

William & Mary Environmental Law and Policy Review

Volume 26 (2001-2002)
Issue 2 Symposium: Toxic Torts: Issues of
Mass Litigation, Case Management, and Ethics

Article 6

December 2001

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Timothy P. Cairns, *Waiting for the Mountain to Come to DOE: Existing Options for Compromise Between the Department of Energy and Nuclear Utilities Regarding the Disposal of Spent Nuclear Fuel*, 26 Wm. & Mary Envtl. L. & Pol'y Rev. 407 (2001), <https://scholarship.law.wm.edu/wmelpr/vol26/iss2/6>

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WAITING FOR THE MOUNTAIN TO COME TO DOE: EXISTING OPTIONS FOR COMPROMISE BETWEEN THE DEPARTMENT OF ENERGY AND NUCLEAR UTILITIES REGARDING THE DISPOSAL OF SPENT NUCLEAR FUEL

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I. INTRODUCTION

The Nuclear Waste Policy Act of 1982 ("NWP")¹ obligated the federal government to accept Spent Nuclear Fuel ("SNF")² or High-Level Radioactive Waste ("HLR")³ after a suitable long-term storage repository became operational.⁴ For the past fifteen years, the government has focused its efforts to create a repository at Yucca Mountain, Nevada,⁵ and has currently completed the Viability Assessment and Draft Environmental Impact Statement for the site.⁶ By the terms of the NWP, the Department of Energy ("DOE") entered into contracts with all

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¹ Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101-270 (1994).

² See *id.* § 10101(23). "The term 'spent nuclear fuel' means fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." *Id.*

³ See *id.* § 10101(12).

The term "high-level radioactive waste" means: (A) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation.

Id.

⁴ See *id.* § 10131.

⁵ See *id.* § 10172(a).

⁶ OFFICE OF CIVILIAN RADIOACTIVE WASTE MGMT, U.S. DEP'T OF ENERGY, DOE/EIS-0250D, DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR A GEOLOGIC REPOSITORY FOR THE DISPOSAL OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE AT YUCCA MOUNTAIN, NYE COUNTY, NV (1999) [hereinafter YMP DEIS].

operating commercial nuclear utilities in the United States to begin to accept SNF on January 31, 1998; the expected operational date of the Yucca Mountain facility.⁷ The federal government failed to meet the obligations of these contracts, and several utilities have brought separate actions in federal court seeking damages for the delay.⁸ In *Maine Yankee Atomic Power Co. v. United States*, the U.S. Court of Appeals for the Federal Circuit affirmed a Court of Federal Claims ruling that held the federal government liable in contract for this breach.⁹

Currently, the vast majority of nuclear utilities store SNF at the facilities that create the waste. Government projections indicate that the repository at Yucca Mountain will not be operational until at least 2011—a date DOE officials concede is conditioned upon the numerous recommendations, approvals, and appropriations still required.¹⁰ As a result, commercial nuclear utilities will continue to store SNF “on-site” for at least the next ten years. This arrangement creates excessive economic hardship for the utilities, with particular hardship apportioned to those utilities that have ceased operation and need SNF removed to complete decommissioning.¹¹ As a temporary remedy, at least one commercial

⁷ See 42 U.S.C. § 10222(a)(5).

Contracts entered into under this section shall provide that—(A) following commencement of operation of a repository, the Secretary shall take title to the high-level radioactive waste or spent nuclear fuel involved as expeditiously as practicable upon the request of the generator or owner of such waste or spent fuel; and (B) in return for payment of fees established by this section, the Secretary, beginning not later than January 31, 1998, will dispose of the high-level radioactive waste or spent nuclear fuel involved as provided in this subtitle.

Id.

⁸ See, e.g., *Northern States Power Co. v. United States*, 43 Fed. Cl. 374 (1999); *Yankee Atomic Elec. Co. v. United States*, 42 Fed. Cl. 223 (1998).

⁹ 225 F.3d 1336 (Fed. Cir. 2000).

¹⁰ See *Nuclear Waste Litigation: Hearing to Examine the Impacts of the Recent United States Federal Circuit Court Appeals Decision Regarding the Federal Government's Breach of Contract for Failure to Accept High Level Nuclear Waste by January 1998 Before the Comm. on Natural Res.*, 106th Cong. 6-8 (2000) (prepared testimony of Ivan Itkin, Director, Office of Civilian Radioactive Waste Management, DOE) [hereinafter Itkin Testimony].

¹¹ See, e.g., *Nuclear Waste Litigation: Hearing to Examine the Impacts of the Recent United States Federal Circuit Court Appeals Decision Regarding the Federal Government's Breach of Contract for Failure to Accept High Level Nuclear Waste by January 1998 Before the Comm. on Natural Res.*, 106th Cong. 20-24 (prepared testimony of Russell A. Mellor, President and CEO, Yankee Atomic Electric Company and Connecticut Yankee Atomic Power Company) [hereinafter Mellor Testimony].

utility has entered into a contractual agreement with the DOE for financial consideration for the future storage of SNF on-site.¹² But it is unclear whether this agreement conforms to the guidance of contracts between the DOE and commercial nuclear utilities for the removal of SNF, especially after the Court of Appeals decision in *Maine Yankee*.¹³ Further guidance is required from the federal government regarding future disposal plans and methods for interim storage.

This Note attempts to consider the elements of an equitable bargain between the DOE and nuclear utilities for the disposal of SNF and the environmental, economic, and public perception costs of each of these elements. Section II of this Note traces the historical background of the proposed storage of SNF from the NWPA to the current agreements, including legislative amendments and court challenges.¹⁴ Section III analyzes the legality and enforceability of the agreements based upon the terms of the NWPA and the remedies proscribed by recent judicial decisions.¹⁵ Section IV addresses the expected elements of this and future agreements and will provide recommendations for an equitable bargain that will satisfy participants and other interested parties.¹⁶ Finally, in

Mellor's testimony reveals that the Yankee companies—Yankee Atomic, Connecticut Yankee, and Maine Yankee—only remain as individual entities to oversee the decommissioning of defueled reactor sites in the communities of Rowe, Massachusetts, Haddam, Connecticut, and Wiscasset, Maine, respectively. *Id.* According to Mellor:

Because of the government's breach of its commitment to timely remove spent fuel, the Yankee companies will have to stay in existence and maintain the spent fuel on their sites for an extended period of time. Because of the government's breach, the Yankee companies have spent or will spend hundreds of millions of dollars to build and operate special, independent, long-term storage facilities ("ISFSIs") to maintain the spent fuel that the government has failed to remove. Interim storage at reactor sites is extremely costly to utilities and their ratepayers. Moreover, under the current federal program, such "temporary" storage could end up extending to 50 years or more. This situation can be avoided if DOE would meet its obligation and start removing spent fuel from commercial reactor sites.

Id. at 24.

