July 28, 1999

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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| 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 PARTIAL SUMMARY DISPOSITION OF UTAH CONTENTION R - EMERGENCY PLAN

## INTRODUCTION

Pursuant to 10 C.F.R. §2.749(a), the NRC Staff ("Staff") herewith responds to "Applicant's Motion for Partial Summary Disposition of Utah Contention Utah R - Emergency Plan" ("Motion"), filed on June 28, 1999, by Private Fuel Storage L.L.C. ("Applicant" or "PFS"). For the reasons set forth below and in the attached Affidavits of Randolph L. Sullivan ("Sullivan Aff.") and Paul W. Lain ("Lain Aff."), the Staff submits that there does not exist a genuine dispute of material fact with respect to the Applicant's fire fighting capability as set forth in Utah Contention R. For these reasons, the Staff supports the Applicant's Motion.[1]

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[1] The Staff hereby requests a one-page extension of the page limit for its response to the Applicant's Motion, the need for which could not reasonably have been anticipated prior to the finalization of this Response. Counsel for the Applicant and the State of Utah have advised the Staff that they do not oppose this request.

## BACKGROUND

Utah Contention R (Emergency Plan) was filed by the State of Utah on November 23, 1997.[2] As admitted by the Licensing Board on April 22, 1998, the contention states as follows:

> CONTENTION: The Applicant has not provided reasonable assurance that the public health and safety will be adequately protected in the event of an emergency at the storage site or the transfer facility in that:
>
> 1. PFS has not adequately described the ITP, the activities conducted there, or the area near the ITP in sufficient detail to evaluate the adequacy and appropriateness of the emergency plan.
>
> 2. PFS does not address response action, emergency information dissemination, or emergency response training programs for accidents at the ITP.
>
> 3. PFS has not adequately described the means and equipment for mitigation of accidents because it does not have adequate support capability to fight fires onsite.[3]

Thus, one of the issues admitted in this contention concerns the Applicant's means and equipment for fighting fires onsite, as to which the Applicant's Motion now seeks summary disposition.[4]

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[2] *See* "State of Utah's Contentions on the Construction and Operating License Application by Private Fuel Storage, LLC for an Independent Spent Fuel Storage Facility" ("Utah Contentions"), dated November 23, 1997, at 116-22.

[3] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 195-96, 254 (1998). The Licensing Board excluded other portions of Utah Contention R. *See Id.* at 196.

[4] The other two subparts of this contention concern the need for emergency planning at the Applicant's proposed Intermodal Transfer Point (ITP). The Licensing Board has observed that further litigation on the merits of those issues "may be subject to any merits disposition of Utah B." LBP-98-7, 47 NRC at 196 n.18. PFS has filed a motion seeking summary disposition of Utah Contention B, which could affect the continued viability of the ITP portions of Utah Contention R.

In support of the firefighting issue in Utah Contention R, the State asserted that the climate and precipitation in Skull Valley are such that "fire is a serious risk which must be taken into account" (Utah Contentions at 121). The State further asserted that PFS had not described the means and equipment needed for mitigating the consequences of fires, contrary to 10 C.F.R. § 72.32(a)(5) and Reg. Guide 3.67 § 5.3 (*Id.* at 120).[5] In particular, the State asserted that (a) the Emergency Plan (EP) "does not state whether sufficient water is available to fight a fire of any consequence and does not describe the program for maintaining any equipment," and (b) while the Applicant's Safety Analysis Report (SAR) indicates that PFS will obtain water for fighting fires from surface storage tanks, the tanks' water capacity requires evaluation (*Id.*):

> [W]hether the storage tanks could hold sufficient water for a serious fire must be further examined, especially since the Applicant has identified the use of a fire truck at the site, another fire truck available from the reservation, as well as trucks supplied by Tooele County Fire Department, all of which may need access to the water tanks in a widespread difficult fire situation.

