

November 3, 2005 (4:21pm)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSIONOFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFFBEFORE THE COMMISSIONERS

In the Matter of:

PRIVATE FUEL STORAGE, LLC  
(Independent Spent Fuel  
Storage Installation))  
)  
)  
)  
)

Docket No. 72-22-ISFSI

ASLBP No. 97-732-02-ISFSI

November 3, 2005

STATE OF UTAH'S MOTION TO REOPEN THE RECORD  
AND TO AMEND CONTENTION UTAH UU

On October 25, 2005 the U.S. Department of Energy (DOE) announced a new path forward in the design and fuel acceptance packaging for the permanent repository at Yucca Mountain. No longer will DOE accept bare fuel assemblies in various types of canisters. Under the newly announced plan, spent nuclear fuel will be packaged at reactor sites in a DOE standardized container. Now DOE will only accept fuel (with few rare exceptions) in the standardized container.

In late 2004 the State placed before the Licensing Board the issue of whether DOE would accept fuel in welded canisters from the Private Fuel Storage, LLC (PFS) site. Contention Utah UU (November 12, 2004). The Commission addressed the issue on June 20, 2005 in CLI-05-12. DOE's change in conceptual design, however, has rejuvenated the issue. The State files this Motion to Reopen the Record to place before the Commission serious environmental, safety and policy questions that arise out of the sea change in DOE's design plans for Yucca Mountain.

Utah's motion and request to amend Contention Utah UU is supported by the declaration of Dianne R. Nielson, Ph.D., attached hereto as Exhibit 1.

## I. Background

On October 14, 2004, the State of Utah learned from Mr. Gary Lanthrum, Director, Office of National Transportation, U.S. Department of Energy (DOE), that DOE would not accept spent nuclear fuel in welded canisters and DOE has no obligation to pick up fuel from the PFS facility. In response to that information, on November 12, 2004 the State filed Contention Utah UU, which charged (at p. 2):

PFS's license application and NRC's final environmental impact statement fail to describe or analyze the effect of DOE's refusal to collect fuel in welded canisters from the PFS site and the concomitant potential to create a dysfunctional national waste management system, and added risks and costs from multiple and unnecessary fuel shipments back and forth across the country. In addition, absent a condition that fuel will only be accepted at PFS's Skull Valley site if it can be shipped directly from PFS to a permanent repository, PFS must provide reasonable assurance that each and every fuel owner will accept the fuel back for repackaging, and PFS or the fuel owner will place, up-front in an escrow account, sufficient funds to cover the cost of fuel shipment back to the reactor or other facility for repackaging.

Although the Board denied admission of the contention, it nonetheless voiced its concern about the issues raised in Contention Utah UU:

But given the understanding, created by the Applicant's filings with the agency and advertising to its customers (see note 1, above), about the movement of fuel seamlessly from storage in Skull Valley to ultimate repose, it would seem advisable at least to attempt, before any spent fuel were to move to the proposed PFS facility, to put into place an arrangement whereby DOE has agreed to take that fuel, as then packaged, to Yucca Mountain, if it is eventually approved and built.

LBP-05-05, slip op. at 23 (*emphasis in original*). The Board also noted, "[i]f the facts change, it will then be for others to examine the legitimacy of any new approach to the project." *Id.* at 20.

On March 16, 2005 Utah petitioned for review of LBP-05-05. On June 20, 2005 the Commission denied Utah's petition for review. CLI-05-12, 61 NRC 345.

## II. Legal Standard

A motion to reopen a closed record must satisfy 10 C.F.R. § 2.734:<sup>1</sup> (1) the motion must be timely; (2) it must address a significant environmental or safety issue; and (3) it must demonstrate that a difference result would have been likely had the newly proffered evidence been initially considered.

All substantive issues being resolved by the Licensing Board, and no license having been issued, the Commission retains jurisdiction to reopen a closed hearing record. *See Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-823, 22 NRC 773, 775 (1985); *accord Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), ALAB-699, 16 NRC 1324, 1326-27 (1982); *see also Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 2), CLI-93-1, 37 NRC 1, 2 (1993) (until a license has been issued, the possibility of a reopened hearing is not entirely foreclosed). Moreover, as a license has yet to be issued to PFS, the State would be left remediless if the Commission found its jurisdiction has expired.<sup>2</sup> In any event, the Commission found that a petition for review under the Hobbs Act, did not deprive it of jurisdiction over certain limited issues.<sup>3</sup> Accordingly, the Commission has jurisdiction to entertain the State's motion.

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<sup>1</sup>Citation is to the former Part 2 regulation, applicable to the PFS proceeding. *See e.g.*, CLI-05-19, slip op. at n. 2; *Final Rule: Changes to Adjudicatory Process*, 69 Fed. Reg. 2182 (Jan. 14, 2004). The rule has been renumbered as 10 C.F.R. 2.326, but the text has not changed.

<sup>2</sup>*Cf. Florida Power and Light Co.* (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-579, 11 NRC 223 (1980). The PFS situation is unlike the 2.206 remedy proposed in *St. Lucie* (where a license had been issued after deciding a contention adversely to the intervenor). *St. Lucie*, 11 NRC at 224, 226. In the PFS case, because a license has not been issued, there would be nothing to "enforce" under a 2.206 petition.

<sup>3</sup>*Public Service Co. of Indiana, Inc.* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-493, 8 NRC 253, 258-59 (1978).

### III. Discussion

#### A. Timeliness

Utah's motion is timely. On October 25, 2005, Paul Golan, Acting Director of DOE's Office of Civilian Radioactive Waste Management (OCRWM) announced that OCRWM is devising a new plan "to operate the Yucca Mountain Repository as a primarily 'clean' or non-contaminated facility." OCRWM News Release, Exhibit 2 at 1. The change in design to a clean facility "frees the project from having to construct several multi-million square-foot, multi-billion dollar facilities for handling spent fuel." *Id.* In a telephone interview, Mr. Golan said DOE's new path for Yucca Mountain is different "relative to the one we're on today." Keith Roger, *Canister changes proposed*, Las Vegas Review Journal, Oct. 26, 2005, Exhibit 3 at 1.