¹² Press Release, U.S. Dep't of Energy, First Agreement Reached with Utility on Nuclear Waste Acceptance (July 20, 2000), available at <http://www.energy.gov/HQPress/releases00/julpr/pr00186.htm> (last visited Dec. 1, 2001) [hereinafter DOE-PECO Announcement].

¹³ See *Maine Yankee*, 225 F.3d at 374.

¹⁴ See *infra* Section II.

¹⁵ See *infra* Section III.

¹⁶ See *infra* Section IV.

Section V of the Note draws conclusions and predicts the adequacy of any settlements reached between the DOE and nuclear utilities.¹⁷

II. HISTORICAL BACKGROUND

A. *The NWPA and Amendments*

In the early days of the nuclear power industry, Congress assigned responsibility for management and disposal of civilian radioactive waste to the federal government.¹⁸ Radioactive waste presented little concern because of the early plans to recycle virtually all fission products.¹⁹ However, the federal government banned all programs related to spent fuel reprocessing during the Carter administration,²⁰ and the 1979 partial meltdown at Three Mile Island further exacerbated environmental concerns.²¹ During the early 1980s, Congress began an effort to amend the Atomic Energy Act to address the dilemma of nuclear waste. In the NWPA of 1982 Congress proposed disposal of SNF and other HLR in a centralized repository allowing the waste to remain undisturbed for thousands of years.²²

The 1982 NWPA provided a broad overview of the federal plan to solve the SNF storage dilemma. It created the Office of Civilian Radioactive Waste Management ("OCRWM") as administrator of the

¹⁷ See *infra* Section V.

¹⁸ See generally Atomic Energy Act of 1954, 42 U.S.C. §§ 2013-75 (1994).

¹⁹ H.R. REP. No. 491, pt. 1, at 27 (1982).

²⁰ *Id.*

²¹ *Id.*

²² See 42 U.S.C. § 10131(b) (1994). The NWPA Findings and Purpose section defines the purpose of the Act as:

(1) to establish a schedule for the siting, construction, and operation of repositories that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent nuclear fuel as may be disposed of in a repository; (2) to establish the Federal responsibility, and a definite Federal policy, for the disposal of such waste and spent fuel; (3) to define the relationship between the Federal government and the State governments with respect to the disposal of such waste and spent fuel; and (4) to establish a Nuclear Waste Fund, composed of payments made by the generators and owners of such waste and spent fuel, that will ensure that the costs of carrying out activities relating to the disposal of such waste and spent fuel will be borne by the persons responsible for generating such waste and spent fuel.

Id.

program²³ and specifically required the DOE to investigate and select three candidate sites for the long-term repository.²⁴ To fund the program, Congress authorized the DOE to charge nuclear utilities fees for the future construction of the repository and long-term storage of the SNF.²⁵ These fees were assessed as both a one-time charge dependent on the amount of SNF already stored on-site and a one-mill levy on each kilowatt-hour of electricity produced by a nuclear power plant in the future.²⁶ At the end of FY 2000, the fees contributed to the Nuclear Waste Fund ("NWF") totaled \$15.2 billion.²⁷

The Nuclear Waste Policy Amendments Act of 1987 ("Amendment") significantly modified the 1982 NWPA after much public debate over the siting of the repository. The Amendment had two significant impacts on the future of SNF management. First, it limited the candidate sites for the long-term repository to only one planned at Yucca

²³ *Id.* § 10224. The OCRWM was created within the DOE and is headed by a director, appointed by the President, who reports directly to the Secretary of Energy. Congressional oversight is provided by required annual reports to Congress, as well as audits by the Comptroller General. *Id.*

²⁴ *Id.* § 10132(a). Originally, the drafters of the NWPA envisioned more than one site for repositories, and it appears the problem presented by transportation was considered at an early stage. The candidate site description expressly mentions these factors in describing the guidelines for site selection. "Such guidelines also shall require the Secretary to consider the cost and impact of transporting to the repository site the solidified high-level radioactive waste and spent fuel to be disposed of in the repository and the advantages of regional distribution in the siting of repositories." *Id.*

²⁵ *Id.* § 10222(c).

²⁶ *Id.* § 10222(a). Thus, a commercial power-producing reactor of average size (e.g., 650 MW) would contribute \$15,600 to the fund for power sold during each day of operation. In ratepayer terms, a typical residential user of nuclear generated power (e.g., 1000 kWh per month) contributes one dollar each month to the fund if the costs are passed directly to the customer.

²⁷ MARK HOLT, CRS ISSUE BRIEF FOR CONGRESS, CIVILIAN NUCLEAR WASTE DISPOSAL: IB92059 (July 30, 2001), available at <http://www.cnle.org/nle/waste-2.htm> (last visited Dec. 1, 2001) [hereinafter *CRS Waste Brief*]. Holt relies on the most current year's Congressional Budget Request from the DOE. According to Holt:

Through the end of FY 2000, utility nuclear waste fees and interest totaled \$15.2 billion of which about \$5.5 billion had been disbursed to the waste disposal program, according to DOE, leaving a balance of \$9.6 billion in the Nuclear Waste Fund. Another \$2.3 billion was owed by utilities for spent fuel generated before 1983. The nuclear waste program's appropriations for FY 1983-FY 2000 total about \$6.7 billion, according to DOE, including \$1.2 billion for defense waste disposal.

Id.

Mountain, Nevada.²⁸ After 1987, the DOE invested all resources in the establishment of the repository in Nevada. In addition, the Amendment required the DOE to enter into contracts with nuclear utilities to take title, transfer and store SNF and HLR no later than January 31, 1998.²⁹ Under standard contractual terms, a set schedule of damages was stipulated in the Amendment for any "temporary" delay in the operation of the repository.³⁰

B. *Legal Challenges*

Nuclear utilities have grown increasingly concerned over the delay in opening the permanent repository in Yucca Mountain. Faced with limited space available to store SNF on-site, utilities recognize the urgency in expediting the actions of the DOE.³¹ For several years following the Amendment, utilities lobbied the DOE and Congress to open a temporary facility to accept SNF on an interim basis,³² but these actions have been unsuccessful. On May 3, 1995, after reviewing comments of

²⁸ 42 U.S.C. § 10172 (1994). The original NWPA established a schedule for siting, constructing, and operating two repositories for the disposal of SNF. *Id.* One site was to be located in the West and the second site constructed was to be in the East. The DOE identified a number of sites for potential repository development in the West in 1983, including sites at Yucca Mountain, Deaf Smith County, Texas, and Hanford, Washington. *Id.*

²⁹ *Id.* § 10222(a).

³⁰ See Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste, 10 C.F.R. § 961.11 (2001). Article IX of the Standard Contract releases parties from liabilities associated with unavoidable delays and specifies equitable adjustment of costs and fees for delays avoidable by the action of one party. The unavoidable delays section states "[n]either the Government nor the Purchaser shall be liable under this contract for damages caused by failure to perform its obligations hereunder, if such failure arises out of causes beyond the control and without the fault or negligence of the party failing to perform." *Id.* The unavoidable delays section continues to list possible examples including acts of God, fires, floods, etc. The avoidable delays section states:

[I]n the event of any delay in the delivery, acceptance or transport of SNF and/or HLW to or by DOE caused by circumstances within the reasonable control of either the Purchaser or DOE or their respective contractors and suppliers, the charges and schedules specified by this contract will be equitably adjusted to reflect any estimated additional costs incurred by the party not responsible for or contributing to the delay.

