

January 30, 2001

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 SUMMARY DISPOSITION OF UTAH
CONTENTION K AND CONFEDERATED TRIBES CONTENTION B

INTRODUCTION

Pursuant to the Atomic Safety and Licensing Board's order of January 4, 2001 ("Order (Granting Summary Disposition Response Time Extension Motion)") and 10 C.F.R. § 2.749, the staff of the Nuclear Regulatory Commission (Staff) hereby files its response to the "Applicant's Motion For Summary Disposition of Utah Contention K and Confederated Tribes Contention B" (Motion), filed by Private Fuel Storage, L.L.C. (PFS or Applicant) on December 30, 2000.

For the reasons set forth below and in the attached joint affidavit of Amitava Ghosh and Kazimieras Campe, the Staff submits that issues pertaining to the adequacy of the design basis of the facility with respect to hazards posed by 1) use of the Army rocket system on Dugway Proving Ground (DPG), 2) weapons use (other than cruise missile testing) on the Utah Test and Training Range (UTTR); 3) aircraft flying to and from Michael Army Airfield (AAF) on military airway IR-420, and 4) civilian aircraft on airways J-56 and V-257, including aircraft flying to and from Salt Lake City International Airport (SLCIA) have been resolved, and there does not exist a genuine dispute of material fact with respect to these matters. Inasmuch as there does not exist a genuine dispute of material fact, the

Applicant is entitled to a decision in its favor on these issues as a matter of law. The Staff, therefore, submits that the Applicant's Motion with respect to these matters should be granted.

With respect to certain other matters, however, the Staff expresses no position herein. In particular, the Staff notes that the Applicant's Motion contains substantive new information with respect to issues involving F-16 aircraft transiting Skull Valley; aircraft flying on the Moser Recovery route; jettisoned ordnance; general aviation aircraft; potential aircraft impacts due to aircraft conducting training on the Utah Test and Training Range (UTTR); cruise missile testing; and the cumulative hazard. The Staff's review of this information is in progress at this time, and may necessitate a supplement to the Staff's Safety Evaluation Report. See Letter from Sherwin E. Turk to Licensing Board, dated January 23, 2001. Therefore, the Staff expresses no position herein concerning the Applicant's Motion with respect to these matters.

BACKGROUND

Utah Contention K ("Inadequate Consideration of Credible Accidents") and Confederated Tribes Contention B ("Lack of Protection Against Worst Case Accidents") were admitted by the Licensing Board in its initial ruling on contentions. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 190-91, 234-35 (1998). The Board limited the State's contention to the impact on the ISFSI of accidents involving materials or activities emanating from: the Tekoi Rocket Engine Test Facility, Dugway Proving Ground, Salt Lake City International Airport, Hill Air Force Base (AFB), and the UTTR. The Licensing Board also admitted issues pertaining to the Rowley Junction intermodal transfer point (ITP). *Id.* at 190. Regarding the Confederated Tribes' contention, the Licensing Board limited the contention to its discussion of wildfires. *Id.*

at 234-35. The Board then consolidated these contentions. *Id.* at 235. The combined contention, as admitted by the Board, states:

The Applicant has inadequately considered credible accidents caused by external events and facilities affecting the ISFSI and the intermodal transfer site, including the cumulative effects of the nearby hazardous waste and military testing facilities in the vicinity and the effects on wildfires.

Id. at 253.

On June 7, 1999, the Applicant filed a motion for partial summary disposition of this contention.¹ The Licensing Board granted the Applicant's Motion with respect to the Tekoi Rocket Engine Test Facility, wildfires, and certain issues relating to Dugway Proving Ground. *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-35, 50 NRC 180, 200-201 (1999). The Licensing Board denied summary disposition with respect to issues related to the Salt Lake City International Airport, the firing of conventional ground weapons in military testing and training at Dugway Proving Ground, and cruise missiles. *Id.* The Licensing Board deferred summary disposition on several other issues, however, pending the completion of the Staff's evaluation and issuance of a statement of its position on military aircraft crashes; those deferred matters related to

¹ See "Applicant's Motion For Partial Summary Disposition of Utah Contention K and Confederated Tribes Contention B," dated June 7, 1999. The Staff and the State filed responses on July 22, 1999. See "NRC Staff's Response to Applicants Motion For Partial Summary Disposition of Utah Contention K and Confederated Tribes Contention B" (Staff Response), dated July 22, 1999; "State of Utah's Opposition to Applicant's Motion For Partial Summary Disposition of Utah Contention K and Confederate Tribes Contention B," dated July 22, 1999.