Important to the PFS project, spent nuclear fuel would be sent to the repository in a standardized canister whereas the previous plan called for shipping spent fuel assemblies in various types of canisters. OCRWM News Release, Exhibit 2 at 1. Furthermore, packaging of the spent fuel into the standardized canister would take place at the utilities that generated the fuel. Review Journal, Exhibit 3 at 1; *see also* Erica Werner, *DOE changes approach to transporting waste to Yucca Mountain*, San Diego Union-Tribune, Oct. 25, 2005, Exhibit 4 at 1.

Utah is filing its reopening motion nine days after the Acting Director of OCRWM publicly announced the ground-breaking news that there would be changes in the design and fuel handling at Yucca Mountain. The motion, therefore, is timely and the State has good cause for amending Contention Utah UU. 10 C.F.R. §§ 2.734(a)(1) and 2.714(a)(1)(i).

B. Safety and Environmental Issues and Likely Change in Result

1. The Lanthrum-announced Plan, the New Golan-announced Plan and Amendment of Contention Utah UU.

Contention Utah UU was based on statements made by Gary Lanthrum, Director, DOE Office of National Transportation, to the Governor of Utah and to the Executive Director of the Utah Department of Environmental Quality. Mr. Lanthrum said that under the Standard Contract<sup>4</sup> DOE has no obligation to collect fuel in sealed canisters or to collect fuel from the PFS ISFSI site. The new plan for Yucca Mountain presents changed circumstances from the Lanthrum plan the Commission reviewed and rejected in CLI-05-12.

Under the Lanthrum-announced plan, the Commission found the State's contention thinly supported, CLI-05-12, slip op. at 13, because it relied on statements made by Gary Lanthrum, whose "management authority . . . does not appear to be in the specific area of which he spoke." *Id.* at 5 (*quoting from* LBP-05-5, 61 NRC at 125). In the instant case, there is no doubt that the announcement made by Paul Golan, Acting Director of OCRWM, is DOE's official position on the change in design and packaging for the Yucca Mountain geologic repository. The Nuclear Waste Policy Act established OCRWM within DOE and assigned it "the responsibility to develop, construct, and operate a system for spent nuclear fuel and high-level radioactive waste disposal, including a permanent geologic repository, interim storage capability, and transportation system." OCRMW Program Business Plan (August 18, 1999) at 2 (Exhibit 5); 42 U.S.C. § 10224. The Director of OCRWM is directly

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<sup>4</sup>Section 302 of the Nuclear Waste Policy Act (NWPA) requires owners and generators of spent nuclear fuel (SNF) to execute a contract by June 30, 1983, under which DOE will accept and dispose of SNF. 42 U.S.C. § 10222(a). The contract referred to in NWPA section 302, commonly called the Standard Contract, is codified at 10 C.F.R. Part 961.

responsible to the Secretary of Energy and annually prepares and submits a report to Congress on OCRWM's activities and expenditures. 42 U.S.C. § 10224(b), (c).

Another defect the Commission previously found was that Utah provided no official documentation of DOE's changed policy and offered no theory why DOE would have a sudden change in policy. CLI-05-12, slip op. at 12-13. The Commission also believed a reversal in DOE policy at this stage would impose additional costs on reactor owners and DOE itself. *Id.* at 12. In the instant case, the Yucca Mountain - Program Redirection Fact Sheet, attached as Exhibit 6, describes the new design changes as simplifying fuel handling and reducing complexities in repository operations; taking the complexity out of the NRC licensing process; freeing DOE from having to construct several multi-million square foot bare fuel handling facilities; and saving billions of dollars.

The Commission previously saw the issue in terms of whether DOE would amend the Standard Contract to cover fuel stored in sealed multi-purpose canisters. CLI-05-12, slip op. at 10-13. Now that DOE will require fuel to be packaged in a standardized canister, the issue is no longer whether the Standard Contract will be amended to accept various types of multi-purpose canisters. The State is not now challenging, nor has it previously challenged, whether DOE has an obligation to accept fuel at reactor sites. Simply put, the State's challenge is that the current PFS proposal cannot be licensed absent (1) a formal DOE pronouncement that the PFS canister (HI-STORM 100, Rev. 0) is the standardized canister selected by DOE to be accepted at the Yucca Mountain Repository, and (2) confirmation that DOE is obligated to collect fuel from the PFS off-site ISFSI. Because of the newly announced plan, Utah requests to amend its contention to say "welded or other non-standardized canisters" in the third line

of the contention.<sup>5</sup> In all other respects the contention should remain as initially submitted.

**2. DOE's New Plan Raises Significant Safety and Environmental Concerns Similar to the Issues the State Previously Presented.**

The new conceptual design for Yucca Mountain, based on fuel being delivered in a standardized canister, has a serious and unanalyzed effect on fuel to be stored at the PFS proposed ISFSI. While the facts relative to the canister-type have changed, the significance of the safety and environmental concerns raised remain as previously presented. Thus, Utah incorporates into this motion all of its previous Contention Utah UU filings.<sup>6</sup>

PFS has no fuel repackaging capabilities. CLI-05-12, slip op. at 2. Consequently, to repackage SNF into a DOE standardized container, the fuel will require shipping back to a reactor site or elsewhere for repackaging, prior to shipment to the permanent repository at Yucca Mountain. This would defeat the goal of the PFS ISFSI "to be the last stop for the spent fuel before it is sent to a permanent geological repository" and create a deficient Environmental Impact Statement which "assumed for its transportation impacts analysis that the fuel would be shipped to Yucca Mountain after leaving PFS." *Id.*

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<sup>5</sup>The introductory phrase of Contention Utah UU should now read: "PFS's license application and NRC's final environmental impact statement fail to describe or analyze the effect of DOE's refusal to collect fuel in welded or other non-standardized canisters from the PFS site . . . ."