Id.

³¹ See *Yankee Atomic Elec. Co. v. United States*, 42 Fed. Cl. 223, 228 (1998).

³² See *id.*

concerned utilities, the DOE responded by publishing its "Final Interpretation of Nuclear Waste Acceptance Issues."³³ In this "final" response to its critics, the DOE stated that "it does not have an unconditional statutory or contractual obligation to accept [SNF] beginning January 31, 1998 in the absence of a repository or interim storage facility constructed under the [NWPAA]."³⁴ Further, the DOE also stated that it would not be liable to help utilities defray the costs of construction or operation of on-site temporary storage facilities.³⁵ Faced with no administrative or legislative recourse, the utilities turned to the courts.

As the deadline for the DOE acceptance of SNF neared, several utilities brought actions to force the DOE to begin to take title and transport waste from the reactor sites.³⁶ The United States Circuit Court of Appeals for the District of Columbia disagreed with the DOE's explanations for delay in *Indiana Michigan Power Co. v. United States*,³⁷ the first of many challenges to the justifications of the "Final Interpretation." The court held that section 302(a)(5)(B) of the NWPAA created an obligation for the DOE, which was reciprocal to the utility obligation to pay, to start disposing of the SNF no later than January 31, 1998.³⁸ Although the decision fell short of the specific relief hoped for by the utilities,³⁹ it represented a significant victory over the DOE and signified a possible future contractual challenge to the government.

No matter how attractive the potential future damages may have appeared, the utilities were still facing possible plant shutdowns due to the overflow of SNF storage capacity. In *Northern States Power Co. v. Department of Energy*, a nuclear utility petitioned the circuit court for a writ of mandamus to direct the DOE to begin disposal services by January 31, 1998.⁴⁰ Again, the U.S. Court of Appeals for the District of Columbia

³³ 60 Fed. Reg. 21,793 (May 3, 1995).

³⁴ *Id.*

³⁵ *Id.* at 21,797.

³⁶ See, e.g., *Northern States Power Co. v. Dep't of Energy*, 128 F.3d 754 (D.C. Cir. 1997) cert. denied, 525 U.S. 1016 (1998); *Indiana Michigan Power Co. v. United States*, 88 F.3d 1272 (D.C. Cir. 1996).

³⁷ 88 F.3d at 1272.

³⁸ *Id.* at 1277. For the text of Section 302(a)(5) of the NWPAA, see 42 U.S.C. § 10222(a)(5) (1994).

³⁹ *Indiana Michigan Power*, 88 F.3d at 1277. At the time of the decision (prior to January 31, 1998), the DOE had not yet defaulted upon the contract so the court refused to take any further action. *Id.*

⁴⁰ 128 F.3d at 754.

ruled that the DOE would be liable for unspecified damages for failing to begin the removal of fuel by January 31, 1998 without qualification or condition.⁴¹ The court stopped short, however, from requiring that the DOE actually begin moving the waste to existing facilities,⁴² but instead suggested the DOE begin to work out a remedy with each utility pursuant to the Standard Contract and the NWPA.⁴³ In order to deflect similar arguments by the DOE, a writ of mandamus was issued to prevent the DOE from attempting to excuse its delay on the grounds that it had not yet prepared the storage facility.⁴⁴

After the 1998 deadline had passed without the acceptance of waste by the DOE, a consortium of three New England utilities possessing shutdown reactors brought the first of potentially many breach of contract suits against the government.⁴⁵ The U.S. Court of Federal Claims, in *Yankee Electric Co. v. United States*, held the DOE liable for breach of contract in its failure to accept the waste, and ordered the DOE to pay the shutdown utilities for the storage costs for SNF.⁴⁶ However, another later decision by a different court of federal claims denied similar costs to a Minnesota utility.⁴⁷

⁴¹ *Id.* at 758.

⁴² *Id.* at 760. Utilities have urged that the DOE should move the waste to federal facilities in Barnwell, South Carolina, and Idaho Falls, Idaho. *Id.* These facilities have been accepting transfers of nuclear waste from military application and foreign governments under the non-proliferation treaties. *Id.*

⁴³ *Id.*

⁴⁴ *See id.* at 761.

⁴⁵ *Yankee Atomic Elec. Co. v. United States*, 42 Fed. Cl. 223 (1998).

⁴⁶ *Id.* at 232.

⁴⁷ *See Northern States Power Co. v. United States*, 43 Fed. Cl. 374 (1999). The court in *Northern States Power Co.* relied on the language of the contract in finding that utilities must seek administrative remedies under the terms of the contract before independent legal action could be brought. *Id.* In supporting the government's defense, the court stated:

The provisions set forth in the Standard Contract were the product of an extensive notice and comment period. It must be assumed therefore that those provisions—and the remedies they specify—accurately reflect the intentions of the contracting parties. And, even if those remedies seem unexpectedly to fall short of what the parties originally (but perhaps mistakenly) had envisioned, deference to the administrative process dictates that the contracting agency, as the party charged by Congress with fulfillment of the Act's goals, be given the first opportunity to rectify the problem. It is DOE's decision that was bargained for; not ours. It would therefore be an unwelcome intrusion upon the administrative process—indeed, an unlawful intrusion—were this court

During the *Yankee Electric* appeal to the U.S. Court of Appeals for the Federal Circuit, the DOE made the same arguments that had been ineffective at the lower court level.⁴⁸ First, according to the DOE, all claims related to delays in performance should be addressed using the “avoidable delays” clause of the “Standard Contract.”⁴⁹ The government contended that the use of the word “any” in the delays clause covered not only short-term delays in performance but even the failure to begin performance.⁵⁰ Alternatively, the DOE insisted that utilities did not have standing to challenge the government in federal court because the terms of the Standard Contract require utilities to explore administrative remedies before bringing a challenge in the federal courts.⁵¹

The *Maine Yankee Atomic Power Co.* appeals court rejected both of these arguments,⁵² although it was the administrative claims argument that seems to have held sway on the Minnesota federal claims court.⁵³ In rejecting the governments claim that the avoidable delays clause in the contract should relieve them from any damage responsibility, the court stated:

The provision is not a general one covering all delays, but a more limited one dealing with specified kinds of delays, namely, those “in the delivery, acceptance or transport” of nuclear waste. These involve particular delays involving individual contractors. They are the kinds of delays that routinely may arise during the performance of the contract. For them to arise, however, the parties must have begun performance of their obligations relating to disposal of the nuclear waste.⁵⁴

to side with the plaintiff in saying that the administrative remedy appears unsatisfactory and therefore may be disregarded in favor of a breach action in this court.

