (footnote omitted). The State fails to provide any factual basis to indicate that using the State's preferred alternative methodology would in any way affect the Applicant's continued compliance with the Commission's regulations. Moreover, the State provides no regulatory basis to show that use of the State's preferred methodology is required. Indeed, the same EPA report relied on by the State as supporting no mixing of soil and radionuclides also provides data for the mixing methodology used by PFS. See FRG #12, Table III.4 (Dose Coefficients for Exposure to Soil Contaminated to a Depth of 1 cm). Thus, the State's Basis 5(a) should be rejected by the Board for insufficient factual basis for an admissible contention.

In addition, the State fails to demonstrate that the resolution of Basis 5(a) would be material to the outcome of the license proceeding. The maximum dose from the deposited radionuclides was calculated to be no more than 2.70 mrem. Response to RAI 7-1 at 4; SAR at 8.2-42. This is over three orders of magnitude less than the Commission's regulatory limit of 5 rem. 10 C.F.R. § 72.106. The EPA Federal Guidance Report #12, relied on by the State (State Request at 13), shows that the difference between concentrating the radionuclides on the surface as the State would require and mixing them within the top one centimeter, as done by PFS, only increases the dose from about 2.70 mrem to about 4.2 mrem.<sup>16</sup> The State completely fails to

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<sup>16</sup> Compare Table III.4 (Dose Coefficients for Exposure to Soil Contaminated to a Depth of 1 cm) to Table III.3 (Dose Coefficients for Exposure to Contaminated Ground Surface) in EPA Federal Guidance Report #12 (comparison based on Co-60, the primary contributor to external dose).

demonstrate how any resolution of Basis 5(a) in its favor would affect the Applicant's compliance with the regulations. The Board must reject Basis 5(a) because its resolution is not material to the granting or denial of the license application.

Basis 5(b) – Omission of Chlorine-36 from the calculation  
of thyroid dose is unreasonable

Basis 5(b) alleges that PFS erred in not including chlorine-36 in the evaluation of thyroid dose. State Request at 13-14. According to the State, "PFS considers the presence of iodine-129, but ignores chlorine-36, which will also be present in irradiated fuel and significantly contribute to the thyroid and whole body doses." Id. at 13 (emphasis added). The State asserts that "Cl-36 and iodine-129 are the most significant radionuclide contributors to a thyroid dose." Id. at 14. Basis 4 must be rejected for lack of factual basis and lack of materiality.

The State fails to provide any factual basis to demonstrate that chlorine-36 is, in fact, a significant contributor to thyroid dose from the PFSF and, most importantly, fails to even assert that the inclusion of chlorine-36 in the PFSF thyroid dose will cause the PFSF off-site dose to exceed the Commission's regulations. In fact, Basis 5(b) fails to identify or cite any Commission regulation. The only support provided by the State are a one page excerpt from a Department of Energy report on spent fuel isotopics (which does not show how much chlorine-36 is present in spent fuel or its contribution to dose) and an illegible excerpt from an untranslated German report. The State fails to show how either of these references demonstrates that inclusion of chlorine-36 will cause the PFSF off-site dose to exceed the Commission's regulations. A contention basis "that simply alleges

that some matter ought to be considered” does not provide a sufficient basis for an admissible contention. Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 246 (1993), review declined, CLI-94-02, 39 NRC 91 (1994). Basis 5(b) must be rejected for lack of a factual basis.

The State completely fails to demonstrate how PFS’s assumption regarding chlorine-36 is material to the outcome of the licensing proceeding. The State asserts without any basis that “Cl-36 and iodine-129 are the most significant radionuclide contributors to a thyroid dose.” State Request at 14. The Applicant’s calculations show that the estimated thyroid dose from iodine-129 at 500 m downwind is less than 0.025 mrem, far below the Commission’s regulatory limit of 50 rem for specific organs. See Response to RAI 7-1 at 3; see also 10 C.F.R. § 72.106(b). The radiological data base that accompanies the Department of Energy document cited by the State in fact demonstrates that the isotopic abundance of chlorine-36 in spent fuel is slightly less than iodine-129,<sup>17</sup> and an EPA Federal Guidance Report cited by the State demonstrates that the dose conversion factor for chlorine-36 is 3,000 times lower than that for iodine-129.<sup>18</sup> These State-cited documents show that chlorine-36 is far less significant (less than 1/3000) than iodine-129 with respect to thyroid dose. Since the thyroid dose from iodine-129 is so far below the Commission’s regulatory limit (0.025 mrem compared to 50 rem),

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<sup>17</sup>Characteristics of Potential Repository Wastes, Department of Energy DOE/RW-0184-121 (July 1992), “LWR Radiological Data Base”.

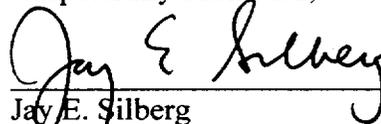
<sup>18</sup> EPA Federal Guidance Report No. 11 at 123 and 136 (1988). See State Request at 13, n.4.

the addition of chlorine-36 clearly will not cause the PFSF thyroid dose to come anywhere close to the Commission's regulatory limit. Therefore, even if Basis 5(b) were resolved in the State's favor, it would have no effect on the outcome of the licensing proceeding or with regulatory compliance. Thus, the Board must reject Basis 5(b) because it is not material to the granting or denial of the license application.

#### IV. CONCLUSION

For the foregoing reasons, Applicant respectfully requests that the Board deny Utah's request to admit its late-filed, amended Contention C.

Respectfully submitted,



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Dated: June 7, 1999

Counsel for Private Fuel Storage L.L.C.

**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  
(Private Fuel Storage Facility) )

**CERTIFICATE OF SERVICE**

I hereby certify that copies of the Applicant's Brief in Response to the Atomic Safety and Licensing Board's June 2, 1999 Memorandum and Order 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 7<sup>th</sup> day of June 1999.

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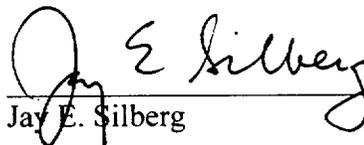
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