<sup>6</sup>State of Utah's Request for Admission of Late-filed Contention Utah UU (Ramifications of DOE's Refusal to Accept Fuel in Welded Canisters from the PFS Site) or in the Alternative Petition for Rulemaking (Nov. 12, 2004); State of Utah's Supplement to Contention Utah UU Pursuant to Board Order Dated November 16, 2004 (Nov. 29, 2004); State of Utah's Reply to Responses Filed by the Applicant and the Staff to Utah's Request for Admission of Late-filed Contention Utah UU (Dec. 17, 2004); and State of Utah's Petition for Review of the Board's Interlocutory Ruling on Contention Utah UU (Mar. 16, 2005).

Moreover, to issue a license to PFS knowing it does not have a facility for fuel repackaging invites PFS to argue sunk economic costs or orphaned waste when it returns to the NRC for an exemption from or impossibility of compliance with regulations for siting a fuel handling facility.<sup>7</sup> Furthermore, not addressing this issue now raises the potential that if DOE will not accept fuel from the PFS site, PFS may need to abandon the facility or the NRC may need to suspend PFS's license. As the Commission once said, "the most tangled and costly proceedings (Seabrook and Diablo Canyon) have come when [NRC] has allowed substantial investment prior to completion of difficult licensing reviews." United States Dept. of Energy Project Management Corp. Tennessee Valley Auth. (Clinch River Breeder Reactor Plant), CLI-82-4, 15 NRC 362, 372 (1982). The State hereby presents a difficult licensing issue that, if left unresolved, could seriously impede the nation's transportation and permanent disposal of up to 40,000 MTU of spent nuclear fuel. This issue also creates unanalyzed safety and environmental concerns due to the excessive and unwarranted movement and handling of spent nuclear fuel.

3. **Consideration of the Newly Proffered Evidence Is in the Public Interest and Is Likely to Change the Earlier Result**

The Board's decision, upheld by the Commission, specifically relied upon the

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<sup>7</sup>See e.g., New England Coalition on Nuclear Pollution v. NRC, 582 F.2d 87, 96 (1<sup>st</sup> Cir. 1978) ("If the Commission is careful about granting [construction] permits, and if the Commission wisely uses its power to stay such grants, situations in which sunk costs predetermine comparative site analyses, rendering them meaningless form, can be avoided.") See also Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-77-57, 6 NRC 482, 485-86 (1977) (in a remand proceeding to consider whether to continue, modify or suspend licensee's construction permits, the Board declined to ignore sunk costs, and in considering costs and benefits of the project, said credit must be given to the partially completed site for the work already done).



countering evidence presented by the Applicant that the Standard Contract would eventually be amended and DOE would eventually accept fuel in multi-purpose sealed canisters. It was on that understanding alone that the Board dismissed Contention Utah UU without any further Licensing Board proceedings. LBP-05-05, slip op. at 20.

The State has promptly returned to the Commission in light of DOE's "official" announcement of a change in design and packaging for Yucca Mountain. The Commission has not squarely addressed the merits of the environmental and safety significance of allowing a 4,000 cask facility to be licensed that may be incompatible with DOE's national strategy for spent nuclear fuel transportation and permanent disposal. If the evidence presented in the State's motion is given due consideration, a different result would ensue, especially if the Commission considers the public interest in developing a cohesive spent fuel transportation and disposal program.

### C. Relief Requested

The State is requesting admission of Contention Utah UU, as amended, based on DOE's changed packaging requirements for Yucca Mountain and also based on the likelihood that DOE has no obligation to collect fuel from an away-from-reactor ISFSI site.<sup>8</sup> The State is also renewing its request that the Commission address the lack of assurance that PFS will have sufficient revenue or commitments from its customers to pay for and accept fuel back for repackaging. Contention UU at 8-10. However, if the Commission decides not to reopen the record and admit the contention (or remand the issue to the Licensing Board), there are

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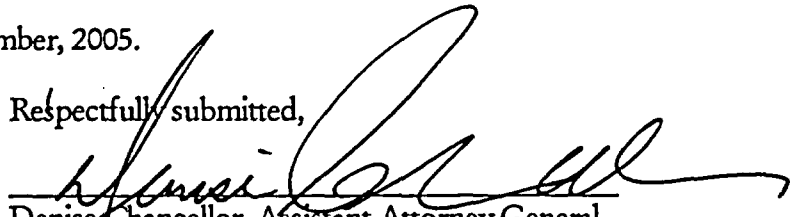
<sup>8</sup>Utah relies on the late-filed factors contained in its original Contention Utah UU except as modified by this motion. See Contention Utah UU at 10-13 (incorporated herewith by reference).

actions the Commission can (and should) take to ameliorate the potential that stored fuel at the PFS ISFSI will not move directly to Yucca Mountain.

As a license has not yet been issued to PFS, the Commission may place restrictions on the terms of that license. Taking a cue from the Licensing Board's decision, the Commission could and should restrain PFS's license as follows: "before any spent fuel were to move to the proposed PFS facility, to put into place an arrangement whereby DOE has agreed to take that fuel, as then packaged . . . ." LBP-05-05, slip op. at 23 (*emphasis omitted*). By placing such a constraint on PFS's license, the Commission would be acting consistently with Congress's directive in the Nuclear Waste Policy Act. Under NWPA, the Commission has the authority and discretion to require, as a precondition to the issuance of a license under 42 U.S.C. § 2133 (for nuclear reactors), "that an applicant for such a license shall have entered into an agreement with the Secretary[of Energy] for the disposal of . . . spent nuclear fuel that may result from the use of such license." 42 U.S.C. § 10222(b)(1)(B). Similarly, the Commission should not allow PFS to accept spent nuclear fuel unless and until the Secretary of Energy agrees to accept SNF from the PFS site as then packaged.