Id. at 386.

⁴⁸ *Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336 (2000).

⁴⁹ *Id.* at 1341. For the text of the delays clause of the Standard Contract, see Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste, 10 C.F.R. § 961.11 (2001).

⁵⁰ *Maine Yankee Atomic Power Co.*, 225 F.3d at 1336.

⁵¹ *Id.* at 1340.

⁵² *Id.*

⁵³ See *Northern States Power Co. v. United States*, 43 Fed. Cl. 374, 386 (1999).

⁵⁴ *Maine Yankee Atomic Power Co.*, 225 F.3d at 1341.

As the DOE never began performance, the court believed that delay provisions in the contract should not be controlling.⁵⁵ Similarly, because the court held that the utilities did not have to rely on the disputes clause of the contract, they had no obligation to exhaust administrative remedies.⁵⁶

The *Maine Yankee Atomic Power Co.* decision may be only the first of many legal challenges in the Court of Federal Claims for the DOE. In his most recent testimony before the Nuclear Waste Technical Review Board, the acting director of the OCRWM acknowledged that fourteen cases are currently pending against the DOE requesting damages caused by the delay in accepting SNF and HLW.⁵⁷

C. *Legislative Action/Agreements*

During the past few years in Congress, several bills have been presented to the legislature in an attempt to deal with the nuclear waste problem.⁵⁸ During the 106th Congress, both the Senate and the House attempted to address the nuclear waste dilemma.⁵⁹ Both House Bill 45 and Senate Bill 1287 adopted as a common goal the attempt to establish an interim storage facility at Yucca Mountain or another DOE site that could begin to accept waste.⁶⁰ House Bill 45 was significantly more aggressive in support of the Yucca Mountain Project, including provisions that required the DOE to take title to SNF currently stored on utility sites and preemption doctrines to prohibit state and local actions to prevent implementation of the waste law.⁶¹

⁵⁵ See *id.*

⁵⁶ See *id.* at 1342.

⁵⁷ See Lake Barrett, Office of Civilian Radioactive Waste Mgmt., U.S. Dep't of Energy, Presentation to the Nuclear Waste Technical Review Board, Status of the Civilian Radioactive Waste Management Program (Jan. 30, 2001), available at <http://www.rw.doe.gov/rogdocs/speeches/trb-1-01/trb-1-01.htm> (last visited Dec. 1, 2001) [hereinafter Barrett Presentation].

⁵⁸ See generally H.R. 45, 106th Cong. (1999); H.R. 1270, 105th Cong. (1997); S. 104, 105th Cong. (1997).

⁵⁹ See H.R. 45, 106th Cong. (1999); S. 1287, 106th Cong. (2000).

⁶⁰ See S. 1287, 106th Cong. (2000).

⁶¹ H.R. REP. NO. 106-155, pt. 1 (1999).

As a compromise, Senate Bill 1287 was passed by both the House and Senate of the 106th Congress.⁶² The major provisions of Senate Bill 1287, as passed by the Senate and the House included:

- A requirement that the DOE begin accepting waste at surface storage facilities at Yucca Mountain as soon as practicable after the NRC grants a repository construction permit.⁶³
- Authorization for the DOE to settle deadline claims with utilities by providing spent fuel storage casks at reactor sites and compensating utilities for their additional on-site storage costs.
- An adoption of a specified timeline to expedite the approval process for the Yucca Mountain site.⁶⁴
- Creation of the DOE Office of Spent Nuclear Fuel Research to identify and conduct research on technologies for the treatment, disposal, and recycling of SNF and HLR.⁶⁵

The Congress presented Senate Bill 1287 to President Clinton and, in accordance with a prior stated position, the President vetoed the bill on April 25, 2000. In his message to Congress regarding the veto, the President stated his belief that the bill did nothing to promote the establishment of the Yucca Mountain site and created further unfunded responsibilities for the DOE.⁶⁶ An attempt at an override failed in the Senate.⁶⁷ Other Congressional actions have attempted to specifically

⁶² S. 1287, 106th Cong. (2000) (Passing the Senate February 10, 2000 by vote of 64 to 34; passing the House of Representatives without amendment on March 22, 2000 by vote of 253 to 167).

⁶³ The NRC deadline for the construction permit is January 31, 2006. *Id.*

⁶⁴ Secretary of Energy would be required to determine the suitability of Yucca Mountain by the end of 2001, the President would be required to make a final recommendation on the site by March 31, 2002, and the NRC would meet the deadline stated *supra* note 63. *Id.*

⁶⁵ *Id.* See S. REP. NO. 106-98 (2000).

⁶⁶ 146 CONG. REC. S3017 (daily ed. Apr. 27, 2000) ("Report of the Veto of the Nuclear Waste Policy Act of 2000—Message from the President").

⁶⁷ S. 1287, 106th Cong. (2000) (voting 64 to 35 not to override veto on May 2, 2000).

compensate utilities for the storage of SNF on-site, but never received the approval of the entire Congress.⁶⁸

Faced with the defeat of the courts after the *Maine Yankee Atomic Power Co.* decision, the DOE made several attempts at compromise. Beginning in 1999, Secretary of Energy Bill Richardson attempted to advance a plan whereby the DOE would take title to SNF and pay utilities a temporary storage fee to leave the SNF at the reactor sites.⁶⁹ Nuclear industry officials were openly hostile to such a plan mainly because it did little to advance their ultimate goal—the removal of SNF from reactor sites as required by the Standard Contract.⁷⁰ But officials from several utilities have begun negotiating with the DOE on this and other proposals.

The single agreement reached to date is an agreement between the DOE and PECO Energy (now Exelon Energy) announced on July 21, 2000.⁷¹ The agreement was formed as an amendment to the contract between the DOE and the utility, similar to contracts required by the NWPA for all nuclear utilities.⁷² According to the DOE press release, the amendment to the contract “allows PECO to reduce the projected charges paid into the NWF to reflect costs reasonably incurred by PECO due to the department’s delay.”⁷³ The statement reveals that PECO could reduce their charges by up to \$80 million over the next ten years.⁷⁴

The specific terms of the Amendment do much more than allow PECO to reduce payments to the NWF. The Amendment instructs the DOE to take title to the SNF currently stored at the Peach Bottom Nuclear Plant at an ISFSI and to pay PECO the reasonable costs of operating the

⁶⁸ H.R. 1309, 106th Cong. (1999).

⁶⁹ See *The Nuclear Waste Policy Act of 1999: Hearings on H.R. 45 Before the House Subcomm. on Energy and Power of the Comm. on Commerce*, 105th Cong. 180-84 (1999) (prepared testimony of Bill Richardson, Secretary of the Dep’t of Energy) [hereinafter Richardson Testimony]. The Secretary estimated the costs of such a plan would be approximately \$2 to \$3 billion through 2010. *Id.*

⁷⁰ See, e.g., Mellor Testimony, *supra* note 11.