In its motion for partial summary disposition of Utah Contention R, PFS asserts that "the adequacy of the PFSF water supply (and firefighting generally) is immaterial to the decision the NRC must make regarding the adequacy of the PFS Emergency Plan ("EP"), in that the PFSF is

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[5] As the Staff indicated in its response to this contention, Reg. Guide 3.67 ("Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities") applies to emergency plans submitted under 10 C.F.R. §§ 30.32(i)(3), 40.31(j)(3), or 70.22(i)(3); it does not apply to emergency plans submitted with an application for an ISFSI under 10 C.F.R. Part 72. Rather, guidance for an ISFSI emergency plan is provided in NUREG-1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities" (Draft for Comment, October 1996). *See* "NRC Staff's Response to Contentions Filed by (1) the State of Utah, (2) the Skull Valley Band of Goshute Indians, (3) Ohngo Gaudadeh Devia, (4) Castle Rock Land and Livestock, *et al.*, and (5) the Confederated Tribes of the Goshute Reservation and David Pete," dated December 24, 1997, at 42.

designed to withstand the effects of credible fires without firefighting by personnel or the operation of any automatic fire detection/suppression system" (Motion at 3). PFS further states:

> PFS does not need to provide for the active mitigation of the consequences of fire at the PFSF, in that the PFSF is designed so that no credible fire could cause a significant radioactive release, even without any firefighting by personnel or the operation of any automatic fire detection/suppression system. NRC regulations only require PFS to show how it will mitigate the consequences of potential radiological accidents at the PFSF. Thus, PFS has met the requirements and is entitled to summary disposition.

*Id.* at 4; emphasis in original.

More specifically, PFS states (supported by the Declarations of Jeffrey Johns and Ram Srinivasan, as well as other Declarations filed in support of its motion for summary disposition of Utah Contention K),[6] that it has analyzed the consequences of various fires involving diesel fuel at the site, which "represent the only instances in which a significant quantity of combustible material would be near a spent fuel storage cask" (*Id.* at 6). PFS indicates that this analysis showed that such fires would either be of short duration and produce temperatures below 1475° F. . . . or would be located over 100 feet from the nearest storage cask . . . , with the result that the fires would not cause a radioactive release from a spent fuel cask (*Id.* at 6-8). Further, PFS states that its analysis of wildfires "showed that wildfires could not burn within the Restricted Area, because of the lack of combustible materials therein, and that wildfires would therefore not cause any significant harm to the spent fuel casks or any other system important to safety at the PFSF" (*Id.* at 8). In sum, PFS states:

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[6] *See* "Applicant's Motion for Partial Summary Disposition of Utah Contention K and Confederated Tribes Contention B," dated June 7, 1999.

> PFS has shown that fire at the PFSF would not cause a significant radioactive release, even without any firefighting by personnel or the operation of any automatic fire detection/suppression system such as a water sprinkler. No credible fire at the PFSF would threaten the integrity of a spent fuel storage cask or threaten any other SSCs important to safety in a way that could cause such a release. . . . Thus, the adequacy of the PFSF water supply (and PFSF firefighting generally) is immaterial to the decision the NRC must make under its emergency planning regulations as to the adequacy of PFS's description of the means of mitigating the consequences of accidents.

*Id.* at 8-9. Accordingly, PFS concludes that summary disposition of this portion of Utah Contention R should be entered in its favor.

## DISCUSSION

### A. Legal Standards Governing Motions for Summary Disposition.

Pursuant to 10 C.F.R. §2.749(a), "[a]ny party to a proceeding may move, with or without supporting affidavits, for a decision by the presiding officer in that party's favor as to all or any part of the matters involved in the proceeding." The Licensing Board has recently summarized the standards governing summary disposition in this proceeding. *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-99-23, 49 NRC ___ (1999), slip op. at 10.[7]

For the reasons set forth below and in the attached Affidavits of Paul W. Lain and Randolph L. Sullivan, the Staff submits that no genuine issue of material fact exists with respect to this portion of Utah Contention R, and the Applicant's Motion should therefore be granted.

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[7] In addition, the Staff has previously addressed these standards in its responses to other motions for summary disposition in this proceeding; that discussion is hereby incorporated by reference herein. *See, e.g.*, "NRC Staff's Response to Applicant's Motion for Summary Disposition of Utah Contention G (Quality Assurance)," dated July 19, 1999, at 3-7.

