

*Private Fuel Storage, LLC*

*P.O. Box C4010, La Crosse, WI 54602-4010*

*John D. Parkyn, Chairman of the Board*

May 18, 1998

Director  
Office of Nuclear Material Safety and Safeguards  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

**PRIVATE FUEL STORAGE LLC  
APPLICATION FOR 10 CFR PART 72 LICENSE  
DOCKET NO. 72-22  
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
TAC NO. L22462**

REFERENCE: (1) NRC Letter Haughney to Parkyn, dated March 11, 1998  
Information Requested to Ensure Appropriate Scheduling Prioritization  
of the Private Fuel Storage LLC Application Review (TAC No. L22462)

The March 11, 1998 letter (Reference 1) requested the following information:

1. "A list of the operational requirements of its member utilities for dry cask storage and the projected dates of loss of full core reserve off load capabilities."
2. A description of contingency plans for storage by member utilities (e.g. transshipment of spent fuel) which would allow for continued operations in the event that the PFS ISFSI licensing process has not been completed in time to meet the projected dates."

Prior to the date of Reference 1, we orally provided to your staff information responsive to Item 1. This letter confirms that information as well as providing information responsive to Item 2.

The eight member utilities of Private Fuel Storage (PFS) own or operate 20 licensed reactors with spent fuel stored on site. Each of these reactors will be discussed and the corresponding questions answered.

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The projected dates of loss of full core reserve off load capabilities are outlined in Table 1. In your additional request for information a "description of contingency plans for storage by member utilities (e.g. transshipment of spent fuel) which would allow for continued operations in the event that the PFS ISFSI licensing process has not been completed in time to meet the projected dates."

**Consolidated Edison** - Consolidated Edison's Indian Point Unit #1 station is in shut-down for decommissioning. The continuing maintenance of fuel on-site will remain a cost until such time as it can be shipped. Consolidated Edison estimates that it has additional on-site capacity for Unit #2 until 2005 for interim storage of its spent nuclear fuel. Absent regulatory or technological developments by 2005, Consolidated Edison expects to require additional on-site or other spent nuclear fuel storage facilities. Such additional facilities would require regulatory approvals. In the event that Consolidated Edison is unable to make appropriate arrangements for the storage of its spent nuclear fuel, Consolidated Edison would be required to curtail the operation of Indian Point Unit #2. Consolidated Edison has participated in the PFS project since April 1994 and seeks the facility to permit continued operation of Indian Point Unit #2.

**Southern California Edison** - Southern California Edison has three units at its San Onofre site. San Onofre Unit #1 was permanently shut down in 1992. The Unit #1 spent fuel pool is full. Additional Unit #1 assemblies are being stored on an interim basis in the Unit #2 and Unit #3 spent fuel pools and in space leased at the General Electric Morris Facility through 2002.

San Onofre Unit #2 and Unit #3 can maintain full core reserve through 2006. Removal of Unit #1 fuel from the Unit #2 and Unit #3 spent fuel pools would extend this date to 2008. There are no contingency plans at this time to add on-site dry cask storage to allow continued operation of these units.

The PFS facility is needed to provide longer term storage for the Unit #1 spent fuel being stored on an interim basis in the Unit #2 and Unit #3 spent fuel pools and at the General Electric Morris Facility. It is also required to support Unit #2 and Unit #3 operation in the event that the Department of Energy does not begin acceptance of spent fuel at a rate needed for the continued operation of those units beyond the dates indicated above.

Southern California Edison intends to commence decommissioning of San Onofre Unit #1 in the near future. This will require the availability of dry cask storage facilities for its fuel not later than 2005. Southern California Edison is participating in the PFS project in order to provide such a facility.