⁷¹ See DOE-PECO Announcement, *supra* note 12. PECO operates commercial reactors at their Limerick and Peach Bottom facilities. The agreement applies only to the Peach Bottom plant. *Id.*

⁷² See Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste, 10 C.F.R. § 961.11 (2001). The Standard Contract existing now in the Code of Federal Regulations has not been modified since its inception as the enforcement of the NWPA. Ironically, the Contract still lists the date required for removal of SNF as January 31, 1998. *Id.*

⁷³ DOE-PECO Announcement, *supra* note 12.

⁷⁴ *Id.*

ISFSI.⁷⁵ Contrary to the stated intention of the DOE to assume physical possession of all SNF, the Amendment specifically requires PECO to maintain physical possession of the SNF until the operating license of the facility expires.⁷⁶ This would prevent the DOE from actually transferring the SNF to Yucca Mountain or other designated facility until at least 2019.⁷⁷ And although the Amendment applies only to SNF stored at Peach Bottom, PECO may deduct costs from its payments to the NWF for all of its facilities.⁷⁸

Still, the Amendment has great value for the DOE. The terms state that PECO release and discharge the DOE “from any and all claims it may have arising out of the [contract] relating to DOE’s delay in performance of its disposal obligations for Peach Bottom SNF/HLW”⁷⁹ As mentioned earlier, the DOE has stated an intention to negotiate with other utilities using the PECO Amendment as a template.⁸⁰ No other utilities have agreed to such an amendment at the present time.

III. LEGAL ANALYSIS OF THE AGREEMENTS

A. *Remedies Required by Maine Yankee Atomic Power Co.*

⁷⁵ U.S. DEP’T OF ENERGY, AMENDMENT TO CONTRACT DE-CR01-83 NE44405 BETWEEN U.S. DEPARTMENT OF ENERGY AND PECO ENERGY COMPANY (July 19, 2000), at http://www.rw.doe.gov/0903_Amendment.pdf (last visited Dec. 1, 2001) [hereinafter DOE-PECO AMENDMENT]. In pertinent part, the Amendment states:

Transfer of Title. Subject to the conditions and limitations listed below, DOE shall take title to Peach Bottom SNF/HLW, the storage casks and the Peach Bottom ISFSI in which they are stored DOE shall only take title to Peach Bottom SNF/HLW that is contained in a dual-purpose cask system certified by the Commission for storage and transport DOE shall not be immediately obligated to take physical possession of any of [the casks] PECO Energy shall allow such SNF/HLW or SNF/HLW in casks to remain at its then current location until it is removed in accordance with the Removal Schedule.

Id. The Removal Schedule is the published order in which SNF is ultimately to be transferred to the long-term repository. *Id.*

⁷⁶ *Id.* at 8.

⁷⁷ *Id.*

⁷⁸ *Id.* at 10.

⁷⁹ *Id.* at 15.

⁸⁰ See Itkin Testimony, *supra* note 10. “We are actively working with utilities in an effort to resolve [the contractual obligation] issue and the ongoing litigation, and we reached a settlement with PECO Energy Company this July.” *Id.*

As stated earlier, the appellate court deciding the *Maine Yankee Atomic Power Co.* matter specifically prohibited the DOE from relying on the "unavoidable delays" clause in the contract to escape liability.⁸¹ In effect, the court declared the contract breached and ordered DOE to pay damages.⁸² Armed with a court finding of a breached contract, utilities are unlikely to rush to sign up for any contract amendment with DOE without terms that are specifically beneficial to the utilities and detrimental to DOE.

Certainly in the matter of the New England Yankee facilities and other shutdown nuclear reactors, it is obvious that such an agreement would have no beneficial effect. The *Yankee Atomic Electric Co.* Court of Federal Claims decision required the DOE to pay for the costs of storage of SNF, including costs incurred retroactively and into the future.⁸³ In past litigation, the Yankee companies have sought over \$288 million in damages in their contract action to compensate the utility for storage through 2010—the date when SNF is predicted to begin shipping to Nevada.⁸⁴ By all estimates, this figure is conservative. These utilities are prevented from putting the facility to any other use while the SNF is stored in fuel pools or other locations on site.⁸⁵ The utilities may also have an action for the taking of their property by the DOE, an argument advanced by the Yankee companies in the lower court hearing but not appealed.⁸⁶

For operating reactors, the costs of storage that appear to be recoverable by the *Maine Yankee Atomic Power Co.* decision are not as clear.⁸⁷ Fuel assemblies that are removed from the reactors are typically stored in a "fuel pool" on site for at least five years.⁸⁸ This allows the burned up fuel to cool, both thermally and radioactively, so that it may be

⁸¹ See *Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336, 1342 (2000).

⁸² *Id.*

⁸³ 42 Fed. Cl. 223, 232 (1998).

⁸⁴ See Mellor Testimony, *supra* note 11.

⁸⁵ *Id.*

⁸⁶ See *Maine Yankee Atomic Power Co.*, 225 F.3d at 1339.

⁸⁷ *Id.* All three utilities participating in the *Maine Yankee Atomic Power Co.* decision administered only shutdown reactor sites and were required to pay operational no per kWh cost to the NWF. *Id.*

⁸⁸ See NUCLEAR WASTE TECHNICAL REV. BD., DISPOSAL AND STORAGE OF SPENT NUCLEAR FUEL—FINDING THE RIGHT BALANCE: A REPORT TO CONGRESS AND THE SECRETARY OF ENERGY, (March 1996), available at <http://www.nwtb.gov/reports/storage.pdf> (last visited Dec. 1, 2001) [hereinafter NWTRB 1996 REPORT].

transferred without undue risks to facilities and personnel.⁸⁹ The original plan for reprocessing fuel required that spent fuel be stored for a period of at least five years to allow for cooling, then the SNF could be transferred to a reprocessing facility.⁹⁰ The dilemma now confronting the utilities is that the designed fuel pools hold only a limited amount of SNF.⁹¹ Some Nuclear Regulatory Commission ("NRC") estimates find that over 70% of commercial power producing nuclear reactors may require shutdown by 2010 if alternatives are not adequately developed.⁹²

Today the trend, encouraged by the NRC is to store SNF in dry storage casks on site.⁹³ The properly cooled SNF assemblies are transferred to metal casks made of non-corrosive materials, filled with inert gases, and sealed.⁹⁴ The dry storage casks are then stored on site in

⁸⁹ *Id.*

⁹⁰ See LUTHER J. CARTER, NUCLEAR IMPERATIVES AND PUBLIC TRUST: DEALING WITH RADIOACTIVE WASTE 61 (1987).