B. No Genuine Dispute of Material Fact Exists Concerning Utah Contention R.

In its Motion, PFS reviews the applicable regulatory requirements governing emergency plans for ISFSIs, stating that the Commission's emergency planning regulations in 10 C.F.R. Part 72 "are intended to provide protection against radiological hazards" (Motion at 4). As noted by PFS (*Id.*), these regulations require, *inter alia*, "a brief description of the means of mitigating the consequences" of accidents involving radioactive materials, including means provided to protect workers onsite. *See* 10 C.F.R. §§ 72.32(a)(2) and (a)(5).[8]

In its SAR, as revised through May 19, 1999, PFS described various events in its accident analysis, including fires which PFS considered to be credible. *See* SAR § 8.2.5. Based on that analysis, PFS concluded that "the canister storage and transfer systems meet the general design criteria of 10 C.F.R. § 72.122(c)" (SAR at 8.2-28); that "the temperature of the canister would not significantly change in the event of a credible fire near a storage cask or in the Canister Transfer Building" (*Id.* at 8.2-29); and, "[t]herefore, canister integrity would be retained in the event of fires and no activity released" (Id.).

In addition, PFS prepared an Emergency Plan (EP), in accordance with the requirements of 10 C.F.R. § 72.32(a). *See* SAR § 9.5, at 9.5-1. The SAR describes the responsibilities of emergency response personnel in the event of an emergency, and indicates that training will be provided to members of the emergency response organization. *Id.* at 9.5-1 - 9.5-2. PFS further indicates, *inter*

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[8] *See also,* Proposed Rule, "Emergency Planning Licensing Requirements for Independent Spent Fuel Storage Facilities and Monitored Retrievable Storage Facilities," 58 Fed. Reg. 29795 (May 24, 1993) (the objective of the rule is "to protect the public against . . . radiological hazards"); *cf.* 53 Fed. Reg. 31651, 31654 ("[t]he primary purpose of an emergency response plan is to prescribe measures to be taken to mitigate the effects of accidental releases of radioactivity").

*alia*, that a fire pumper truck is stationed at the site; members of the fire brigade are trained in the truck's operation; an additional fire truck is located at the Skull Valley Goshute reservation and is available for use at the site; and offsite assistance may be requested from the Tooele County Fire Department. *Id.* at 9.5-2. [9]

The Emergency Plan submitted by PFS, as revised on May 19, 1999, provides detailed information concerning the Applicant's plans for responding to emergencies at the site. With respect to fires, PFS indicates that while certain fires would not be deemed to constitute an emergency condition, if a fire causes emergency action levels (EALs) associated with increased radiation and airborne contamination levels to be exceeded, the fire would be classified as an Alert (EP at 2-12); in particular, the Emergency Plan indicates that "a fire involving a loaded storage, transfer or shipping cask that lasts longer than 15 minutes, warrants the Alert classification" (EP at 2-15).[10]

In Chapter 3 of its Emergency Plan, PFS describes its plans for accident detection, mitigation, and assessment of radiological releases. With respect to the mitigation of accident consequences involving a fire, the Plan states as follows (*Id.* at 3-5 - 3-6):

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[9] *See also*, SAR at 8-2.24 - 8.2-28 (discussing the size and location of onsite diesel fuel storage tanks, administrative procedures, automatic fire detection and suppression systems).

[10] PFS states that for fires lasting 15 minutes, the HI-STORM storage cask would suffer no significant damage and would retain its structural integrity, and the canister would be unaffected; but neutron shields utilized in the transfer casks "could be affected by high temperatures involved in a fire, and significant fires could potentially damage the neutron shield, resulting in higher dose rates in the vicinity of the canister" -- which PFS deems to be a credible event (EP at 2-16 - 2-17). PFS does not indicate the dose rates that would be expected in the event of damage to the neutron shield. However, the HI-STORM SAR indicates that in the event of a total loss of the neutron shield, the dose rate at a distance of 1 meter from the cask would increase to 1,090 mrem/hr (from the previous dose rate of 380 mrem/hr). *See* HI-STORM SAR, Rev. 9, at 11.2-3.