aircraft flying to and from Hill Air Force Base and over the UTTR, the firing of air-delivered munitions on the UTTR, and cumulative impacts. *Id.*²

On September 20, 1999, the Licensing Board dismissed that part of Contention Utah K/ Confederated Tribes B regarding the Rowley Junction intermodal transfer point. *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-39, 50 NRC 232 (1999). In addition, the Licensing Board provided further clarification of its decision concerning the firing of conventional ground weapons at Dugway Proving Ground, and the hazard posed by aircraft using air-delivered ordnance other than cruise missiles on targets within the UTTR DOD land boundaries.³

On September 29, 2000, the Staff issued its Safety Evaluation Report (SER) concerning the PFS Facility. Therein, the Staff concluded with respect to aircraft crash hazards that there is reasonable assurance that civilian or military air crashes would not pose a hazard to the facility. SER at 15-81. The Staff also found reasonable assurance that potential hazards from conventional munition testing at the Dugway Proving Ground

² The Staff, in its Response of July 22, 1999, stated that it had not completed its review of the hazard posed by military aircraft crashes and could not state a position with respect to that issue. Staff Response at 3.

³ With respect to its denial of summary disposition concerning the firing of conventional ground weapons at Dugway Proving Ground, the Licensing Board indicated that PFS' assertions that most of the weapons do not have the range to reach the PFS facility and that training weapons are fired away from the facility under stringent safety precautions fail to account for the nature of the ordnance involved; that is, the Board found it had not been established that missiles will travel in the direction that they are fired. LBP-99-39, 50 NRC at 237. With respect to its denial of summary disposition concerning the hazard posed by aircraft using air-delivered ordnance other than cruise missiles on targets within the UTTR DOD land boundaries, the Board clarified that an open issue existed as to the possibility of UTTR-related military overflights that could have some direct impact on the facility due to their proximity to the facility. *Id.* at 238.

and cruise missile testing at the UTTR would not pose a hazard to the facility. *Id.* at 15-96, 15-101.

In its Motion of December 30, 2000, the Applicant included recent sortie and aircraft data from Hill AFB on the number of F-16s transiting Skull Valley en route to the south part of the UTTR for Fiscal Years 1999 and 2000. Motion at 13. According to the Applicant, the effect of the new information is to increase the calculated hazard to the PFS facility from crashes involving F-16s transiting Skull Valley, falling ordnance jettisoned from those aircraft, crashes involving aircraft operating on the UTTR, and crashes involving the Moser recovery route. *Id.* at 13 n.20.

The Applicant, in its Motion, also provided a revised assessment of the impact hazard posed by general aviation aircraft -- revising the likelihood of a crash from 2.36 E-7, as previously reported to the NRC and reflected in the Staff's SER, to zero. Motion at 22; SER at 15-45.⁴ The Applicant also provided additional new information regarding cruise missiles.⁵ Inasmuch as the information provided concerning these matters is new, the Staff has not had an opportunity to review these matters prior to formulating its response to the Applicant's Motion. Accordingly, the Staff expresses no position herein concerning portions of the Applicant's Motion that relate to issues involving: F-16 flights in Skull Valley, including ordnance jettisoned from those aircraft; crashes involving aircraft operating on the UTTR; crashes involving the Moser recovery route; cruise missile testing; and general

⁴ The Applicant's revised assessment of the hazard posed by general aviation aircraft is based on a calculation of the risk of impact penetration, considering the effect of a general aviation aircraft crash specifically at the PFS facility, rather than using a calculation of the statewide general aviation aircraft crash probability. Motion at 22.

⁵ See Exh. 3 to Declaration of George Wagner and David Girman ("Risk Assessment of Cruise Missile Accidents Impacting Private Fuel Storage LLC Independent Spent Fuel Storage Installation").

aviation aircraft. The Staff likewise expresses no position herein with respect to the cumulative hazard, inasmuch as the cumulative hazard necessarily reflects consideration of the new information provided concerning these issues.

For the reasons set forth below and in the attached affidavit, the Staff submits that the Applicant's Motion be granted as to all issues raised therein, other than the hazards posed by F-16 aircraft transiting Skull Valley and training in the UTTR, jettisoned ordnance, cruise missiles, and general aviation aircraft.