DATED this 3<sup>rd</sup> day of November, 2005.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that a copy of STATE OF UTAH'S MOTION TO REOPEN THE RECORD AND TO AMEND CONTENTION UTAH UU was served on the persons listed below by electronic mail (unless otherwise noted) with conforming copies by United States mail first class, this 3<sup>rd</sup> day of November, 2005:

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Edward McGaffigan, Jr., Commissioner  
Jeffrey S. Merrifield, Commissioner  
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Assistant Attorney General

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## **EXHIBIT 1**

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	November 3, 2005

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**DECLARATION OF DIANNE R. NIELSON, PH.D. IN SUPPORT OF  
STATE OF UTAH'S MOTION TO REOPEN THE RECORD  
AND TO AMEND CONTENTION UTAH UU**

I, Dianne R. Nielson, PhD, declare under penalty of perjury and pursuant to 28 USC § 1746, as follows:

1. I am the Executive Director of the Department of Environmental Quality, State of Utah. My position is a Cabinet-level appointment first by then Governor Michael O. Leavitt, effective January 1993, and reappointed in 2005 by Governor Jon Huntsman, Jr. As part of my responsibilities, I administer and supervise the environmental programs for the State of Utah, including Utah's Agreement State program with the NRC for low level radioactive waste and 11.e(2) material. In my capacity as Executive Director, I am conversant with the Private Fuel Storage, LLC (PFS) license application, radioactive waste shipments, financial assurance, the National Environmental Policy Act, and ensuring the integration of environmental programs both within State government and with other federal programs.
2. On November 12, 2004, I provided a Declaration in Support of Late Filed Contention Utah UU, in which I described my October 14, 2004 conversation with Gary Lanthrum, Director, Office of National Transportation, U.S. Department of Energy (DOE). Mr. Lanthrum told me at that time that under the DOE standard contract with the nuclear industry, DOE is only required to accept bare fuel. Mr. Lanthrum also informed me that DOE has no obligation to pick up fuel from the PFS facility and DOE would not accept fuel in sealed canisters.
3. I am familiar with PFS's plans for the construction and operation of an ISFSI on the Skull Valley Band of Goshutes Reservation. In particular I am aware that PFS's operations do not include opening of sealed canisters that contain the spent fuel rods and that PFS's ISFSI design does not have any capacity for repackaging fuel.
4. I am aware that on October 25, 2005, DOE announced a major change in the design and packaging for the permanent repository at Yucca Mountain. Now most spent nuclear fuel

accepted at the repository will be packaged at reactor sites in a DOE standardized canister, rather than in various types of canisters as had been previously contemplated. *See* exhibits 2-6. The old design plan required repetitive handling and repackaging of bare fuel at the Yucca Mountain repository site prior to disposal.

5. DOE'S Acting Director of the Office of Civilian Radioactive Waste Management (OCRWM) Paul Golan outlined the new design in DOE's October 2005 press release, which emphasized that the "improved design is intended to simplify fuel handling." Spent nuclear fuel will be delivered "in a standardized canister that would not require repetitive handling of fuel prior to disposal." Exhibit 2.

6. Mr. Golan stated the new strategy will be safer because packaging of the fuel assemblies will take place at the utilities that generated the fuel and who know most about it. Exhibits 3 and 4.

7. Mr. Golan also stated the basic reason for this major change is the "simplification in design, licensing, and construction, while increasing worker and public safety." Exh. 2. Mr. Golan said the new design "takes a degree of complexity out of the licensing process," and makes it easier for DOE to "make a solid, fully defensible technical case to the Nuclear Regulatory Commission." *Id.* The old plan was "complex," adding a "dimension of uncertainty to obtaining an NRC license." *Id.*

8. Additionally, the financial savings under DOE's new plan will be substantial because DOE will avoid the complex construction called for under the old design, which was "unique to the proposed repository, as no similar facilities had ever been built or licensed in the United States." *Id.* Importantly, the new facility design will be primarily "clean" or non-contaminated, and "frees the project from having to construct several multi-million square-foot, multi-billion dollar facilities for handling bare spent fuel." Exhibit 6, Yucca Mountain – Program Redirection Fact Sheet, Oct. 25, 2005.

9. I believe there are numerous reasons for DOE's sudden change in plans for the repository. For example, the simplification in the design of surface handling operations decreases worker exposure to radiation. Simplification also saves DOE billions of dollars. Further, the many difficulties DOE has experienced in preparing its license application to the NRC, due to have been submitted about a year ago, and still not ready to be filed, have also contributed to the reasons behind DOE's major change in design and fuel acceptance packaging.

10. As shown in attached Exhibit 2, DOE's Press Release, Mr. Golan is the Acting Director of OCRWM. As Acting Director, Mr. Golan carries out the functions of and is directly responsible to the Secretary of Energy. The Director annually prepares comprehensive reports to Congress as to the activities and expenditures of his office, as required under the Nuclear Waste Policy Act, 42 U.S.C. § 10224.

11. In the Nuclear Waste Policy Act, Congress established OCRWM, placed it within the Department of Energy, and assigned it "the responsibility to develop, construct, and operate a system for spent nuclear fuel and high-level radioactive waste disposal, including a permanent geologic repository, interim storage capability, and transportation system." Exhibit 5, OCRWM's Program Business Plan.

12. Accordingly, it is my opinion that Mr. Golan has the authority and responsibility to announce DOE's "official position" as described in DOE's press release on the change in design and packaging at the Yucca Mountain repository.