> Fire fighting capability is available onsite, consisting of a fire truck, fire fighting equipment and trained personnel assigned to the fire brigade. Personnel will be evacuated from the affected area and the fire brigade will be mobilized to mitigate the consequences of a fire. A second fire truck, stationed near the PFSF site at the Skull Valley Indian Reservation village, is also available and can rapidly respond to the site to supplement the fire fighting capability at the PFSF. The Tooele County Fire Department will be called to assist in extinguishing fires beyond the capability of the fire brigade.
>
> The Canister Transfer Building is constructed of fire retardant and non-flammable building materials. Administrative controls will restrict combustibles within the building to those necessary for canister transfer operations. However, the diesel fuel in tanks of the heavy-haul transport vehicles will enter the Canister Transfer Building when shipping casks are trucked into and out of the building. Automatic fire detection and suppression capability will be provided in the Canister Transfer Building, in accordance with National Fire Protection Association (NFPA) requirements, to mitigate the effects of a worst case fire and assure a diesel fuel fire is extinguished in a timely manner.

In Chapters 4 and 5 of its Emergency Plan, PFS describes its normal and emergency response organizations, and personnel responsibilities for emergency response -- including duties during normal and off-shift hours; the use of emergency communications equipment; equipment and means for protection of onsite personnel; and emergency response equipment and facilities. With respect to fires, the emergency response equipment includes, *inter alia*, the following:

> Automatic fire detection and suppression equipment located in the Canister Transfer Building;
>
> The PFSF onsite fire truck
>
> Personnel protective equipment, including respirators and anti-contamination clothing;
>
> Fire fighting equipment and gear, including self-contained breathing apparatus . . . .

*Id.* at 5-8. The Emergency Plan further indicates that specialized training will be provided to the emergency response organization, including the following: "Facility Fire Brigade members will receive training in methods of controlling fires under accident conditions in accordance with Fire protection Procedures, search and rescue, first aid, and procedures for handling and treating contaminated and injured personnel. Additional training will be provided on operation of the fire trucks and ambulance." *Id.* at 6-2. In addition, the Emergency Plan indicates that fire drills will be conducted in accordance with Fire Protection Procedures, at least annually. *Id.* at 8-2.

During its review of the PFS SAR and Emergency Plan, the Staff issued two Requests for Additional Information (RAIs), which included requests concerning fire brigade staffing, the capability of the fire brigade to respond to fires during off normal hours, the amount of water to be maintained for firefighting at the site, the back-up fire truck located on the Goshute reservation, an analysis of wildfires, and emergency procedures for response to external fires.[11]

Responses to these portions of the Staff's RAIs were submitted by PFS on June 15, 1998 (RAI 9-14) and February 10, 1999, respectively.[12] In its responses to the Staff's RAIs, PFS, *inter alia*, provided details concerning (a) its EALs (which include an Alert classification for a fire affecting a loaded Storage, Transfer or Shipping cask, if the cask is affected by fire for longer

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[11] *See* letter from Mark S. Delligatti (NRC) to John D. Parkyn (PFS), dated April 1, 1998 ("First Round RAIs"), Enclosure at SAR 9-4 (RAI 9-14); and letter from Mark S. Delligatti (NRC) to John D. Parkyn (PFS), dated December 10, 1998 ("Second Round RAIs"), Enclosure at 12, 23, 25 and 27 (RAIs 8-3, EP-7, EP-8, EP-12, EP-21).

[12] *See* letter from John Donnell (PFS) to Director, NRC Office of Nuclear Material Safety and Safeguards (NMSS), dated June 15, 1998; and letter from John D. Parkyn (PFS) to Director, NMSS, dated February 10, 1999. The Staff's RAIs also sought information concerning other aspects of the Applicant's emergency plan, outside the scope of Utah Contention R.

than 15 minutes) (RAI EP-2); (b) the number and staffing of its fire brigade (RAI EP-7); (c) the capacity of its fire water tanks (*Id.*);[13] (d) staffing of the fire truck brigade (RAI EP-8); and (e) its fire protection systems and equipment, and its related maintenance program (RAI EP-12).[14]

On June 15, 1999, the Staff filed a statement of its position concerning Utah Contention R, as the Licensing Board had required.[15] As stated therein, based on its review of the Applicant's SAR, Emergency Plan and responses to RAIs, the Staff concluded that "the Applicant's description of its onsite fire fighting capability and equipment is adequate" (Statement of Position, at 21). More particularly, the Staff stated as follows:

> The Applicant's Emergency Plan establishes that fire protection systems will be tested and operational (including fire truck, fire pumps, and sprinkler systems), fire personnel will be trained and available, and fire drills will be performed and determined acceptable.
>
> The operability of the Applicant's fire protection systems (including fire truck, fire pumps, and sprinkler systems), the adequacy of

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[13] PFS indicated that it will utilize two fire protection water tanks to provide water for fire fighting at the site, each of which will have a minimum capacity of "200,000 gallons, which is adequate to supply fire water for a minimum of 2 hours to the site fire protection systems in accordance with NFPA 13," and to assure compliance with the NFPA 13 specification of an 8 hour period for refill of the fire water tank (Response to RAI EP-7).

