

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

G. Paul Bollwerk, III, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam

On
ADJ.

SERVED JUN 17 1999

In the Matter of

PRIVATE FUEL STORAGE, L.L.C.

(Independent Spent Fuel
Storage Installation)

Docket No. 72-22-ISFSI

ASLBP No. 97-732-02-ISFSI

June 17, 1999

MEMORANDUM AND ORDER
(Granting Motion for
Summary Disposition Regarding
Contention Utah C)

Applicant Private Fuel Storage, L.L.C., (PFS) has requested that summary disposition be entered in its favor regarding contention Utah C -- Failure to Demonstrate Compliance with NRC Dose Limits -- because that issue is now moot. As admitted, that contention details intervenor State of Utah's (State) assertion that, for various reasons, the PFS application for its proposed Skull Valley, Utah 10 C.F.R. Part 72 independent spent fuel storage installation (ISFSI) does not adequately evaluate the dose consequences of a loss-of-confinement accident. According to PFS, however, there is no genuine issue as to any material fact relevant to this contention so that, in accordance with 10 C.F.R. § 2.749, it is entitled to a determination on this

contention as a matter of law. The NRC staff supports this request, while the State, as the contention's sponsor, opposes it.

For the reasons described below, on this issue we grant summary disposition in favor of PFS.

I. BACKGROUND

In our April 1998 initial ruling on contention admissibility, we admitted three of the eight paragraphs that made up contention Utah C as supported by bases establishing a genuine material dispute adequate to warrant further inquiry. See LBP-98-7, 47 NRC 142, 185-86, aff'd on other grounds, CLI-98-13, 48 NRC 26 (1998). As accepted for litigation, the contention reads as follows:

Utah C -- Failure to Demonstrate
Compliance with NRC Dose Limits

CONTENTION: The Applicant has failed to demonstrate a reasonable assurance that the dose limits specified in 10 C.F.R. § 72.106(b) can and will be complied with in that:

1. [The] License Application makes selective and inappropriate use of data from NUREG-1536 for the fission product release fraction.

2. [The] License Application makes selective and inappropriate use of data from SAND80-2124 for the respirable particulate fraction.

3. The dose analysis in the License Application only considers dose due solely to inhalation of the passing

cloud. Direct radiation and ingestion of food and water are not considered in the analysis.

Id. at 251. Subsequently, this contention was placed in litigation Group I, which currently includes eleven issues relating to PFS facility safety and security that are scheduled to go to hearing first in this proceeding. See Licensing Board Memorandum and Order (Additional E-Mail Address for Administrative Judge Kline and Revised General Schedule) (May 18, 1999) Attach. A n.1 (unpublished).

As the language of the contention makes clear, the regulatory underpinning for Utah C is paragraph (b) of section 72.106 of Title 10 of the Code of Federal Regulations, which states that "[a]ny individual located on or beyond the nearest boundary of the controlled area may not receive from any design basis accident the more limiting of a total effective dose equivalent of 0.05 Sv [(sievert)] (5 rem), or the sum of the deep-dose equivalent and the committed dose equivalent to any individual organ or tissue (other than the lens of the eye) of 0.5 Sv (50 rem)."

Moreover, from the State's statement of basis for the admitted portions of the contention, it is clear that the focus of its concern is the dose analysis in section 8.2.7.2 of the Safety Analysis Report (SAR) that accompanied the June 20, 1997 PFS ISFSI application, which the State asserts generally "makes selective and inappropriate use of data

sources regarding doses, and fails to take important dose contributors into account." [State] Contentions on the Construction and Operating License Application by [PFS] for an [ISFSI] (Nov. 23, 1997) at 18 [hereinafter Utah Contentions]. Specifically, in describing the basis for the admitted portions of this contention, the State declared:

1. In the table on page 8.2-37 of the SAR, PFS inappropriately assumed that the fraction of fission products Cesium(CS)-134, Cs-137, and Strontium(Sr)-90 that will be released into the storage canister is $2.3 \text{ E-}5$, based on NUREG-1536, the Standard Review Plan for Dry Cask Storage Systems (Jan. 1997), notwithstanding the fact that a Sandia National Laboratories report concerning transportation accidents, SAND80-2124, Transportation Accident Scenarios for Commercial Spent Fuel (Feb. 1981), that PFS subsequently uses for its estimate of a respirable particulate fraction provides an estimate of $4\text{E-}3$ that is 200 times greater.
2. The PFS SAR dose analysis inappropriately relied upon SAND80-2124 to support its release fraction assumption that ninety percent of the volatiles (Cobalt(Co)-60, Sr-90, Iodine(I)-129, Ruthenium(Ru)-106, Cs-134, and Cs-137) released from the spent fuel to the canister will not escape the canister given the fact that the Sandia report is based on a high-velocity cask breach impact while the SAR scenario involves an onsite storage accident.
3. The PFS dose analysis inappropriately relied upon the Sandia report for its assumption that only five percent of the release fraction of Co-60 and Sr-90 will be respirable (i.e., have a particulate diameter of less than $10 \text{ }\mu\text{m}$) given that (a) PFS did not explain why it was appropriate to use that assumption but not the Sandia report initial release assumption; and (b) the Sandia report is based upon a transportation accident involving impact and fire rather than the SAR-evaluated onsite fuel failure accident, which should result in a greater respirable percentage.
4. The PFS dose analysis did not take into account the dose contribution from pathways other than inhalation

of the passing cloud, such as direct radiation from cesium deposited on the ground and ingestion of food and water or incidental soil ingestion in violation of 10 C.F.R. § 72.24(m).

See id. at 19-21.

In an April 21, 1999 motion for summary disposition regarding Contention C, which is supported by the affidavit of PFS assistant project manager William Hennessy, PFS asserted that, as a consequence of its revision of the dose analysis for the PFS facility, (1) there no longer are any material facts in dispute relative to contention Utah C; and (2) because the contention has been rendered moot, PFS is entitled to a ruling in its favor as a matter of law. See [PFS] Motion for Summary Disposition of Utah Contention C -- Failure to Demonstrate Compliance with NRC Dose Limits (Apr. 21, 1999) at 2-3 [hereinafter PFS Motion].

PFS declared this is so based on one of its February 10, 1999 responses to the staff's December 10, 1998 requests for additional information (RAI), specifically RAI 7-1, in which it provided a new dose calculation for a postulated loss of confinement event in accordance with new staff guidance, Interim Staff Guidance-5 (ISG-5), Accident Dose Calculations (Sept. 1998). According to PFS, in the new calculations it did not use the NUREG-1536 fission product release fractions, relying instead on the fractions from NUREG-1617, Standard Review Plan for Transportation Packages for Spent Fuel (draft Mar. 1998), in accordance

with ISG-5. Nor did PFS assume that ninety percent of the volatile fission products released from the spent fuel would be retained in the canister; instead, it assumed that 100 percent of the volatile fission products are available for release. Further, it no longer used the five percent Co-60 and Sr-90 respirable release assumption in SAND80-2124, but rather based its analysis on the assumption that the respirable fraction for all released materials is 100 percent. Finally, PFS asserted its new dose calculation considers other applicable dose pathways in addition to passing cloud inhalation, including direct exposure to contaminated ground, inhalation or resuspended radioactive material, ingestion of milk and beef following grazing, and soil ingestion. PFS acknowledged, however, that it does not include water as an applicable dose pathway because this would involve surface drinking water and there is no public or private surface drinking water in the vicinity of the PFS facility. See PFS Motion at 17-18; see also id. Statement of Material Facts on Which No Genuine Dispute Exists at 2-3 [hereinafter PFS Material Facts Statement].

In its May 11, 1999 response to the PFS summary disposition motion, the staff declared its support for the PFS summary disposition request. In its response, which is supported by the joint affidavit of Elaine Keegan, a health physicist in the staff's Spent Fuel Project Office, and

James Weldy, a research engineer with the Center for Nuclear Waste Regulatory Analysis, a division of the Southwest Research Institute that provides contract technical assistance to the staff, the staff declared that the PFS February 1999 revised dose analysis submitted to the staff in response to the December 1998 RAI satisfactorily addressed each of the concerns raised in contention Utah C. See NRC Staff's Response to [PFS] Motion for Summary Disposition of Utah Contention C (Dose Limits) (May 11, 1999) at 11-15 [hereinafter Staff Response].

