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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board



In the Matter of)

PRIVATE FUEL STORAGE L.L.C.)

(Private Fuel Storage Facility))

Docket No. 72-22-157

APPLICANT'S REVISED PRE-FILED TESTIMONY ON
CONTENTION UTAH R—FIRE PROTECTION

Private Fuel Storage, L.L.C. ("PFS") hereby submits revised pre-filed testimony of Ken Dungan and Wayne Lewis on Contention Utah R—Fire Protection at the PFSF. The revised testimony consists of pages to replace those filed with PFS's original pre-filed testimony. PFS also notes that it will update the PFSF Safety Analysis Report and Emergency Plan shortly to reflect the revised testimony.

Respectfully submitted,

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that the absence of other combustibles at the site would preclude an electrical fire from threatening the integrity of a spent fuel canister or the structural integrity of the CTB.

Therefore, because a prompt response will not be required during off-hours, in the event of a fire PFSF security personnel would employ a call-in procedure to muster fire brigade members from off-site to respond to the fire. The role of PFSF security personnel, who will be trained in fire response, would be to assess the fire and promptly notify the fire brigade. Security personnel will not, however, participate on the fire brigade.

PFS had previously represented to the NRC Staff that security personnel would be used to expedite the staffing of a fire brigade and, where appropriate, used for the initial response. As described above, however, it is not necessary for security personnel to actually participate on the fire brigade. PFS will update the PFSF Safety Analysis Report and Emergency Plan shortly to reflect this change.

Q49. What will be the role of the fire trucks at the PFSF?

A49. [Dungan] The fire trucks are not necessary to respond to any fire emergencies inside the PFSF Restricted Area and thus are not needed to prevent damage to a spent fuel cask or canister. Because the site has an adequate and reliable water supply (see Answer 52), the trucks function as a way to bring additional hose for use with hydrants, nozzles, breathing apparatus, etc.

Q50. Will the PFSF fire brigade be adequate to perform its role?

A50. [Dungan] The proposed brigade will be adequate both in numbers and training. The requirements of NFPA 600, to which brigade members will be trained and equipped, represent industry best practice.

C. Water Supply at the PFSF

Q51. What sources of water will be available at the PFSF for firefighting?

A51. [Lewis] The water supply is two tanks of 100,000 gallons each and two fire pumps. The CTB cask load/unload bay is to be protected by a foam-water sprinkler system in accordance with NFPA 16. The PFSF will also have hose stations inside the buildings on-site, designed and located in accordance with NFPA 14, and fire hydrants outside the buildings on-site, designed and located in accordance with NFPA 24.

PFS had previously represented to the NRC Staff that two 200,000-gallon water tanks would be present at the PFSF, but in light of the actual water requirement for the facility, the tanks have been reduced in size to 100,000 gallons each. As shown below, that is more than enough for firefighting at the PFSF.

Q52. Given the possible fire scenarios you have identified for the PFSF and the fire protection measures that will be employed there, would the supply of water at the PFSF be adequate for firefighting?

A52. [Dungan] The proposed water supply is extremely conservative for a site the size and hazard of PFSF. Water supplies are typically sized for the maximum fire flow demand. For the PFSF, the biggest demand would be presented by the sprinkler system in the cask load/unload bay.

For the foam-water sprinkler system for the cask load/unload bay, the conservative design criteria of NFPA 16, which is subsumed in NFPA 801, requires 0.16 gpm/ft² for a demand area of 5,000 ft² (tests have demonstrated that 0.1 gpm/ft² of aqueous film forming foam (AFFF) can extinguish a fuel spill fire). The NFPA 16 requirement includes a foam supply capable of meeting this demand for 10 minutes, but a water supply capable of meeting this demand for 60 minutes. These totals include 240 gallons of foam and 48,000 gallons of water. Adding 250 gpm for fire brigade hose lines, the worst case water demand required by NFPA standards would be 63,000 gallons. Because of the large size of the cask load/unload bay relative to the other areas in the CTB, this requirement bounds any other requirements for water at the PFSF. NFPA 801 requires that where a tank provides the water supply, the tank should be capable of being

refilled within 8 hours. This requirement would be satisfied at the PFSF in that PFS will have a second full water tank, identical to the first, that will contain over 50 percent more than the 63,000 gallons of water required for the site.

A more realistic water requirement for the PFSF would be for the operation of the foam-water sprinklers for 10 minutes with a concurrent 100 gpm hose line for a total water need of 9,000 gallons for an interior fire response. (A system operator at the PFSF could shut off the sprinkler after the fire was extinguished) Each water tank at the PFSF will contain more than 10 times this amount. The water supply proposed for PFSF is more than adequate, and the excess capacity and redundant tanks and pumps make it extremely reliable.

D. Maintenance of Fire Protection Equipment

Q53. Will PFS have a program for maintaining the fire protection equipment at the PFSF?

A53. [Lewis] Yes. As indicated in the PFSF SAR, Section 4.3.8.1, the fire protection equipment at the PFSF, including the CTB foam-water system, yard hydrants, fire pumps, water storage tank, service mains, and all associated components will be maintained in accordance with NFPA 25. The PFSF fire detection system will be installed and maintained in accordance with NFPA 72.

IV. CONCLUSION

Q54. In conclusion, would fire be a possible hazard to cause a release of radioactive material to the environment from the PFSF?

A54. [Dungan] No possible fire exposure could cause a release of radioactive material, since the fire hazards, even unmitigated, are not severe enough to breach the spent fuel confinement.

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CERTIFICATE OF SERVICE

I hereby certify that copies of the "Applicant's Revised Pre-filed Testimony on Contention Utah R—Fire Protection" were served on the persons listed below (unless otherwise noted) by e-mail with conforming copies to NRC offices by U.S. Mail, this 16th day of June 2000. Conforming copies will be provided to the Atomic Safety and Licensing Board and the parties at the hearing by hand on Monday, June 19, 2000.

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