[14] PFS indicated that its fire protection system, described in § 4.3.8 of its SAR, consists of "an electric and diesel fire pump, a primary and backup water supply tank for the fire pumps, a sprinkler type fire suppression system located in the Canister Transfer Building, fire hydrants located near each building, fire trucks, breathing apparatus, and portable fire extinguishers located in each building and the yard area" (Response to RAI EP-12(c)). PFS further indicated that it would use written procedures to test and maintain fire protection systems and equipment in order to assure operability, and that its procedures will satisfy NFPA 25 requirements for testing, inspection and maintenance (*Id.*).

[15] *See* "NRC Staff's Statement of Its Position Concerning Group I Contentions," dated June 15, 1999 (Enclosure at 21-22).

> training to be received by its fire brigade, and the results of fire drills that are performed by PFS, will be evaluated by the Staff during its post-licensing operational inspections of the facility.

Statement of Position, at 21-22.

In sum, the Staff has concluded that the Applicant's Emergency Plan satisfies the Commission's emergency planning regulations, and that sufficient information has been provided concerning the Applicant's plans for detecting, assessing, and mitigating the consequences of fires at the facility. As set forth in the attached Affidavits of Paul Lain and Randolph Sullivan, this determination is based, not on the credibility of a fire occurring which may result in a significant release of radiation, but on the sufficiency of the Applicant's plans for responding to a fire event.[16]

## CONCLUSION

For the reasons set forth above and in the attached Affidavits of Paul W. Lain and Randolph L. Sullivan, the Staff supports the Applicant's motion for partial summary disposition of Utah Contention R, and recommends that it be granted.

Respectfully submitted,

Sherwin E. Turk
Counsel for NRC Staff

Dated at Rockville, Maryland
this 28th day of July 1999

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[16] The Staff agrees with PFS' assertion that, under 10 C.F.R. § 72.32(a)(5), the Applicant needs to describe the means of mitigating the consequences of each type of radiological accident at the PFSF (*see* Motion at 4). The Staff does not agree, however, that events involving fires are beyond the EP planning basis; indeed, the Commission's regulatory guidance indicates that an ISFSI emergency plan needs to consider events involving fires. *See, e.g.*, NUREG-1567, Appendix C ("Emergency Planning"), at C-6, C-7, C-8, C-9, C-11, C-13, C-17, and C-18. Moreover, the Applicant's Emergency Plan indicates that certain types of fires warrant an EAL classification of Alert. *See* discussion *supra,* at 7 n.10, and 9-10.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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| In the Matter of | ) | |
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| PRIVATE FUEL STORAGE, L.L.C. | ) | Docket No. 72-22-ISFSI |
| | ) | |
| (Independent Spent Fuel Storage Installation) | ) | |
| | ) | |

AFFIDAVIT OF PAUL W. LAIN CONCERNING
UTAH CONTENTION R (EMERGENCY PLANNING)

| | | |
|---|---|---|
| COUNTY OF MONTGOMERY | ) | |
| | ) | SS: |
| STATE OF MARYLAND | ) | |

Paul W. Lain, having first been duly sworn, does hereby state as follows:

1. I am employed as a Fire Protection Engineer in the Fuel Cycle Licensing Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, in Washington, D.C. A statement of my professional qualifications is attached hereto.

2. This Affidavit is prepared in response to the "Applicant's Motion for Partial Summary Disposition of Utah Contention R" ("Motion"), filed on June 28, 1999, 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. As part of my official responsibilities, I reviewed the Applicant's Safety Analysis Report (SAR) and Emergency Plan (EP), as revised on May 19, 1999, pertaining to the Applicant's fire protection equipment and firefighting capabilities, as well as its related responses to the NRC Staff's Requests for Additional Information (RAIs) dated May 19, 1998, June 15,

1998, and February 10, 1999, related to PFS' application for a license for an Independent Spent Fuel Storage Installation ("ISFSI"), to be located on the reservation of the Skull Valley Band of Goshute Indians.