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**Genoa FuelTech** - Genoa FuelTech is a subsidiary of Dairyland Power Cooperative. The La Crosse Boiling Water Reactor is a second round demonstration plant built by the U.S. Atomic Energy Commission and subsequently sold to Dairyland Power Cooperative of La Crosse, Wisconsin. The unit was operated from 1967 through to 1987. The date of loss of full core reserve off load capability is not applicable as the entire core has been off loaded into the spent fuel storage pool. Contingency plans for future operation do not apply to this unit. It is necessary that the fuel be shipped as soon as possible due to the significant cost impact on the utility in operating a stand-alone fuel storage facility. Any possible alternate use of the site is precluded pending completion of decontamination and dismantlement which cannot aggressively be pursued until fuel is removed from wet storage.

**American Electric Power** - The Cook Nuclear Plant is projected to lose its full core off load capacity in the spent nuclear fuel pool in about 2010.

If the PFS independent fuel storage installation is not granted an NRC license by that time, their contingency plans could include spent fuel consolidation, on-site dry cask storage, or spent fuel reprocessing.

**Illinois Power** - Illinois Power Company plans to ship spent fuel to the PFS facility in 2005. However, Illinois Power's requirements are that PFS would begin receiving spent fuel in 2002 from non-Illinois power reactor sites in order to meet the more urgent needs of other members of the PFS. Delays in their shipments will result in unacceptable delays in shipment from Clinton Power Station. The projected loss of full core reserve off load capability at Clinton is 2005.

With adequate implementation time, spent fuel capacity can be increased at Clinton Power Station either by licensing construction of additional wet spent fuel storage rack capacity or by the construction of on-site dry cask storage. No detailed plans for either contingency are in progress at this time.

**GPU Nuclear** - Oyster Creek full core off load capability was lost in 1996. GPU Nuclear plans to reconfigure the spent fuel storage pool in 1999 to provide full core off load reserve through the year 2000.

GPU is currently evaluating a number of options for the future of Oyster Creek. They include continued operation of the plant until the end life in 2009, potential sale of Oyster Creek, or early retirement in the year 2000. Should Oyster Creek elect to continue operation, which includes the sale option, the plant would be required to transfer fuel to a dry storage facility commencing 2001 in order to maintain full core off load reserve. If GPU Nuclear elects to retire Oyster Creek in the year 2000, the current plan is to proceed with immediate dismantlement. This option would require transfer of spent fuel to a dry fuel storage facility commencing in the year 2003.

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**GPU Nuclear (continued)** - Three Mile Island 1 full core off load capability will be lost in the year 2009. GPU Nuclear is currently planning to install the remaining new storage racks in the spent fuel pool in 2002. This will provide full core off load reserve through the current end-of-life date of 2014. Dry fuel storage for Three Mile Island 1 is not being considered at this time.

**Northern States Power** - Northern States Power is anticipating the availability of centralized interim storage of spent fuel at the PFS facility in Utah prior to exhausting on-site storage capability at Prairie Island in 2007. In the event this storage option is not available by 2007, Northern States Power would be forced to consider other options, which could include the premature shut-down of the Prairie Island units once the existing storage pools and dry casks are filled. Under current Minnesota law, Northern States Power is limited to the use of 17 TN-40 casks, or its equivalent, for continued on-site storage. This would preclude using new racking technologies or other means of increasing on-site storage options.

Northern States Power Monticello Plant has adequate storage capacity until approximately 2010, which coincides with the expiration of its operating license.

**Southern Nuclear** - The Southern Nuclear facilities spent fuel storage capabilities vary depending upon the site. Likewise, the current plans for addressing the storage needs vary depending upon the need date. Projected loss of full core reserve and fuel pool filled dates at each facility are shown in the following table. These dates are based upon no action by Southern Nuclear to mitigate the current storage situation.

	<u>Loss of Full Core Reserve</u>	<u>Fuel Pool Filled</u>
Farley Unit #1	2006	2010
Farley Unit #2	2010	2013
Hatch Plant*	2000	2003
Vogtle Plant*	2007	2008

\* Two unit plant with capability to share spent fuel pool storage spaces.