The State does not agree. In its May 11, 1999 response to the PFS motion, which is supported by the affidavit of Dr. Marvin Resnikoff, a senior associate with private consulting firm Radioactive Waste Management Associates, the State asserted that, notwithstanding the revised analysis included in the PFS RAI response, there are still material factual disputes relative to Utah C that make summary disposition inappropriate. Acknowledging that the revised PFS analysis does incorporate the various "alleged new conservatisms" described in its motion, the State nonetheless declared that analysis likewise is footed on several questionable assumptions. [State] Opposition to [PFS] Motion for Summary Disposition of Contention [Utah] C (May 11, 1999) at 5 [hereinafter State Response]. The State points out that rather than adhering to the SAR assumption

that the cask breaks open, based on Table 4-1 to NUREG-1617 the RAI response assumes the cask leaks very slowly. In addition, based on ISG-5, PFS also makes other assumptions that are questionable or different from, or not discussed in, the SAR, including a thirty-day limit to the postulated release; the fence line (500 meter) dose is received only for 2,000 hours per year; and the deposited material is mixed with the top one centimeter of soil. See id. at 5, 11-15. The State also maintained that contention Utah C is not moot, and thus summary disposition is not appropriate, because although the calculations and assumptions in the RAI analysis differ from the SAR, PFS has not amended the SAR to change its dose calculations. See id. at 5-6, 7-11; see also [State] Reply to NRC Staff's Response to [PFS] Motion for Summary Disposition of Utah Contention C (Dose Limits) (May 20, 1999) at 1-2.

Some ten days after the State and staff responses, applicant Private Fuel Storage, L.L.C., (PFS) provided the Board with a copy of Amendment No. 3 to its proposed Skull Valley ISFSI. Among other things, that May 19, 1999 amendment, which was sent to the State, revises chapter eight of the PFS SAR to incorporate the February 1999 RAI revised dose analysis for a postulated loss of confinement event.

In a June 2, 1999 directive, the Board provided the parties with an opportunity to address the impact of this information on the pending PFS motion for summary disposition regarding Utah C. In a response filed June 8, 1999, PFS asserted that the amendment had no significance because summary disposition was appropriate based on its RAI response. See [PFS] Brief in Response to Atomic Safety and Licensing Board's June 2, 1999 Memorandum and Order (June 8, 1999) at 3. The staff took the position that the filing of the application amendment resolved any outstanding questions regarding the grant of summary disposition. See NRC Staff Comments Concerning the Effect of the May 19, 1999 License Application Revision on [PFS] Motion for Summary Disposition of Utah Contention C (Dose Limits) (June 4, 1999) at 7. On the other hand, citing the Commission's decision in Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983), the State declared that the amendment only serves to confirm its position that the PFS dispositive motion was premature in that the motion, based only on the PFS RAI answers, lacked a sufficient substantive basis until the SAR amendment was filed. The State thus asserted that the motion should be denied and it should be given a reasonable opportunity to amend or withdraw Utah C. See [State] Response Regarding Significance of License Amendment Application with Respect to Motion for Summary

Disposition of Utah Contention C (June 8, 1999) at 4-5
[hereinafter State Amendment Response].

II. ANALYSIS

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).

In this instance, PFS has provided a statement of material facts, accompanied by the supporting affidavit of an individual competent to attest to those matters, that

indicates the deficiencies alleged in the three admitted portions of contention Utah C have been addressed in the new dose analysis submitted in February 1999. As to the first two portions of the contention concerning the fission product release fraction and the respirable particulate fraction, PFS has responded to the State's concerns about its use of data from NUREG-1536 and SAND80-2124 to arrive at those fractions by eliminating those figures as a basis for its dose analysis. See PFS Motion, Material Facts Statement at 2 (Paragraph 6). Instead, for the former fraction, in accordance with recent staff guidance provided in ISG-5, it uses a figure from NUREG-1617. For the latter, it uses no fraction for radionuclide release, but assumes that all (100 percent) of that material will be dispersed. See id. at 2, 3 (Paragraphs 8, 14). And regarding the third segment of the contention -- failure to consider dose pathways other than passing cloud inhalation, including direct radiation and food and water ingestion pathways -- the new analysis does consider other pathways, including direct exposure to contaminated ground, inhalation of resuspended radioactive material, ingestion of milk and beef following grazing, and ingestion of soil. See id. at 3 (Paragraph 17). The analysis does not, however, include water as a dose pathway because for such a pathway to be significant it would need to include surface water and, according to PFS, there are no

