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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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August 27, 2002 (11:30AM)

Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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

Docket No. 72-22-*ISFSI*

ASLBP No. 97-732-02-ISFSI

**JOINT REPORT ON STATUS OF UTAH CONTENTION K EXHIBITS AND  
OTHER OPEN ITEMS FROM HEARING CONCERNING UTAH CONTENTION K**

Pursuant to the discussion at the end of the hearing on July 3, 2002 (Tr. 13,714-720), Applicant Private Fuel Storage ("Applicant" or "PFS"), the Nuclear Regulatory Commission Staff ("NRC Staff"), and the State of Utah ("State") hereby file this joint status report of exhibits proffered by the parties with respect to Utah Contention K on which the Atomic Safety and Licensing Board ("Licensing Board" or "Board") needs to rule as to their admissibility as well as other open items concerning Utah Contention K.

**EXHIBITS REQUIRING BOARD ACTION**

The following Table identifies exhibits proffered by the parties with respect to Utah Contention K on which the Board has not yet ruled. The first column of the Table identifies the exhibit number as marked at the hearing, the second column provides a summary description of the exhibit, and the third column identifies objections, if any, to the admission of the exhibit. As discussed at the hearing on July 3, 2002, the parties understand that the Board will schedule a conference call at which argument can be heard with respect to the objections noted in the Table below.

| Exhibit No.                     | Summary Description of Exhibits  | Objections  |
|---------------------------------|--|---|
| PFS Exh. QQQ                    | Summary description of AF Instruction 51-103 together with synopses of various F-16 accident investigation reports and historical examples concerning pilot avoidance. | The State of Utah objects to the admission of this exhibit.   |
| PFS Exhs. WWW, XXX, YYY and ZZZ | E-mails of historical examples concerning pilot avoidance.   | The State of Utah objects to the admission of these exhibits. |
| PFS Exh. 79                     | F-16 accident report for 21 April 93 accident.   | No objection.   |
| PFS Exh. 83                     | Excerpts from January 30, 2001 Declaration of Lt. Col. Horstman with markings made by Lt. Col. Horstman during his July 27, 2001 Deposition.                           | No objection.   |
| PFS Exh. 102                    | Graph of F-16 Class A Mishap Rate Rank vs. Fiscal Year Rank.   | The State of Utah objects to the admission of this exhibit.   |
| State Exh. 151                  | Article on ACES-II ejection seat from USAF Flying Safety magazine.   | No objection.   |
| State Exh. 154                  | F-16 crash history, chart with data through FY01.  | No objection.   |
| State Exh. 157                  | Preliminary Aircraft Crash Hazard Assessment at Proposed Yucca Mountain Repository.  | No objection.   |

At the end of the hearing, the Board and the parties discussed the potential need for the State to file excerpts from the version of the F-16-1 manual that its expert, Lt. Col. Horstman, was utilizing corresponding to the excerpts that were used at the hearing and admitted as part of the evidentiary record. See Tr. 13718. The State has compiled the relevant excerpts of the

version of the F-16-1 manual that its expert, Lt. Col. Horstman, utilized and has filed them separately with the Board as State Exhibit 224.<sup>1</sup> The parties would like to discuss with the Board during the teleconference whether this document is being provided solely for the Board's information or whether it is to be formally admitted as an evidentiary exhibit.

In addition, counsel for Applicant has identified additional deletions and changes that should be made to the Revised Addendum to the Aircraft Crash Impact Hazard at the Private Fuel Storage Facility, PFS Exhibit O. Both the Aircraft Crash Report (PFS Exhibit N) and the Revised Addendum were filed with deletions and changes to account for the Board's decisions with respect to both PFS's Motion for Summary Disposition and the Motions in Limine. The additional deletions and changes that should be made to Exhibit O are as follows:

- Section V of the Revised Addendum concerning General Aviation Aircraft (supplementing Section IX of the Aircraft Crash Report) should be deleted (as was Section 9 of the Aircraft Crash Report) since the Board ruled on General Aviation Aircraft in connection with PFS's Motion for Summary Disposition. PFS is submitting a new page 21 replacing the material on that page beginning with the heading for Section V with the following note: "Section V (Through Page 28) Intentionally Removed." The new page 21 should replace the current page 21 and current pages 22 to 28, which comprise part of Section V, should also be removed from Exhibit O.
- Section V references Tab CC and Tab DD. PFS is supplying new pages for these Tabs. The replacement page for Tab CC states "Tab CC Intentionally Removed," and the replacement page for Tab DD states "Tab DD Intentionally Removed." These pages should replace current Tab CC and Tab DD in Exhibit O.
- On page 39 of Exhibit O, the number 2.6 E-7 in the third line of the last paragraph should be changed to 3.5 E-7 and the number 1.43 E-7 on the last line of this paragraph should be changed to 1.90 E-7. Similarly, the number 2.6 E-7 in the second to the last sentence of footnote 59 should be changed to 3.5 E-7 and the

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<sup>1</sup> The excerpts in State Exhibit 224 are from the F-16-1 manual for the Blocks 40 and 42. The excerpts included as part of PFS's Aircraft Crash Report (PFS Exh N) and the excerpts that are PFS Exhibits MMM, OOO, PPP and 246, and the excerpt that is State Exhibit 150 are from the F-16-1 manual for the Blocks 25, 30 and 32. The record reflects that the 388<sup>th</sup> FW at Hill AFB flies the Block 40 and the 419<sup>th</sup> FW (Reserve) flies the Block 30. See PFS Exh O, Tab FF at p. 7.

number 1.43 E-7 in the last sentence of footnote 59 should be changed to 1.90 E-7.<sup>2</sup> PFS is supplying a new page 39 with these changes marked on the page to replace current page 39 in Exhibit O.

**BINDING OF PRE-FILED TESTIMONY INTO  
THE TRANSCRIPT AND OTHER OPEN MATTERS**

As discussed at the hearing, during the first week of the hearing on Contention Utah K the pre-filed testimony was not bound into the transcript as part of the record. Specifically, Applicant's pre-filed testimony of Generals Cole and Jefferson and Colonel Fly,<sup>3</sup> of Steven Vigeant, and of Jeffrey Johns were not bound into the record as part the transcript. Also, the State's pre-filed testimony of Lt. Colonel Horstman and the Staff's pre-filed testimony of Kazimieras M. Campe and Amitava Ghosh were not bound into the record as part of the transcript.<sup>4</sup> Pursuant to the Board's request at the close of the hearing (Tr. 13717), the parties have identified as part of this filing the need to formally bind the above pre-filed testimonies into the record as part of the transcript.

Further, in reviewing the transcript the parties identified that the State's cross-examination of PFS's witnesses on their rebuttal testimony had been inadvertently omitted from the July 1, 2002 transcript. See Tr. at 13113. Counsel for PFS and the State have spoken to the court reporter and have been provided electronic copies of the transcript of the State's cross examination. The parties suggest that the Board should require the court reporter to reissue the July 1, 2002 transcript with the additional pages included in the transcript or take other action to

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<sup>2</sup> These changes correspond to changes that were made to the pre-filed testimony Generals Cole and Jefferson and Colonel Fly based on rulings made by the Board on the Motions In Limine, but inadvertently were not made to the Revised Addendum.

<sup>3</sup> In addition to the pre-filed testimony of Generals Cole and Jefferson and Colonel Fly, the summary identifying the principal witness(es) responsible for the answers in their testimony (filed as part of PFS's response to the State's Motion to Strike the testimony) is to be bound into the record as part of the transcript. See. Tr. at 3011-12, 3079.

<sup>4</sup> The State's prefiled testimony of Dr. Resnikoff was bound into the record as part the May 15, 2002 hearing transcript.

make sure that the official agency record is corrected to include the State's cross examination of PFS's witnesses on their rebuttal testimony.

Finally, a matter held open from the first day of the hearing was the State's objection to the second paragraph (except for the first two sentences) on page 112 of the pre-filed testimony of Generals Cole and Jefferson and Colonel Fly and the corresponding material on page 38 of the Revised Addendum, PFS Exhibit O. See Transcript at 3076, 3080-82. The testimony and the corresponding material in the Revised Addendum concerned a conservatism in PFS's calculated hazard for jettisoned ordnance based on a letter from the U. S. Air Force to the State of Utah that 500 pound MK-82 bombs (included in PFS's calculated hazard for jettisoned ordnance) would not penetrate the storage casks. Subsequently, the State moved for the admission of the Air Force letter relied upon by PFS, State Exhibit 62, and a related Air Force letter, State Exhibit 63, both of which were admitted by the Board. See Tr. at 4221-25.