DISCUSSION

A. Legal Standards Governing Motions for Summary Disposition

The Commission's regulations provide set forth the procedure for summary disposition. See 10 C.F.R. § 2.749. The legal standards for summary disposition are discussed in detail in the "NRC Staff's Response to Applicant's Motion For Summary Disposition of Utah Contention L (Geotechnical)," dated January 30, 2001, at 4-7. That discussion is incorporated here by reference.

As set forth below, the Staff submits that summary disposition is appropriate in accordance with established standards, with respect to the issues admitted in Utah Contention K/ Confederated Tribes B concerning: 1) the Army rocket system on DPG; 2) weapons use on the UTTR; 3) aircraft flying to and from Michael AAF on IR-420; and 4) civilian aircraft on airways J-56 and V-257, and aircraft flying to and from Salt Lake City International Airport (SLCIA).

B. The Applicant's Consideration of the Army Rocket System on Dugway Proving Ground, Weapons Use on the UTTR, Aircraft Flying to and from Michael AAF, and Civilian Aircraft

As set forth in the attached joint affidavit of Amitava Ghosh and Kazimieras Campe, the Staff has reviewed the Applicant's analyses regarding the probability of a rocket

deployed from the Army Rocket System on Dugway Proving Ground impacting the facility, the probability of weapons use on the UTTR impacting the facility, and the probability of aircraft flying to and from Michael AAF, and civilian aircraft impacting the facility. On July 22, 1999, the Staff stated its position concerning whether a credible hazard is posed by commercial aircraft crashes and munitions testing at the UTTR. See "NRC Staff's Response to Applicant's Motion for Partial Summary Disposition of Utah Contention K and Confederated Tribes Contention B," dated July 22, 1999 at 3. The Staff concluded that commercial aircraft crashes and munitions testing at the UTTR do not pose a credible hazard to the facility. *Id.* The bases for this conclusion were set forth in the Affidavit of Amitava Ghosh, attached to the Staff's July 22, 1999 filing. Ghosh Affidavit at ¶¶ 5-6.

In addition, the Staff issued its SER on September 29, 2000, concerning the proposed PFS facility, in which it reviewed the information provided by the Applicant against applicable regulatory criteria. The Staff considered that the Multiple Launch Rocket System testing at DPT would not pose a hazard to the facility. SER § 15.1.2.12. The Staff also considered that the probability of aircraft flying to and from Michael Army Airfield on IR-420 striking the facility was below the threshold criterion of 10^{-6} per year. See SER at 15-46 to 15-47 (significantly less than 10^{-7} crashes/year). The Staff considered that the probability of civilian aircraft on airways J-56 and V-257, including aircraft from Salt Lake City International Airport impacting the facility, was below the threshold criterion of 10^{-6} per year. SER at 15-42 to 15-44, and 15-47 (significantly less than 10^{-8} crashes/year). Further, the Staff considered that air to ground training activities carried out at the UTTR South Area do not pose a significant risk to the facility. SER at 15-58 to 15-59.

Finally, the Staff has reviewed the Applicant's Statement of Material Facts submitted in support of the Applicant's Motion, as it relates to these matters.⁶ On the basis of its review, the Staff has concluded that the Applicant's Statement of Material Facts concerning these matters is correct, except that a correction is required concerning Material Fact No. 54, § C6 -- which does not affect the Staff's conclusion that summary disposition concerning these matters is appropriate. Ghosh/Campe Affidavit at ¶ 4.⁷ In addition, the Staff notes that it agrees with Material Fact No. 35, § C3, limited to the issue of weapons other than cruise missiles; the Staff states no position herein with respect to cruise missiles.⁸

⁶ The Staff expresses no opinion with respect to Material Facts § B (cruise missile testing), §§ C1-C4, and §§ C7-C8 (F-16 and general aviation aircraft).

⁷ In Material Fact No. 54, § C6, PFS states as follows:

The effective area of the PFSF is 0.2116 mi², calculated for large commercial airliners.

Statement of Material Facts at ¶ 54, § C6. The correct target area is 0.2615 mi², as reported and considered in Exhibit 4 to the Cole/Jefferson/Fly Declaration, "Aircraft Crash Impact Hazard at the Private Fuel Storage Facility," (Rev. 4), August 10, 2000. This error, however, has no effect on the Applicant's analysis, which relied on the correct (0.2615 mi²) figure.

⁸ The Staff supports the Applicant's Motion insofar as it relates to weapons testing at the UTTR, other than cruise missiles. The Applicant's Statement of Material facts did not separately group material facts relative to this issue in one location; however, in Material Fact No. 35, PFS states as follows:

Because of the distance from the PFSF at which air-delivered weapons are used on the UTTR, such use would pose no hazard to the facility.