public or private surface drinking water supplies in the vicinity of the PFS facility. See id. (Paragraph 18).

For its part, the staff does not disagree with any portion of this showing by PFS. Indeed, its submission, accompanied by two affidavits of persons competent to aver to the matters at issue in the motion, supports the PFS summary disposition request by indicating that the staff finds the PFS revised dose analysis both conforms to applicable staff guidance and satisfies applicable agency requirements, including 10 C.F.R. §§ 72.24(m), 72.106(b). The staff concludes that upon revision of the SAR to reflect the revised dose analysis, PFS will have satisfied the NRC regulatory requirements concerning loss-of-confinement offsite dose consequences analysis. See Staff Response at 14-15; see also id. Affidavit of James Weldy and Elaine Keegan Concerning Utah Contention C (Dose Limits) (May 11, 1999) at 11-13.

In light of these submissions, PFS seemingly has met its initial burden of showing that there are no material facts in dispute regarding contention Utah C.¹ Further, those facts, if uncontroverted, would establish that the

¹ As we discuss below, the ultimate issue of the validity of the revised PFS calculations is not now before us. We thus do not view the staff's analysis as conclusive evidence that the revised PFS calculations are "correct." Instead, the staff's appraisal supports the notion that the revised PFS computations are facially sufficient to support the PFS "mootness" argument regarding Utah C.

issues presented in Utah C are no longer in controversy. As such, it is incumbent upon the State to establish that a disputed material factual issue exists relative to Utah C or there is some other defect in the motion.

It seeks to do so in two ways. First, the State declares that with the recent PFS application, the motion is premature because the necessary support for the motion -- the amendment application -- was not submitted until after the motion was filed.² This argument, in turn, hinges on the notion that until PFS formally incorporated the analysis it provided in its RAI response into its application, that analysis lacked sufficient regulatory significance to support a dispositive motion.

We are unable to conclude that the timing of the PFS motion vis-à-vis its application amendment acts as a bar to the entry of summary disposition regarding Utah C. As the State notes in its June 8 response, "[t]he SAR now conforms to the dose calculations provided by PFS in its February 1999 RAI Response." State Amendment Response at 3. Thus, whatever the situation prior to the submission of the PFS application amendment, there is no question now that the PFS application incorporates the revised dose calculations that

² As a variation on this theme, prior to the PFS application amendment the State maintained that, contrary to PFS's assertion, Utah C was not moot because PFS had not amended its application. See State Motion Response at 5-6, 7-11.

were in the RAI. Given there is not a material dispute over the present status of the application relative to the RAI calculations,³ we find nothing on that score that precludes the entry of summary disposition at this juncture.⁴

As the other ground for its assertion that summary disposition is inappropriate, the State relies on the fact that it does not necessarily agree with (and needs further information regarding) the validity of the revised PFS dose calculation methodology, especially a number of the assumptions that appear to underlie it. This, however, does not support the notion there is a controversy, factual or

³ Thus we need not, and do not, reach the question of whether the RAI calculations standing alone would provide a sufficient basis for the PFS dispositive motion.

⁴ Certainly, nothing in the Commission's Catawba decision referenced by the State suggests a different result. Although making the point that the subsequent issuance of the staff's Safety Evaluation Report (SER) can provide a basis for entering summary disposition in connection with existing contentions based on the applicant's SAR, see CLI-83-19, 17 NRC at 1049, that decision does not indicate that action on an applicant's properly-supported dispositive motion regarding an SAR-based contention must await such a staff issuance. Indeed, the staff SER has not yet issued in this case, yet the State has made no suggestion that PFS must await that document prior to seeking summary disposition for contention Utah C.