The parties have different positions with respect to this issue. Procedurally, PFS believes that the State's objection has been mooted by the admission of State Exhibits 62 and 63, which form the basis of the PFS testimony, and thereby effectively has been withdrawn by the State. Substantively, as expressed during the April 9 Bench Conference, PFS's position is that the Air Force's letters, admitted as State Exhibits 62 and 63, establish that 500 pound MK-82 bombs are the equivalent of BB pellets that will not penetrate the casks analogous to determinations that have been made with respect to general aviation aircraft in other settings referred to by the Staff in argument on the Motion in Limine. See Tr. at 3006. Both the State and the Staff believe that the PFS testimony and the corresponding material in the Revised Addendum should be stricken because the Board has ruled that the issue of cask penetration is beyond the scope of this hearing because it concerns consequences. The NRC Staff further believes that State Exhibits 62 and 63 and Question and Answer 74 of Lt. Col. Horstman's testimony that refers to and discusses these

two exhibits should also be stricken for the same reason. The State agrees that, if the PFS material is stricken, it would be appropriate to strike State Exhibits 62 and 63 and question and answer 74 of Lt. Col. Horstman's testimony on the basis that consequences are not in the scope of the proceeding.

Respectfully submitted,



Jay E. Silberg  
Ernest L. Blake  
Paul A. Gaukler  
D. Sean Barnett  
SHAW PITTMAN LLP  
2300 N Street, N.W.  
Washington, DC 20037  
(202) 663-8000  
Counsel for Private Fuel Storage, L.L.C

Dated: August 21, 2002

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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PRIVATE FUEL STORAGE L.L.C. ) Docket No. 72-22  
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CERTIFICATE OF SERVICE

I hereby certify that copies of the Joint Report On Status Of Utah Contention K Exhibits And Other Open Items From Hearing Concerning Utah Contention K 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 21st day of August, 2002. I further certify that the revisions to PFS Exhibit O were served on the persons listed below by U.S. mail, first class, postage prepaid, this 21<sup>st</sup> day of August, 2002.

Michael C. Farrar, Esq., Chairman  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [MCF@nrc.gov](mailto:MCF@nrc.gov)

Dr. Jerry R. Kline  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [JRK2@nrc.gov](mailto:JRK2@nrc.gov); [kjerry@erols.com](mailto:kjerry@erols.com)

Dr. Peter S. Lam  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
e-mail: [PSL@nrc.gov](mailto:PSL@nrc.gov)

\*Office of Commission Appellate  
Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Attention: Rulemakings and Adjudications  
Staff  
e-mail: [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov)  
(Original and two copies)

Catherine L. Marco, Esq.  
Sherwin E. Turk, Esq.  
Office of the General Counsel  
Mail Stop O-15 B18  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
e-mail: [pfscase@nrc.gov](mailto:pfscase@nrc.gov)

John Paul Kennedy, Sr., Esq.  
David W. Tufts, Esq.  
Confederated Tribes of the Goshute  
Reservation and David Pete  
Durham Jones & Pinegar  
111 East Broadway, Suite 900  
Salt Lake City, Utah 84105  
e-mail: [dtufts@djplaw.com](mailto:dtufts@djplaw.com)

Diane Curran, Esq.  
Harmon, Curran, Spielberg &  
Eisenberg, L.L.P.  
1726 M Street, N.W., Suite 600  
Washington, D.C. 20036  
e-mail: [dcurran@harmoncurran.com](mailto:dcurran@harmoncurran.com)

Paul EchoHawk, Esq.  
Larry EchoHawk, Esq.  
Mark EchoHawk, Esq.  
EchoHawk PLLC  
P.O. Box 6119  
Pocatello, ID 83205-6119  
e-mail: [paul@echohawk.com](mailto:paul@echohawk.com)