4. In addition, I have reviewed the "NRC Staff Position" on Utah Contention R, as set forth in the "NRC Staff's Statement of Its Position Concerning Group I Contentions," dated June 15, 1999, as it pertains to the means and equipment for fighting fires onsite (Staff Position, at 21-22). Based on my review of the Applicant's submittals, I believe that the statements contained in the NRC Staff Position concerning these matters are correct.

5. Also as part of my official responsibilities, I have reviewed the Applicant's Motion and the attachments thereto, in which PFS seeks summary disposition of Utah Contention R; and the foregoing "NRC Staff's Response to Applicant's Motion for Partial Summary Disposition of Utah Contention R - Emergency Plan," dated July 28, 1999 ("Staff Response").

6. On the basis of my review of the Applicant's SAR, Emergency Plan, and responses to the Staff's RAIs, I am satisfied that the factual statements contained in the foregoing Staff Response are correct. No position is expressed herein with regard to the Statement of Material Facts attached to the Applicant's Motion.

7. I hereby certify that the foregoing is true and correct to the best of my knowledge, information and belief.

Paul W. Lain

Sworn to before me this
28th day of July 1999

Notary Public

My commission expires: 12/1/2001

# Paul W. Lain, P.E.
## Statement of Professional Qualifications

Mr. Lain is a board certified professional engineer with more than 15 years of experience in fire protection engineering. He has held technical and project management positions for the U.S. Navy, Department of Energy (DOE), and the Nuclear Regulatory Commission (NRC). He has conducted inspections on aircraft carriers, battleships, plutonium and uranium manufacturing facilities, and a nuclear waste storage facility. He has conducted over 100 shipboard fire tests to test the effectiveness of smoke control systems onboard naval vessels. He was the fire protection expert on multiple Operational Readiness Reviews for DOE nuclear facilities. Mr. Lain authored the Fire Protection Chapter of the Standard Review Plan for NRC fuel cycle facilities, and conducted the fire protection review for the re-licensing of the Nuclear Fuel Services facility in Tennessee. Currently, Mr. Lain currently conducts all fire protection licensing reviews for fuel fabrication facilities licensed by the NRC.

### EDUCATION

Bachelor of Science in Fire Protection Engineering from the University of Maryland, 1983
Master of Science in Fire Protection Engineering from Worcester Polytechnic Institute, 1996

### PROFESSIONAL EXPERIENCE

From 1983 to 1991, Mr. Lain was a fire protection engineer for the Fire Protection Systems Branch of the Naval Sea Systems Command. He was the project manager for many research projects pertaining to fire protection onboard U.S. naval ships and submarines. He conducted over 100 large scale fire tests onboard the navy's test vessel USSX Shadwell, to determine the feasibility of active smoke control utilizing the existing shipboard ventilation system. He performed fire protection inspections and design reviews on a variety of naval vessels.

From 1991 to 1997, Mr. Lain was a fire protection engineer for the Division of Nuclear Material and Facility Stabilization at DOE. Mr. Lain was the fire protection subject matter expert for reviews of Safety Analysis Reports (SARs) at Rocky Flats Environmental Technology Site and Idaho National Engineering Laboratory, for Operational Readiness Reviews of F-Canyon, FB-Line, and the Inter Tank Processing facilities at the Savanna River Site, and the Fire Protection Vulnerability Review of Y12 and K25 facilities at Oak Ridge.

Since May of 1997, Mr. Lain has been a fire protection engineer for the NRC Office of Nuclear Materials Safety and Safeguards, in the Licensing and International Safeguards Branch. He conducts fire safety reviews for fuel cycle facilities licensed by the NRC and is the NRC project manager for the Siemens Power Corporation facility in Richland, Washington. Additional duties have included the development of the Fire Safety Chapter of the Standard Review Plan for fuel cycle facilities, inspection of Oak Ridge National Laboratory's Research and Engineering Development Center for the DOE Pilot Study, and inspection of the Gaseous Diffusion Plant at Paducah, KY.

**MEMBERSHIPS**

Mr. Lain is a member of the National Fire Protection Association (NFPA) and has served on several standards committees of the NFPA. He is a licensed professional engineer in the State of Maryland.