13. The HI-STORM 100 (Rev. 0) canister is the exclusive canister in which fuel will be stored at the PFS site. There has been no formal announcement that DOE will use this canister as its standardized canister for fuel acceptance at Yucca Mountain. Moreover, there is no reason why DOE should be held captive to PFS's storage plans because the Secretary of Energy has said "the Private Fuel Storage Facility initiative is not part of the Department's overall strategy for the management of spent nuclear fuel and high-level radioactive waste." Letter from Secretary Bodman to Senator Hatch, October 26, 2005 (Attachment A).

14. Of major concern to the State is that PFS would receive spent nuclear fuel years ahead of DOE. DOE will not begin fuel shipments to a permanent repository until well after 2012. PFS is advertising that it will begin accepting fuel in 2008. Attachment B. The significance of PFS shipments being well ahead of any fuel shipments to DOE for permanent disposal places the onus and accountability on the Nuclear Regulatory Commission to ensure that its actions do not work against the national waste management system. This issue is of particular significance to the State of Utah because it will involve multiple shipments through Utah, primarily from the eastern United States to Skull Valley, return shipment to eastern reactors, and then another shipping campaign through Utah to Yucca Mountain.

15. It is my opinion that NRC must not issue a license to PFS unless and until NRC receives a formal DOE pronouncement that the PFS canister (HI-STORM 100, Rev 0) is the selected DOE standardized canister to be accepted at the Yucca Mountain Repository, and NRC obtains confirmation that DOE is obligated to collect fuel from the PFS off-site ISFSI.

16. I assisted in the preparation of, and have reviewed, the State of Utah's Motion to Reopen the Record and to Amend Contention Utah UU. I am prepared to offer testimony consistent with the Motion or Petition and this Declaration. The State is also prepared to engage other experts, as needed, should this Utah's request be granted.

DATED this November 3, 2005.

  
Dianne R. Nielson, Ph.D.,  
Executive Director,  
Utah Department of Environmental Quality



## **EXHIBIT 1A**



**The Secretary of Energy**  
Washington, DC 20585

October 26, 2005

The Honorable Orrin G. Hatch  
United States Senate  
Washington, DC 20510

Dear Senator Hatch:

The purpose of this letter is to follow up on our conversations regarding Yucca Mountain and the Private Fuel Storage initiative in Utah.

The Department is continuing to work toward the successful development of the Yucca Mountain repository. I believe that the development of Yucca Mountain as a permanent geologic repository for the Nation's high-level radioactive waste, will reduce, if not eliminate, the need for high-level radioactive waste to go to a private temporary storage facility in Utah. The President and I remain committed to revitalizing the nuclear power industry to ensure that this important source of energy continues to be a significant contributor to the Nation's energy strategy.

The Nuclear Waste Policy Act of 1982 (the Act) authorizes the Department of Energy to develop facilities for the management and disposal of commercial spent nuclear fuel and high-level radioactive waste. Because the Private Fuel Storage facility in Utah would be constructed and operated by the private sector outside the scope of the Act, the Department is prohibited by statute from providing funding or financial assistance for that initiative. As such, the Private Fuel Storage Facility initiative is not part of the Department's overall strategy for the management of spent nuclear fuel and high-level radioactive waste.

If you have any questions regarding the Department's position on this issue or on the Yucca Mountain Project, please contact Ms. Jill Sigal, Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,

A handwritten signature in black ink, reading "Samuel W. Bodman".

Samuel W. Bodman



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## **EXHIBIT 1-B**

cluding full loss of coolant inventory, owing to use of fuel particles with multi-layer ceramic coatings capable of retaining fission products under high temperatures (to 1600°C).

2. Use of non-metal structural materials such as graphite and carbon-carbon composite materials for the reactor core, which makes it meltdown-proof in all accidents, including beyond design basis ones.
3. Negative temperature coefficient of reactivity, which completely shuts down the reactor before the fuel temperature can reach the damage limit, without actuation of emergency protection system. No active systems or personnel actions are needed to ensure reactor safety in any accident.

*What passive safety systems have been included in this design to make your*

*advanced reactor safer and user-friendly?*

Design features of the core (annular geometry, low power density), along with its high heat capacity, provide the capability of shutdown reactor cooling in accidents through passive removal of decay heat from the reactor vessel to the reactor cavity cooling system by natural phenomena such as thermal radiation, heat conduction, and natural convection. The passive reactor cavity cooling system transfers heat from reactor vessel to atmospheric air. Even if two channels of reactor cavity cooling system fail, decay heat will be removed by thermal radiation from the reactor vessel to the reactor cavity and then to the ground.

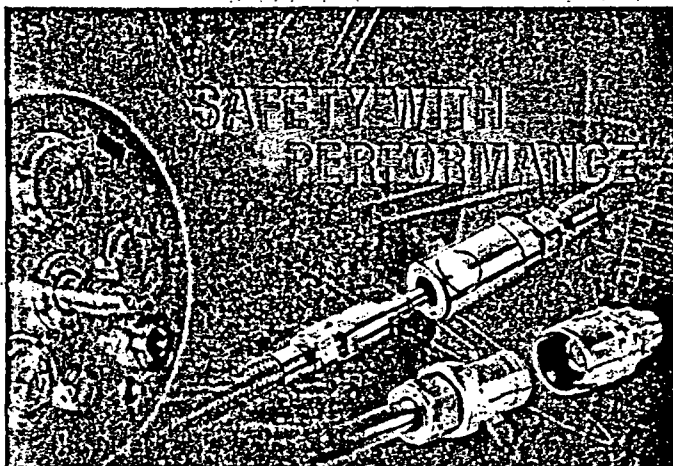
*How has the fuel cycle of this reactor been made proliferation proof?*

The GT-MHR spent fuel has high

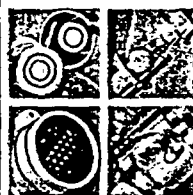
proliferation resistance owing to deep burnup (up to 90 % of initially loaded Pu-239) and no generation of new fissionable material. Plutonium in the spent fuel contains to 30 % of Pu-240, which is a strong absorber. The spent fuel is buried inside fuel assemblies without processing.