⁹¹ See NWTRB 1996 REPORT, *supra* note 88. The NWTRB Report describes in detail the dilemma facing nuclear utilities in storing spent fuel:

By the end of 1995, approximately 32,000 metric tons of spent fuel had been generated by commercial nuclear reactors located at 70 sites nationwide. Unless a significant number of reactors shutdown early, spent fuel will continue to be produced at a rate of roughly 2,000 metric tons per year through the year 2010. If there are not a significant number of reactor license extensions, the rate of spent fuel production will slowly decline thereafter until the last of the presently operating reactors reaches the end of its scheduled 40-year lifetime sometime in the 2030s. By that time, the amount of commercial spent nuclear fuel will total approximately 85,000 metric tons (DOE 1994). The practice at all commercial reactors is to store the newly discharged spent fuel in pools on site for at least five years to allow for initial cooling. However, the total pool storage capacity nationwide is only about 60,000 metric tons. This means that, if a repository does not become available, storage capacity of approximately 25,000 metric tons in addition to pool storage will have to be provided somewhere over the next 35 years to accommodate commercial spent fuel.

Id.

⁹² See NUCLEAR REG. COMM'N, SPENT FUEL POOL AND FULL CORE OFFLOAD CAPABILITY, at <http://www.nrc.gov/OPA/drycask/sfdata.htm> (last visited Dec. 1, 2001) (listing all operating commercial nuclear reactors, core sizes, fuel pool capacities, and remaining fuel pool capacities current as of November 4, 1998).

⁹³ See NUCLEAR REG. COMM'N, ONSITE STORAGE OF SPENT NUCLEAR FUEL, at <http://www.nrc.gov/OPA/drycask.htm> (last visited Dec. 1, 2001). "Dry spent fuel storage in casks is therefore considered to be safe and environmentally sound, and it is also becoming cheaper and may provide, in some cases, substantial cost benefits for a licensee and its ratepayers." *Id.*

⁹⁴ See *id.*

what is termed an ISFSI.⁹⁵ NRC has expedited the approval of ISFSIs by declaring that any commercial reactor is approved to store SNF in dry casks on site by virtue of its existing operation license.⁹⁶ Even without the independent review of the extra spent fuel storage, the NRC has promoted the construction of ISFSI by individual utilities as safer than existing fuel pool storage.⁹⁷

In addition to regulatory approval, commercial nuclear utilities must also fund the design, construction, and future operation of the ISFSI. The costs of purchasing and storing such dry casks are extremely high for a number of reasons. First, the NRC has approved a limited number of casks, although with NRC support the number is growing rapidly.⁹⁸ Next, the utilities must pay the extra costs associated with security and construction of a suitable place to house the facility. The casks must be suitably remote to not expose workers to excess radiation, but they must also be sited so that security personnel can easily monitor them.⁹⁹ Some utilities simply do not have the available ground space for such an arrangement.¹⁰⁰ Utilities must train personnel for the transfer of SNF assemblies to the dry casks and the ultimate transfer to the transportation canister when a permanent repository becomes available.¹⁰¹ Finally, the utilities must comply with existing state laws that, in some cases, specifically prohibit the storage of SNF onsite after a specified number of years.¹⁰²

B. *Requirements of the NWP*

⁹⁵ See *id.*

⁹⁶ See 10 C.F.R. §§ 72.16, 72.18, 72.24 (2000) (listing application requirements including elimination of any previous reports or studies submitted to the agency); see also *Kelley v. Selin*, 42 F.3d 1501, 1521 (6th Cir. 1995) (holding that the NRC's failure to provide a site-specific analysis of the use of a dry cask storage system did not violate the requirements of NEPA).

⁹⁷ See NUCLEAR REG. COMM'N, *supra* note 93.

⁹⁸ See 10 C.F.R. § 72.214 (listing approved spent fuel storage casks).

⁹⁹ See *id.* § 72.122.

¹⁰⁰ See Mellor Testimony, *supra* note 11.

¹⁰¹ OFFICE OF CIVILIAN RADIOACTIVE WASTE MGMT., U.S. DEP'T OF ENERGY, REPORT TO THE COMMITTEES ON APPROPRIATIONS: PLAN FOR TRANSPORTATION CASK FABRICATION AND THE DEPLOYMENT OF WASTE ACCEPTANCE CAPABILITIES (Jan. 2001), available at <http://www.rw.doe.gov/WAT/1128all1.pdf> (last visited Dec. 1, 2001) [hereinafter DOE TRANSPORTATION PLAN].

¹⁰² See, e.g., ME. REV. STAT. ANN. tit. 35-A § 4371 (West 1999) (limiting the amount of time that SNF may remain on-site at reactor to three years).

When Congress established the NWF by the 1987 Amendments to the NWPA, it intended the money collected to be solely devoted to the construction and operation of the permanent repository at Yucca Mountain.¹⁰³ The amounts collected by the DOE are in no way discretionary and are fixed by statute enacted by the Congress and signed into law by the President.¹⁰⁴ The NWPA authorizes the Secretary of Energy to make disbursements from the waste fund for only limited purposes including construction, research, administrative and transportation costs.¹⁰⁵ With regard to adjustments to the fee charged utilities, the NWPA does give the Secretary discretion to evaluate and adjust the fees.¹⁰⁶ The Act specifically states, however, that such an adjustment proposal must be immediately transmitted for review and possible disapproval.¹⁰⁷ It is reasonable to assume that if Congress insisted to be informed of any adjustment to the overall rate charged utilities, then it would expect to be involved in the decisionmaking process for other adjustments; even adjustments to individual utilities such as those endorsed by the PECO-DOE Amendment.

It is clear from the express language of the NWPA that Congress could not anticipate any attempt by the Secretary to excuse a utility's contributions to the fund as damages for not accepting SNF by the stated deadline.¹⁰⁸ The DOE may attempt to justify such deferments by stating that they are simply damage payments that would be made to the utility as a consequence of the *Maine Yankee Atomic Power Co.* decision. But this decision was binding only on the plaintiffs in the *Maine Yankee Atomic*

¹⁰³ 42 U.S.C. § 10222(a) (1994).

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* § 10222(d).

¹⁰⁶ *Id.* § 10222(a)(4) (acknowledging that: "[t]he Secretary shall annually review the amount of the fees established by paragraphs (2) and (3) above to evaluate whether collection of the fee will provide sufficient revenues to offset the costs as defined in subsection (d) of this section").

¹⁰⁷ *Id.* The NWPA states that:

In the event the Secretary determines that either insufficient or excess revenues are being collected, in order to recover the costs incurred by the Federal Government that are specified in subsection (d) of this section, the Secretary shall propose an adjustment to the fee to insure full cost recovery. The Secretary shall immediately transmit this proposal for such an adjustment to Congress.

Id.

¹⁰⁸ 42 U.S.C. § 10222(a) (1994).