Statement of Material Facts § C3, ¶ 35. The Staff agrees with this statement as limited to non-cruise missile weapons, and states no position with respect to cruise missiles.

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 the Army rocket system on Dugway Proving Ground, weapons use on the UTTR (other than cruise missiles), aircraft flying to and from Michael AAF on airway IR-420, and civilian aircraft on airways J-56 and V-257, including aircraft flying to and from Salt Lake City International Airport.

CONCLUSION

For the reasons set forth above, the Staff supports the Applicant's Motion as it relates to the issues addressed above.

Respectfully submitted,

/RA/
Catherine L. Marco
Counsel for NRC Staff

Dated at Rockville, Maryland
this 30th day of January 2001

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))

AFFIDAVIT OF AMITAVA GHOSH AND KAZIMIERAS CAMPE
CONCERNING UTAH CONTENTION K/CONFEDERATED TRIBES B

Amitava Ghosh (AG) and Kazimieras Campe (KC), having first been duly sworn,
do hereby state as follows:

1(a). (AG) My name is Amitava Ghosh. I am employed as a Principal Engineer at the Center for Nuclear Waste Regulatory Analyses (CNWRA), which is a division of the Southwest Research Institute (SwRI), in San Antonio, Texas. I am providing this affidavit under a technical assistance contract between the NRC Staff and the SwRI. A statement of my professional qualifications is attached hereto.

1(b). (KC) My name is Kazimieras M. Campe. I am employed as a Senior Reactor Engineer in the Probabilistic Safety Assessment Branch, Division of Systems Safety and Analysis, Office of Nuclear Reactor Assessment Branch, Division of Systems Safety and Analysis, Office of Nuclear Reactor Regulation. A statement of my professional qualifications is attached hereto.

2. (AG, KC) This Affidavit is prepared in response to the "Applicant's Motion for Summary Disposition of Utah Contention K and Confederated Tribes Contention B" ("Motion"), filed on December 30, 2000, 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. (AG, KC) As part of my official responsibilities, I reviewed the adequacy of the Applicant's analysis of design basis events, submitted with the application for an ISFSI license. I further assisted in preparing the Staff's related safety evaluation of these matters, presented in Section 15 of the NRC Staff's "Safety Evaluation Report Concerning the Private Fuel Storage Facility" ("SER"), issued on September 29, 2000. I agree with the SER's evaluation regarding the use of the Multiple Launch Rocket System on DPT (SER § 15.1.2.12); aircraft flying to and from Michael Army Airfield on IR-420 (SER at 15-46 to 15-47); civilian aircraft on airways J-56 and V-257, including aircraft flying to and from Salt Lake City International Airport (SER at 15-42 to 15-44, & 15-79); and air to ground training activities carried out at the UTTR South Area (SER at 15-58 to 15-59).

4. (AG, KC) Also as part of my official responsibilities, I have reviewed the Applicant's Motion and the attachments thereto regarding the above-stated matters. On the basis of my review of the Applicant's Motion, the SAR and the Applicant's responses to the Staff, I am satisfied that the Statement of Material Facts attached to the Applicant's Motion is correct regarding Material Facts § A and Material Facts § C5-C6, except for Material Fact Nos. 35 and 54 in Section C.

5. (AG, KC) I agree with Material Fact No. 35, limited to weapons other than cruise missiles; however, no position is expressed herein concerning cruise missiles. Further, I agree with Material Fact No. 54, except insofar as it contains a clerical error which should be corrected: the effective target area of 0.2116 mi² should have been stated as 0.2615 mi², as provided in the Applicant's August 10, 2000 report. This error, however, has no effect on the Applicant's analysis, which relied on the correct (0.2615 mi²) figure; and I agree with Material Fact No. 54 as corrected.

6. (AG, KC) I hereby certify that the foregoing is true and correct to the best of my knowledge, information and belief.

Amitava Ghosh

Sworn to before me this
30th day of January 2001

Notary Public

My commission expires: _____

Kazimieras M. Campe

Sworn to before me this
30th day of January 2001

Notary Public

My commission expires: _____

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 SUMMARY DISPOSITION OF UTAH CONTENTION K AND CONFEDERATED TRIBES CONTENTION B" in the above captioned proceeding have been served on the following through deposit in the NRC's internal mail system, with copies by electronic mail, as indicated by an asterisk, or by deposit in the U.S. Postal Service, as indicated by double asterisk, with copies by electronic mail this 30th day of January, 2001:

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