Mass fraction of fuel in fuel assembly graphite blocks is lower than 0.5 %, and in order to extract a usable quantity of fissionable material, one would require a large-scale facility capable of processing more than a ton and a half of graphite.

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Private Fuel Storage, LLC

## **EXHIBIT 2**

# DOE NEWS

U.S. DEPARTMENT OF ENERGY, YUCCA MOUNTAIN PROJECT, LAS VEGAS, NV 89134

**Media Contact:**  
Craig Stevens (202) 586-4940

**FOR IMMEDIATE RELEASE**

## ***New Yucca Mountain Repository Design to be Simpler, Safer and More Cost-Effective***

WASHINGTON, DC - The U.S. Department of Energy's Office of Civilian Radioactive Waste Management (OCRWM) today instructed its managing contractor to devise a plan to operate the Yucca Mountain repository as a primarily "clean" or non-contaminated facility. Operating the site "clean" will improve the safety, operation, and long-term performance of Yucca Mountain."

Our new path forward will provide clear direction to improve safety and reliability as well as reduce programmatic risk," OCRWM's Acting Director Paul Golan said. "While this change requires coordination with utilities and the Nuclear Regulatory Commission (NRC), we are confident that the simpler we make the design, the more reliable the project will be."

The direction for the change in design, outlined in a letter to Bechtel SAIC, means that most spent nuclear fuel would be sent to the repository in a standardized canister that would not require repetitive handling of fuel prior to disposal. Prior to today, plans called for shipping spent fuel assemblies in various types of canisters to the repository where workers would handle 70,000 tons of spent fuel up to four separate times per fuel assembly.

The improved design is intended to simplify fuel handling and the construction of the repository, while easing complexities of Yucca Mountain's post-construction operations. The new path envisions spent fuel being delivered to Yucca Mountain primarily in standard canisters which are then placed in a waste package for emplacement, without handling individual fuel canisters.

Switching to a clean facility frees the project from having to construct several multi-million square-foot, multi-billion dollar facilities for handling spent fuel. It also reduces the potential hazards caused by the oxidation of bare spent nuclear fuel during handling. Under the previous plan, the design was to construct large handling facilities that would prepare fuel for emplacement into the repository once it is received from utilities or other sources. These facilities would have been inerted, meaning the composition of the air in the facilities would be altered to reduce potential oxidation. The old design was unique to the proposed repository, as no similar facilities had ever been built or licensed in the United States. baseline design.

(More)

"The old plan is complex and adds a dimension of uncertainty to obtaining an NRC license. Nothing like this has even been licensed," Acting Director Golan said. "The program needs to make a solid, fully defensible technical case to the Nuclear Regulatory Commission, and this change takes a degree of complexity out of the licensing process. The bottom line is that this new path gives us simplification in design, licensing, and construction, while increasing worker and public safety."

The letter, signed by OCRWM's deputy director W. John Arthur, specifies development of a "conceptual design," or CD-1, package that addresses simpler surface facility and canister operations. The final package will be submitted to the Secretary of Energy's Acquisition Advisory Board for review. If the board approves the package, it will become the project's baseline design.

## **EXHIBIT 3**



# reviewjournal.com

Oct. 26, 2005

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## Canister changes proposed

### DOE sees 'new path' for nuclear waste

By KEITH ROGERS  
REVIEW-JOURNAL

Energy Department officials announced Tuesday they are switching gears in their effort to haul spent nuclear fuel to Yucca Mountain and dispose of it.

They said a design change using standardized containers is simpler and safer and avoids the need for repetitive handling of spent fuel assemblies. But critics say the new strategy is part of a ploy to sidestep the licensing process and eliminate scrutiny for building above-ground pads where the waste can cool.

"To me it's a smokescreen to cover up everything else that's gone wrong," said Nevada Nuclear Projects Agency chief Bob Loux, a leading critic of the Yucca Mountain Project.

The design change was outlined in a letter this month to prime contractor Bechtel SAIC and was heralded Tuesday by acting Civilian Radioactive Waste Management Director Paul Golan as a "new path (that) gives us simplification in design, licensing and construction, while increasing worker and public safety."

Under the old method, plans called for shipping spent fuel assemblies in various types of canisters to the repository, where workers "would handle 70,000 tons of spent fuel up to four separate times per fuel assembly," a statement announcing the new design read.

In a telephone interview Tuesday, Golan said the "new path" is different "relative to the one we're on today."

"We think it offers some advantages today over our current design," Golan said.

He said the new strategy "is probably as economical as the path we're on" but will be safer with more inherent quality controls, because packaging of the fuel assemblies will take place at the utilities that generated the fuel and know most about it.

But Loux said the "new path" is really an old path that a former energy secretary, retired Navy Adm. James Watkins, proposed in 1992.

"It now appears that a multiple purpose and standardized container system for spent fuel receipt, storage, transport and disposal can be developed to reduce costs (and) minimize required handling of spent fuel assemblies. ... Such a system would simplify the design of a storage facility," Watkins wrote in an attachment to a Dec. 17, 1992, letter to Sen. J. Bennett Johnston,

D-La., then chairman of the Senate Energy and Natural Resources Committee.

That path was not followed because it would have been too expensive and too difficult to haul such large containers to the mountain, 100 miles northwest of Las Vegas, Loux said.