Power Co. action, specifically three utilities in New England.¹⁰⁹ As to any other utility, the award of any expected damages is only speculative, as no court action has been taken at this time, although at last count fourteen cases are pending in the Court of Federal Claims.¹¹⁰ Payments from the NWF on the basis of the Standard Contract are also inappropriate based upon the court holding in *Maine Yankee Atomic Power Co.* that specifically denied the government's attempt to use the delay clause in the contract.¹¹¹

Further, it is unclear if these payments meet the specific statutory requirements for disbursements from the fund.¹¹² Although potentially classified as administrative costs, it is unlikely that Congress intended that payments for damages should be labeled as administrative.¹¹³ In 1998, Secretary of Energy Federico Pena proposed a settlement to the utilities, much like the proposal advanced in the PECO-DOE Amendment.¹¹⁴ Significantly, the past proposal did not seek to forgive payments to the NWF, but only to defer the contributions until the DOE began its required contractual duty to accept the waste.¹¹⁵ Apparently with the litigation

¹⁰⁹ See generally *Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336 (2000).

¹¹⁰ See Barrett Presentation, *supra* note 57.

¹¹¹ See *Maine Yankee Atomic Power Co.*, 225 F.3d 1341.

¹¹² 42 U.S.C. § 10222(d).

¹¹³ *Id.*

¹¹⁴ See Press Release, U.S. Dep't. of Energy, *Secretary Pena Proposes Relief for Nuclear Utility Contract Holders* (May 18, 1998), available at <http://www.rw.doe.gov/announcements/news/st1/news05-18-98/news05-18-98.htm> (last visited Dec. 1, 2001).

¹¹⁵ *Id.* Actually, only a portion of the fees would be available for deferment. According to the DOE:

[U]nder the proposed settlement, a portion of the quarterly fee payment would be postponed until the Department is ready to accept the utility's spent fuel sometime in the future. A utility would pay only its proportionate share of the fees needed to cover the budget approved by the Congress to administer the civilian nuclear waste program each year. A utility would remain obligated to pay the withheld fees, with interest at the Treasury rate, when the Department begins the receipt of its spent fuel. Until then, a utility would be able to invest withheld funds in investment-grade financial instruments and use any earnings greater than those owed to the government to pay for its costs resulting from the Department's delay in accepting the spent fuel. The Department estimates a benefit of approximately \$2.8 to \$5 billion to all utilities.

Id. Currently, with the budget of the OCWRM set to increase enormously as construction of Yucca Mountain commences, the proportionate share that would be eligible for deferment by this scheme is relatively small.

ongoing during this period, utilities were in no hurry to accept the settlement offer from the DOE. Nor are they rushing to accept the DOE's current offers, instead relying on the decisions of the courts. An amendment to the NWPA, proposed and approved by Congress, should be required before utilities and the DOE are allowed to enter into any type of bargain that limits contributions to the NWF.

C. *Third Party Actions*

Another consideration for the DOE and Congress when deciding to authorize the storage of SNF onsite at reactor sites across the country are the third party effects of such storage. A significant amount of public controversy surrounds the decision to site the repository at Yucca Mountain.¹¹⁶ Both state and federal legislators representing Nevada have promised to fight the establishment of the repository in Nevada¹¹⁷ and public support against such a project is certainly high. But Nevada is only one state in the union. In countless other areas, public support cries for the shipping of nuclear waste to some other area, preferably the area already designated by the federal government.¹¹⁸

These third party actions may become court challenges to the agreements between the DOE and utilities. In one such third party challenge brought in 1994, several private citizens of Michigan challenged the decision by the NRC to approve dry cask storage at the Pällisades facility.¹¹⁹ Although the plaintiffs did not prevail on their core challenge to the effectiveness of the NRC review of the site, the defendant utility also challenged the plaintiff citizens' standing to bring such a suit.¹²⁰ The Court of Appeals ruled that such independent citizens did have standing if the actions of the government and the NRC directly affected their

¹¹⁶ See, e.g., NEVADA NUCLEAR WASTE PROJECT OFFICE, TRANSPORTATION OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE TO A REPOSITORY FACTSHEET (May 20, 1999), at <http://www.state.nv.us/nucwaste/trans/trfact03.htm> (last visited Dec. 1, 2001) [hereinafter NNWPO FACTSHEET].

¹¹⁷ Cf. James Eli Shiffer, *Evaluating Nuclear Risk*, NEWS & OBSERVER (Raleigh, NC), Aug. 27, 2000, at A1 (analyzing the dilemmas faced by a local nuclear plant in expanding the size and storage capacity of its existing fuel pool).

¹¹⁸ See, e.g., Bob Susnjara, *Kirk Decries Zion Nuclear Waste, Hopeful Hastert Wants Repository Built in Nevada*, CHI. DAILY HERALD, Oct. 24, 2000, at 4. ("U.S. House Speaker J. Dennis Hastert resumed the call Monday to get rid of nuclear waste that remains at ComEd's shuttered plant in Zion.").

¹¹⁹ Kelley v. Selin, 42 F.3d 1501 (6th Cir. 1995).

¹²⁰ *Id.* at 1503.

property.¹²¹ In this matter, it may be likely that landowners near a nuclear facility proposing long-term dry storage of SNF may have similar standing to delay any such agreement between the DOE and utilities.

Not all such citizen suits meet with success in asserting standing, especially those based upon contracts. In order to bring an action based upon a third party beneficiary theory, the third party must prove that the contract in question reflects the express or implied intention of the parties to benefit the third party.¹²² In another recent citizen suit, several citizens brought a third party action against the DOE for its failure to remove the SNF from a nearby reactor site.¹²³ As ratepayers of Northern States Power Company, the plaintiffs asserted that they were third party beneficiaries to the Standard Contract between the DOE and their local utility.¹²⁴ The court disagreed and refused to grant standing to the citizens as third party beneficiaries because the Standard Contract never mentioned the ratepayers individually.¹²⁵

Perhaps if the citizens in *Roedler* had asserted some type of personal harm or injury due to the effect of long-term storage of SNF, they would have been more successful in their action. The recent trend in environmental cases is to allow suits by private citizens where some personal "injury in fact" is asserted.¹²⁶ For plaintiffs, it is not necessary to show physical injury, although some harm greater than "general averments" and "conclusory allegations" must be demonstrated.¹²⁷ The Supreme Court, in *Friends of the Earth v. Laidlaw*, held that environmental plaintiffs adequately allege injury in fact when they use an

¹²¹ *Id.* at 1508.

¹²² See *Montana v. United States*, 124 F.3d 1269, 1273 (Fed. Cir. 1997).

¹²³ *Roedler v. U.S. Dep't of Energy*, Civil No. 98-1843 (DWF/AJB), 1999 U.S. Dist. LEXIS 21613, at *2 (D. Minn. Dec. 23, 1999).

¹²⁴ *Id.*

¹²⁵ *Id.* at *15. Not only did the court analyze the contract, but also the associated statutes for a mention of ratepayers. In describing their findings, the court stated:

[N]ot only is the NSP Standard Contract itself lacking in any mention of ratepayers such as the plaintiffs, but the statute and regulations in question are similarly devoid of any reference to ratepayers as an intended beneficiary. Instead, the NSP Standard Contract and the NWPA, with its accompanying regulations, refer only to intended obligations and benefits between DOE and the owners and generators of spent nuclear fuel, and to an intention to benefit and protect the general public welfare and the environment.