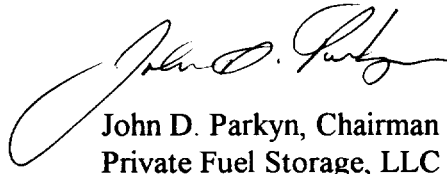
The contingency plan for lack of timely review and licensing of the PFS site would be to provide for additional on-site spent fuel storage capacity until an alternative off-site location could be found. This position applies to each of the above facilities. Planning for additional on-site spent fuel storage capacity at Plant Farley is anticipated to begin this year.

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**Southern Nuclear (continued)** - Since the PFS facility will clearly not be available to support the Hatch Plant need date, plans are currently underway to accommodate the extra storage capacity on site. Southern Nuclear is involved in a contractual relationship with Holtec International to supply dry cask storage systems licensed for storage and transportation. This storage technology is under contract through the 2002 period. Should the PFS facility be unavailable at that time, additional on-site storage will be contracted. In addition, engineering analysis is beginning that may lead to a request for the addition of a small amount of additional wet storage.

Southern Nuclear has already submitted an application for additional wet storage within the Plant Vogtle spent fuel pool. Should this application be approved, the increase in spent fuel storage capacity would add approximately 8-10 years to the Plant Vogtle dates stated above.

Sincerely yours,



John D. Parkyn, Chairman  
Private Fuel Storage, LLC

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Attachment

TABLE 1  
PRIVATE FUEL STORAGE LLC  
Member Utilities Licensed Reactor Expended Fuel Status

No.	Unit	Utility	License Status	Loss of Full Core Reserve
1	D. C. Cook Unit 1	Indiana Michigan Power Co.	10CFR50	2010
2	D.C. Cook Unit 2	Indiana Michigan Power Co.	10CFR50	2010
3	Indian Point Unit 1	Consolidated Edison Co.	10CFR50 Possession only	Shutdown - fuel on-site
4	Indian Point Unit 2	Consolidated Edison Co.	10CFR50	2005
5	La Crosse Boiling Water Reactor	Dairyland Power Cooperative	10CFR50 Possession only	Shutdown - fuel on-site
6	Oyster Creek	GPU Nuclear, Inc.	10CFR50	1996
7	Three Mile Island 1	GPU Nuclear, Inc.	10CFR50	2009
8	Three Mile Island 2	GPU Nuclear, Inc.	10CFR50 Possession only	Shutdown - fuel shipped
9	Clinton	Illinois Power Co.	10CFR50	2005
10	Monticello	Northern States Power Co.	10CFR50	2006
11	Prairie Island Unit 1	Northern States Power Co.	10CFR50	2007
12	Prairie Island Unit 2	Northern States Power Co.	10CFR50	2007
13	Pathfinder	Northern States Power Co.	10CFR30	Shutdown - fuel shipped
14	San Onofre Unit 1	Southern California Edison Co.	10CFR50 Possession only	Shutdown - fuel on-site
15	San Onofre Unit 2	Southern California Edison Co.	10CFR50	2006
16	San Onofre Unit 3	Southern California Edison Co.	10CFR50	2006
17	Hatch Unit 1	Southern Nuclear Co.	10CFR50	2000 See note 1
18	Hatch Unit 2	Southern Nuclear Co.	10CFR50	2000 See note 1
19	Vogtle Unit 1	Southern Nuclear Co.	10CFR50	2007 See note 2
20	Vogtle Unit 2	Southern Nuclear Co.	10CFR50	2007 See note 2
21	Farley Unit 1	Southern Nuclear Co.	10CFR50	2006
22	Farley Unit 2	Southern Nuclear Co.	10CFR50	2010

Notes: 1. Hatch 1 & 2 share a pool. Full core off load for both reactors at the site is lost in 1998, for either reactor it is lost in 2000.  
2. Vogle 1 & 2 share a pool. Full core off load for both reactors at the site is lost in 2005, for either reactor it is lost in 2007.