Loux cited Monday's special bulletin in a trade publication, "The International Radioactive Exchange," that claims DOE's new direction to develop multipurpose canisters is part of a strategy that includes constructing two above-ground pads, where much of the 77,000 tons of spent fuel and highly radioactive defense waste can be aged before entombing it inside a maze of tunnels in the mountain.

One of the "aging pads," would be at the Nevada Test Site, adjacent to the mountain. The Bush administration intends to propose legislation this fall, according to the trade publication, to exempt the pads from the Nuclear Regulatory Commission's licensing process and allow them to be built without an environmental impact statement.

Referring to DOE officials, Loux said, "It's clear they can't do anything to play by the rules. I think this is moreover an attempt to divert attention from a completely failing program."

Golan said he had not seen the special bulletin from "The International Radioactive Exchange" and couldn't comment on it.

He acknowledged, however, that aging the fuel, or allowing the heat generated by the decaying spent fuel pellets to cool, has always been part of the Yucca Mountain plan.

"There will be fuel that has too much thermal heat, and we'll have to let that thermal heat dissipate before we put it into the repository," he said.

Golan said the project will still need a smaller, inert facility where damaged or "off-normal" fuel assemblies can be repackaged for disposal without oxidizing it. Fuel surrounded by damaged, metal cladding could trigger chemical reactions when exposed to the air, causing gases to escape and fuel pellets to oxidize into dispersible powders.

Powders released would cause high levels of contamination from the thousands of assemblies expected to arrive at Yucca Mountain damaged.

Nevada's senators were not impressed with DOE's new design plan.

"After 20 years of work, DOE's big announcement is that they will now start working towards a clean, uncontaminated site. We have said all along the project is not safe and the science is bad, but never thought DOE would actually admit it," Sen. Harry Reid, D-Nev., and Sen. John Ensign, R-Nev., said in a joint statement. "We certainly appreciate the likely decades-long delay this announcement means. But this proposal is just words and a made-up scenario with no substance or fact."

Find this article at:

[http://www.reviewjournal.com/lvrj\\_home/2005/Oct-26-Wed-2005/news/3998846.html](http://www.reviewjournal.com/lvrj_home/2005/Oct-26-Wed-2005/news/3998846.html)

## EXHIBIT 4

## DOE changes approach to transporting waste to Yucca Mountain

By Erica Werner

ASSOCIATED PRESS

2:27 p.m. October 25, 2005

WASHINGTON – Nuclear waste bound for Yucca Mountain would be sealed in canisters that could be put directly into the ground, eliminating the need to repackage the radioactive material at the dump site in Nevada, the Energy Department said Tuesday.

The department's announcement marked a shift. Earlier plans called for large handling facilities at the desert site 90 miles northwest of Las Vegas where spent nuclear reactor fuel would be transferred from transportation canisters into different containers for underground storage.

Under the new plan the spent fuel would be packaged at reactor sites and would not be exposed to the atmosphere again, potentially removing risks for workers and the public.

The change, announced by Paul Golan, acting director of the Office of Civilian Radioactive Waste Management, comes amid project delays and calls by some in Congress for the administration to supplement the dump with interim waste storage or to reprocess spent fuel.

"What we're trying to focus on is, no matter what happens, we still need a Yucca Mountain," Golan told reporters in a conference call. "And what we're tasked to do is make this the simplest, most straightforward, safest operation possible."

Golan couldn't say if the change would affect the timeline for the project, designed to hold 77,000 tons of highly radioactive used reactor fuel from commercial nuclear power plants and military installations.

The opening date already has slipped from 2010 to 2012 at earliest. Golan said it wasn't clear when the department would apply to the Nuclear Regulatory Commission for a license to operate the dump.

He also said it wasn't clear if the price tag of the \$58 billion project would change. While costly onsite handling facilities would be eliminated, it would cost money to design, develop and license the new canisters.

The new plan follows a review Golan started after taking over the project in May. It also includes initiatives designed to improve project management and scientific controls, including directing a national laboratory to coordinate science on the project.

Yucca Mountain has suffered a series of budget shortages and delays. The government was forced to rewrite its radiation safety standards after a federal court threw out the first version,

and the Energy Department is redoing some scientific models after e-mails surfaced last spring indicating government workers on the project might have falsified data.

Industry officials welcomed Tuesday's announcement as a sign of the Energy Department's commitment to the dump.

"It shows they're taking steps to make the program as efficient as possible, including enhancing safety," said Steve Kerekes, spokesman for the Nuclear Energy Institute. "This has the potential as well to send a positive message to Congress about the necessity to move forward with the program, including full funding."

Opponents said the new proposal is no improvement.

"Something like what DOE proposed today would mean a major reassessment of the proposed project," Sens. Harry Reid, D-Nev., and John Ensign, R-Nev., said in a joint statement. "We certainly appreciate the likely decades-long delay this announcement means. But this proposal is just words and a made-up scenario with no substance or fact."

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■ On the Net:

Yucca Mountain project: [www.ymp.gov](http://www.ymp.gov)

Find this article at:

<http://www.signonsandiego.com/news/nation/20051025-1427-wst-yuccamountain.html>

## **EXHIBIT 5**

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# **OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM BUSINESS PLAN**



**AUGUST 18, 1999**

## 1.0 INTRODUCTION

### 1.1 PURPOSE

The Office of Civilian Radioactive Waste Management (OCRWM) Program Business Plan has been developed to document the overall business and contracts strategy for OCRWM. Revision 2 of the OCRWM Program Plan [Reference 1] documents the Program's mission, vision, strategic objectives, strategies, and success measures, and provides a description of Program activities and milestones through Fiscal Year 2003. The Viability Assessment identifies assumptions, task descriptions, schedules, and cost estimates associated with implementing the OCRWM Program for the Yucca Mountain Site Characterization Project from Fiscal Year 2002 through Fiscal Year 2010. The concepts and strategies discussed in this plan are predicated on receiving funding, necessary approvals, and other factors set forth in the Viability Assessment. Major milestones and information in the Viability Assessment that are contingent on the Yucca Mountain site being recommended to and approved for development by the President and Congress include:

- Submittal of a License Application in Fiscal Year 2002.
- Continued progress with a Construction Authorization planned for Fiscal Year 2005.
- Submittal of an updated License Application in March 2008.
- Receipt of a license to receive and possess waste with initial waste emplacement occurring in Fiscal Year 2010.
- Distribution of annual estimated costs.