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NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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| In the Matter of | ) | |
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| PRIVATE FUEL STORAGE, L.L.C. | ) | Docket No. 72-22-ISFSI |
| | ) | |
| (Independent Spent Fuel Storage Installation) | ) | |
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AFFIDAVIT OF RANDOLPH L. SULLIVAN CONCERNING
UTAH CONTENTION R (EMERGENCY PLANNING)

| | | |
|---|---|---|
| COUNTY OF MONTGOMERY | ) | |
| | ) | SS: |
| STATE OF MARYLAND | ) | |

Randolph L. Sullivan, having first been duly sworn, does hereby state as follows:

1. I am employed as an Emergency Preparedness Specialist, in the Operator Licensing, Human Performance, and Plant Support Branch, Division of Inspection Program Management, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, in Washington, D.C. A statement of my professional qualifications is attached hereto.

2. This Affidavit is prepared in response to the "Applicant's Motion for Partial Summary Disposition of Utah Contention R" ("Motion"), filed on June 28, 1999, 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. As part of my official responsibilities, I reviewed the Applicant's Emergency Plan, as revised on May 19, 1999, and its responses to the NRC Staff's Requests for Additional Information (RAIs) dated May 19, 1998, June 15, 1998, and February 10, 1999, concerning emergency planning issues related to PFS' application for a license for an Independent Spent Fuel

Storage Installation ("ISFSI"), to be located on the reservation of the Skull Valley Band of Goshute Indians.

4. In addition, I participated in preparing the "NRC Staff Position" on Utah Contention R, as set forth in the "NRC Staff's Statement of Its Position Concerning Group I Contentions," dated June 15, 1999 (at 20-22). The NRC Staff Position accurately represents my views concerning this contention.

5. Also as part of my official responsibilities, I have reviewed the Applicant's Motion and the attachments thereto, in which PFS seeks summary disposition of Utah Contention R; and the foregoing "NRC Staff's Response to Applicant's Motion for Partial Summary Disposition of Utah Contention R - Emergency Plan," dated July 28, 1999 ("Staff Response").

6. On the basis of my review of the Applicant's Emergency Plan and PFS' responses to the Staff's RAIs, I am satisfied that the factual statements contained in the foregoing Staff Response are correct. No position is expressed herein with regard to the Statement of Material Facts attached to the Applicant's Motion.

7. I hereby certify that the foregoing is true and correct to the best of my knowledge, information and belief.

Randolph L. Sullivan

Sworn to before me this
28th day of July 1999

Notary Public
My commission expires: 12/1/2001

**Randolph L. Sullivan**
**Statement of Professional Qualifications**

Mr. Sullivan is a board certified health physicist with more than 25 years of experience in emergency preparedness and radiological protection. He has held senior technical and managerial positions within the commercial nuclear industry and the Federal Government. His expertise includes health physics, technical hazards assessment, engineering and emergency preparedness. He has provided consulting assistance to more than 12 commercial nuclear utilities and several private firms. He has performed on projects for Department of Energy prime contractors. His experience in private industry has included responsible management and technical staff positions. He managed a full-scope nuclear power plant emergency preparedness program and was the Project Manager on the startup of an emergency preparedness program. As a Radiation Specialist at the Nuclear Regulatory Commission, he inspected commercial nuclear power plants, large byproduct-material licensees, a waste disposal site, and a fuel fabrication facility. Mr. Sullivan currently is an Emergency Preparedness Specialist with the Nuclear Regulatory Commission.

**EDUCATION**

B.S. Engineering Science, Illinois Institute of Technology
U.S. Atomic Energy Commission, Reactor Health Physics Training Courses

**BACKGROUND**

At U. S. Nuclear Regulatory Commission, he is an Emergency Preparedness Specialist, performing licensing activities for nuclear licensees.

At Advanced Technologies and Laboratories, Inc. he was a consultant to DOE, supporting the Office of Environmental Management in the assessment of LLW disposal site radiological capacity, the Office of Environment, Safety and Health (ES&H) in the development of professional level Radiation Protection training programs and the Office of Emergency Management in the assessment of demonstration exercises and the development of performance measurements. He assisted the Waste Isolation Pilot Plant site in the conduct of emergency management exercises during their Operational Readiness Review and in the mentoring of Emergency Preparedness staff

At Program Management Inc., Mr. Sullivan provided technical support to DOE's Office of Environment, Safety and Health in radiation protection standards and policy development. He supported the development of an Environmental Assessment for amendments to 10 C.F.R. Part 835 "Occupational Radiation Protection" and finalization of Revision 2 to the DOE Radiological Control Manual.