\* Adjudicatory File  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Denise Chancellor, Esq.  
Assistant Attorney General  
Utah Attorney General's Office  
160 East 300 South, 5<sup>th</sup> Floor  
P.O. Box 140873  
Salt Lake City, Utah 84114-0873  
e-mail: [dchancellor@utah.gov](mailto:dchancellor@utah.gov)

Joro Walker, Esq.  
Land and Water Fund of the Rockies  
1473 South 1100 East  
Suite F  
Salt Lake City, UT 84105  
e-mail: [utah@lawfund.com](mailto:utah@lawfund.com)

Tim Vollmann, Esq.  
Skull Valley Band of Goshute Indians  
3301-R Coors Road, N.W.  
Suite 302  
Albuquerque, NM 87120  
e-mail: [tvollmann@hotmail.com](mailto:tvollmann@hotmail.com)

\* By U.S. mail only



Paul A. Gaukler

**IV. FLIGHTS ON AIRWAY IR-420 AND TO AND FROM MICHAEL ARMY AIRFIELD (SUPPLEMENTING SECTION VI OF THE REPORT)**

In its May 31 Response, PFS estimated the level of traffic to and from Michael Army Airfield in the direction of airway IR-420 that could pass in the vicinity of the PFSF on the basis of FY00 operations data from Michael. PFS showed that the assumption of 414 flights per year in the Report is conservative in light of actual traffic and the fact that PFS has accounted for any direct F-16 traffic between Michael AAF and Hill Air Force Base in its Skull Valley transit hazard assessment. May 31 Response, RAI Question 2(a). PFS also confirmed that most of the aircraft that fly to and from Michael AAF that are not F-16s are transport aircraft. May 31 Response, RAI 2(c).<sup>41</sup>

**V. SECTION V (THROUGH PAGE 28) INTENTIONALLY REMOVED.**

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<sup>41</sup> While not directly pertinent to PFS's IR-420 and Michael Army Airfield assessment, PFS provided in its May 31 response to the RAI that there are five standard flight plans by which pilots routinely enter the UTTR South Area from Hill AFB other than via Skull Valley or IR-420. May 31 RAI Responses, 2(b).

the cask storage area, the effective area of the site would be only 55 percent of the area of the site at full capacity. Thus, the average aircraft crash impact hazard for the PFSF is only 55 percent of the peak hazard. Since effective area is integral to all calculations of risk, the total risk could likely be reduced by a factor of approximately 45% for an average risk value. Inclusion of this factor in PFS's assessment, which affects all of the separate risk factors, would alone reduce the cumulative hazard to the PFSF from 4.17 E-7 to 2.29 E-7 per year.

The cumulative effect of the conservatisms listed in this chapter of the Addendum, though somewhat more difficult to quantify and therefore not included in the Table above, would reduce the Cumulative Hazard shown in the Table from 4.17 E-7 to ~~2.29~~<sup>3.5</sup> E-7 if no adjustment is made for the lifetime average site effective area. If this cumulative hazard is adjusted for the lifetime average site effective area, the hazard becomes roughly ~~1.43~~<sup>1.90</sup> E-7.<sup>59</sup>

1.90

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<sup>59</sup> The estimates were made as follows. First, the hazard from F-16s transiting Skull Valley is reduced from 3.11 E-7 to 2.67 E-7 by accounting for Class A and B mishaps that do not result in destroyed aircraft. ~~It is reduced further to 1.87 E-7 by accounting for the impact penetration resistance of the storage casks.~~ The hazard from aircraft flying the Moser recovery is reduced from 2.0 E-8 to 1.72 E-8 by accounting for the Class A and B mishaps ~~and to 1.2 E-8 by accounting for the penetration resistance of the casks.~~ The jettisoned ordnance impact hazard is reduced from 3.2 E-8 to 7 E-9 by accounting for the ordnance impact penetration resistance of the casks. If those hazards are summed, along with the other hazards listed in the table in Section IV, the result is a cumulative hazard to the PFSF of ~~2.6~~<sup>3.5</sup> E-7. If that cumulative hazard is adjusted to account for the lifetime average site effective area, the hazard becomes ~~1.43~~<sup>1.90</sup> E-7.

1.90

**TAB CC INTENTIONALLY REMOVED**

TAB DD INTENTIONALLY REMOVED