Due to the long-term nature of this Program, the OCRWM Program Business Plan is a living document that sets forth the planning and informational bases for future business and contract strategies for the OCRWM Program from the present through the Repository Operations and Emplacement Phase to Closure and Decommissioning. As currently structured, the OCRWM Program Business Plan provides historical information, references to other relevant Program documents, and discussions of activities and processes that will be developed further. The near-term focus is on the integration of site data, repository design, and performance assessment to support a decision on the suitability of the Yucca Mountain site and afterward licensing that site if a decision is made to proceed with development. Changes and updates will continue, as necessary, throughout the life of the OCRWM Program as new technologies and procurement methods evolve. Moreover, it is likely that experience gained in working the first phase—namely, design and licensing—may affect how Department of Energy (DOE) chooses to proceed in subsequent contract awards for construction and operations.

The OCRWM Program Business Plan includes the Program's business and contracting strategy for the Yucca Mountain Site Characterization Project; the Acceptance, Transportation, and Integration Project; and the OCRWM Program Management Center.



## **1.2 HISTORICAL PERSPECTIVE**

The Nuclear Waste Policy Act of 1982, as amended (NWPA), established OCRWM within the DOE and assigned to OCRWM the responsibility to develop, construct, and operate a system for spent nuclear fuel and high-level radioactive waste disposal, including a permanent geologic repository, interim storage capability, and transportation system.

OCRWM is headquartered in Washington, D.C. Its Director reports to the Secretary of Energy through the Deputy Secretary. OCRWM carries out its mission through two project-level business centers—the Yucca Mountain Site Characterization Project in Las Vegas, Nevada, and the Acceptance, Transportation, and Integration Project at OCRWM Headquarters (previously referred to as the Waste Acceptance, Storage, and Transportation Project)—and the Program Management Center at OCRWM Headquarters.

DOE has been studying a site at Yucca Mountain, Nevada, for more than 15 years to determine whether it is a suitable location to build a geologic repository for the nation's spent nuclear fuel and high-level radioactive waste. In addition, the Office of Acceptance, Transportation, and Integration has been addressing issues related to and including acceptance and transportation of spent nuclear fuel and high-level radioactive waste for eventual emplacement in a repository. Acceptance, Transportation, and Integration activities focus on the development of processes for the legal and physical transfer of commercial spent nuclear fuel to the federal government, creation of a national transportation capability for waste acceptance and transportation, and resolution of institutional issues with OCRWM Program stakeholders. The Office of Acceptance, Transportation, and Integration also coordinates with a broad network of state, tribal, and local government officials; industry representatives; utility organizations; technical experts; and private citizens who have an interest in how DOE will transport spent nuclear fuel and high-level radioactive waste [Reference 1, pages 38–40].

## **1.3 GEOLOGIC DISPOSAL**

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission recommended burying radioactive waste in geologic formations. In 1962, the Atomic Energy Commission began investigating salt formations—including bedded salt and salt domes—as potential host rocks for repositories. In 1975, the Energy Research and Development Administration, one of the predecessors to DOE, selected a site near Carlsbad, New Mexico, for the disposal of transuranic waste as part of the Waste Isolation Pilot Project. In 1976, the Energy Research and Development Administration began investigating other geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheets, and rocketing waste into the sun. In 1981, after an extensive evaluation of the options, DOE concluded that disposal in a geologic repository was still the preferred option.

## **1.4 LAWS AND REGULATIONS**

The NWPA directed DOE to develop a system for safe and permanent disposal of spent nuclear fuel and high-level radioactive waste. Congress and the President decided that the generation who received the economic benefits of nuclear power and national security benefits of nuclear

## **EXHIBIT 6**

## YUCCA MOUNTAIN - PROGRAM REDIRECTION FACT SHEET

- In order to improve the safety and reliability of operations at Yucca Mountain, the Department of Energy's Office of Civilian Radioactive Waste Management has instructed its managing contractor to devise a plan to operate the site as a primarily "clean" or non-contaminated facility.
- This design will mean that most spent nuclear fuel would be sent to Yucca Mountain in a standardized canister that would not require repetitive handling of bare fuel prior to disposal.
- Prior plans called for shipping spent fuel assemblies in various types of canisters to the repository where workers would handle 70,000 tons of bare spent nuclear fuel up to four separate times per fuel assembly. The NRC has never licensed a similar facility.
- The improved design will simplify fuel handling and will reduce complexities in Yucca Mountain's operations. The new path envisions spent fuel being delivered to Yucca Mountain primarily in standard canisters which are then placed in a waste package for emplacement, without handling individual fuel assemblies. This change will require coordination with utilities and the NRC.
- This design will be simpler and more straightforward, reduce programmatic risk, and take complexity out of the NRC licensing process. It also should save billions of dollars.
- Switching to a "clean" facility frees the project from having to construct several multi-million square-foot, multi-billion dollar facilities for handling bare spent fuel. It also nearly eliminates the potential hazards caused by the oxidation of bare spent fuel during handling.
- The contractor will submit a preliminary draft of the Conceptual Design package (or CD-1) to DOE, once the final package is complete and approved by OCRWM, it will then be submitted to the Secretary of Energy's Acquisition Advisory Board for review. If the board approves the package it will become the project's baseline design.

Updated October 25, 2005