We note further that, because it conflicts with existing agency rules, see 10 C.F.R. § 2.714(b)(2)(iii), the State-quoted Licensing Board statement in Kerr-McGee Chemical Corp. (West Chicago Rare Earths Facility), LBP-89-16, 29 NRC 508, 514 (1989), indicating it would be premature to file contentions regarding a staff draft environmental impact statement has no current precedential significance.

otherwise, regarding the existing contention Utah C and its bases so that summary disposition is inappropriate. It is, instead, an argument in favor of the admission of a new contention challenging this new dose analysis. Indeed, in its most recent filing, the State indicates it currently is contemplating such action. See State Amendment Response at 4. And nothing we decide here forecloses the State from taking such action, subject, of course, to its being able to meet the late-filing and contention admission criteria of 10 C.F.R. § 2.714.

As for contention Utah C, however, we conclude that PFS has met its burden of establishing there are no material factual issues in dispute and that summary disposition should be entered in favor of PFS on that issue, which is now moot.⁵

⁵ In addition to being the subject of the PFS summary disposition request, contention Utah C also is the source of a discovery dispute between PFS and the State. In an April 30, 1999 motion, the State asked that we compel PFS to respond to April 9, 1999 discovery requests regarding Utah C, including requests for admissions, interrogatories, and a document request. In support of its motion to compel, the State presented essentially the same arguments it puts forth in support of its opposition to the PFS summary disposition motion, including its purported need to understand the assumptions that underlie the new dose analysis and the failure of PFS to submit a license application amendment incorporating those calculations. See [State] Motion to Compel [PFS] to Respond to State's First Set of Discovery Requests (Apr. 30, 1999) at 3-9. For the reasons stated above relative to the PFS dispositive motion, we likewise find those arguments unpersuasive as support for their discovery requests and thus deny the motion to compel.

III. CONCLUSION

With regard to contention Utah C -- Failure to Demonstrate Compliance with NRC Dose Limits -- based on the revised dose analysis put forth by applicant PFS in its February 1999 RAI response and incorporated into its pending application in a May 19, 1999 amendment, PFS has established there is no genuine issue as to any material fact and it is entitled to judgment in its favor as a matter of law in that Utah C is now moot.


For the foregoing reasons, it is this seventeenth day of June 1999, ORDERED, that:

1. The April 30, 1999 motion of the State to compel PFS to respond to April 9, 1999 discovery requests regarding contention Utah C is denied.

2. The April 21, 1999 motion for summary disposition of PFS regarding contention Utah C is granted and, for the reasons given in this memorandum and order, a decision

regarding contention Utah C is rendered in favor of PFS on the ground that issue is now moot.

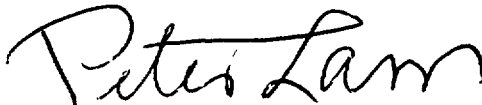
THE ATOMIC SAFETY
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G. Paul Bollwerk, III
ADMINISTRATIVE JUDGE



Dr. Jerry R. Kline
ADMINISTRATIVE JUDGE



Dr. Peter S. Lam
ADMINISTRATIVE JUDGE

Rockville, Maryland

June 17, 1999

⁶ Copies of this memorandum and order were sent this date by Internet e-mail transmission to counsel for (1) applicant PFS; (2) intervenors Skull Valley Band of Goshute Indians, Ohngo Gaudadeh Devia, Confederated Tribes of the Goshute Reservation, Southern Utah Wilderness Alliance, and the State; and (3) the staff.

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

In the Matter of

PRIVATE FUEL STORAGE, LLC

**(Independent Spent Fuel Storage
Installation)**

Docket No.(s) 72-22-ISFSI

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMO & ORDER (LBP-99-23) have been served upon the following persons by U.S. mail, first class, except as otherwise noted and in accordance with the requirements of 10 CFR Sec. 2.712.

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Docket No.(s)72-22-ISFSI
LB MEMO & ORDER (LBP-99-23)

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Dated at Rockville, Md. this
17 day of June 1999

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