At Natural and Technical Hazards Management Inc.(NTHMC), Mr. Sullivan developed emergency action levels for the Power Burst Facility and the Test Area North at Idaho National Engineering Laboratory. This included detailed efforts to assess radiological and toxic chemical hazards.

At mbs Consulting Partners, Mr. Sullivan was the Chief Partner of this consulting group, which provided custom dose projection software to seven nuclear power plant sites. The software implemented the new 10 C.F.R. Part 20 and EPA 400 regulations. mbs was also the American distributer for the Safe Training System, a chemical and radiological contamination simulation system.

At GPU Nuclear, Mr. Sullivan was the Oyster Creek Nuclear Generating Station Emergency Preparedness Manager, responsible for a full scope Emergency Preparedness (EP) program and a staff of senior technical personnel. He implemented numerous improvement projects leading to the only NRC rating of SALP-1 at this site for several reporting periods. He established a "state of the art" Technical Support Center including automated data projection systems and an online dose projection system. He upgraded and standardized training programs to minimize student time while maximizing training impact by the use of case studies and hands on testing. He developed numerous drill/ exercise scenarios, conducted the associated critiques and assigned corrective actions. Mr. Sullivan critiqued over 20 actual emergency events, assigning corrective actions where appropriate and presenting findings to Management and NRC. He was responsible for extensive interface with State and local officials in the implementation of supportive emergency plans as well as conducting media briefings and responding to media inquiries. He was responsible for all NRC interface for emergency preparedness. He participated in Institute for Nuclear Power Operations EP assessments at nuclear plant sites and was requested to critique several exercises at neighboring power plants. Mr. Sullivan was selected as Secretary of the Site Management Team, a senior level committee created to foster a culture of excellence. He managed engineering, technical and craft personnel during the 15R outage as the Turbine Building Manager.

At Hydro Nuclear Services, Mr. Sullivan provided health physics audit and consulting services to Nuclear Pharmacy Inc., a large byproduct-material licensee. He supported several emergency preparedness and health physics projects for nuclear power plants.

At Impell Corporation, Mr. Sullivan was Project Manager for an emergency preparedness startup and licensing effort at a nuclear power plant. He managed a group responsible for the development of a unique simulator-based training and drill program. He trained and coached executive and senior management personnel through a successful first exercise.

At Allen Nuclear Associates, Mr. Sullivan was part of a technical staff performing the start-up of a full scope nuclear plant health physics program. He assisted in the development of the emergency preparedness program and the ALARA program. He performed management analysis for the selection of appropriate staff for senior emergency plan positions.

At Quadrex Corporation, Mr. Sullivan was Manager of Health Physics Services, responsible for multiple projects including preparation of emergency plans and procedures, nuclear plant decommissioning, accident analysis, diffusion modeling, environmental monitoring, and the Systematic Evaluation Program for two power plants. He participated in the assessment of the General Atomic Fusion Reactor and supported the Hanford Tank Farm remediation project. He performed a hazards assessment in support of the startup of the Loss of Flow Test Facility at INEL.

While with the NRC (in the 1970s), Mr. Sullivan was responsible for the regulation and inspection of Health Physics and Emergency Preparedness programs at nuclear plants, research reactors, a fuel fabrication facility, hospitals, universities, and large industrial byproduct-material licensees.

As a Health Physics Technician at the University of Illinois, Mr. Sullivan routinely inspected over 100 medical research labs, developed procedures, shipped rad-waste, implemented a TLD system, and supported radiation therapy dosimetry.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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| In the Matter of | ) | |
| | ) | |
| 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 the "NRC STAFF'S RESPONSE TO APPLICANT'S MOTION FOR PARTIAL SUMMARY DISPOSITION OF UTAH CONTENTION R - EMERGENCY PLAN" in the above captioned proceeding have been served on the following through deposit in the Nuclear Regulatory Commission's internal mail system, or by deposit in the United States mail, first class, as indicated by an asterisk, with copies by electronic mail as indicated, this 28th day of July, 1999:

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