Id.

¹²⁶ See *Friends of the Earth v. Laidlaw Envtl. Serv.*, 528 U.S. 167, 183 (2000).

¹²⁷ See *Lujan v. Nat'l Wildlife Fed'n*, 497 U.S. 871, 888 (1990).

affected area and the aesthetic and recreational value of the area is decreased due to some protested activity.¹²⁸ For the plaintiffs challenging long-term storage of SNF, this burden should be eased by the reality that most nuclear facilities are sited in remote areas and near large bodies of water; areas ripe for aesthetic and recreational value.

Additionally, states operate as third parties to the agreements between the DOE and utilities. While efforts toward energy deregulation are proceeding throughout the nation, nearly every state of the union still has a public utility commission established to oversee the electric utility business. In many cases, such as the ongoing litigation in New England concerning the Yankee nuclear facilities, these PUCs function nearly as co-plaintiffs with the utilities, attempting to advance state interests over those of the federal government.¹²⁹ Other state environmental agencies may also become plaintiffs or participate as *amicus curiae* to derail the on-site storage plans of utilities.¹³⁰ Furthermore, when state legislators debate the appropriateness of new facilities for storage of SNF at reactor sites, they can exercise significant public opinion pressure against utility plans.¹³¹ Ultimately, as they have in the past, these debates may lead to new regulations to prevent or restrict the construction of such facilities.¹³²

Finally, other utilities may qualify as third parties to any contractual challenges between a single utility and the DOE. Because the NWF is a collective arrangement between all nuclear utilities and the DOE, a reduction in fees from one utility can be viewed as detrimental to other NWF contributors. Courts have addressed the problem of inequitable sharing from a collective pool of money recently.¹³³ In a matter before the Court of Appeals for the Federal Circuit, a consortium of several electric utilities sought to block excessive payments to an individual manufacturer by the DOE from a fund set up to distribute

¹²⁸ See *Laidlaw Envtl. Serv.*, 528 U.S. at 182.

¹²⁹ See *Northern States Power Co. v. United States*, 43 Fed. Cl. 374 (1999). Amicus briefs supporting the position of Northern States against the DOE filed by approximately twenty public utility commissions. *Id.*

¹³⁰ See, e.g., Seema Mehta, *State Panel Delays Vote on Waste Storage at San Onofre Plant*, L.A. TIMES, Nov. 15, 2000, at B3.

¹³¹ See, e.g., Judy Fahys, *Measures Aim to Stop Nuke Waste; Plan Would Block Storage of Rods on Goshute land*, SALT LAKE TRIB., Feb. 3, 2001, at A8.

¹³² See *Pacific Gas & Elec. Co. v. State Energy Res. Conservation and Dev. Comm'n*, 461 U.S. 190 (1983) (holding that California could prohibit construction of new nuclear plants in the state until long-term repository for SNF was developed).

¹³³ *Consolidated Edison Co. v. Richardson*, No. 99-1436, 2000 U.S. App. LEXIS 35446 (Fed. Cir. Nov. 29, 2000).

billions of dollars recovered by the government as a result of price controls on petroleum products.¹³⁴ Plaintiff utilities argued that they had standing to challenge any award made by the DOE from the collective fund.¹³⁵ The lower court had dismissed the suit for lack of subject matter jurisdiction, on the grounds plaintiffs lacked standing to challenge an award to a third party.¹³⁶ While not ruling that the utilities had standing to challenge the award to a third party, the appellate court held that enough of an interest existed to survive a motion for dismissal and the case was remanded for further investigation.¹³⁷

While the NWF does not make awards to contributing nuclear utilities, because the expenses of the fund are real and fixed, amounts forgiven from one party must be recouped through the contributions of other utilities. Moreover, because the NWF fees are fixed by statute, the courts will ultimately adjudicate member challenges to adjustment of fees for individual utilities.¹³⁸

¹³⁴ *Id.* at *8.

¹³⁵ *Id.* at *10-11. The argument, summarized by the court, reads at the applicable part: Plaintiffs assert that they have stated a claim upon which relief can be granted and that they have standing to appeal because if Chesebrough does not get the money, the money will go back into the pool and thus increase the Plaintiff's share. As a result, argue Plaintiffs, they have sufficient stake in the outcome to confer standing. DOE counters that Plaintiffs have not stated such a claim and that as third parties, they have no standing to appeal the award to Chesebrough.

Id.

¹³⁶ *Id.* at *1.

¹³⁷ *Id.* at *18. The court summarized its ruling as follows:

DOE has already determined that Plaintiffs are proper claimants, entitled to a share of the pool. Thus, to the extent that the award to Chesebrough was excessive, the excess comes directly out of the awards to Plaintiffs. Under these particular circumstances, Plaintiffs should be entitled to challenge the award to Chesebrough.

Id. The court did recognize the danger of this apparently increased finding of standing:

We recognize that this opens the door to the possibility of an endless series of challenges to awards, resulting in interminable delays in closing the book on this effort at government intervention in the marketplace. We think that such further delays are unlikely . . . Only when a large claim is involved and there is clear evidence of error, would it pay a claimant to litigate an award to another.

Id. The court did not elaborate on how large a claim would be prudent or under what evidence a claim may be upheld.

¹³⁸ See Barrett Presentation, *supra* note 57. Several utilities have recently stepped forward to challenge the DOE-PECO Amendment. In his most recent address to the NWTRB, the acting director of the OCRWM mentioned the proposed litigation:

IV. BARGAIN ELEMENTS

A. *Fees*

Certainly the core part of any bargain between the DOE and utilities regarding the temporary storage of SNF on-site will be the fees contributed by the utilities to the NWF. As investor-owned corporations, most utilities have as their direct interest the maximization of their profits for shareholders and an attempt to recoup some of the money lost to the storage of SNF. However, as discussed previously, from the perspective of the DOE, the deferment of payments to the NWF may not be a legal element of any bargain.¹³⁹ Regardless of the ultimate judicial decisions concerning the authority of the DOE to negotiate deferments, it is not sound fiscal policy on the part of the DOE to interrupt the payment of utilities into the fund.

Currently, the NWF has a balance of \$9.6 billion and each year, as the process for approving the Yucca Mountain Project delays, more money is disbursed from the fund.¹⁴⁰ For many years the DOE has supplemented the amounts spent for YMP and other OCRWM activities from the Defense waste appropriations account.¹⁴¹ Because the Defense Department will be a significant customer of the repository when it is complete, the amounts paid by Defense for the approval and construction of the facility are entirely appropriate.¹⁴² But, because the balance remaining in the NWF decreases annually, these appropriations from Defense are not up to the task of funding the entire approval, construction, transportation, and storage project.

A recent congressional research report estimates the following costs for completion of the Yucca Mountain Project:

The PECO settlement was an effort by the [DOE] to responsibly address the delay in our ability to begin acceptance of commercial spent nuclear fuel. However, a recent lawsuit by approximately a dozen other utilities challenges our authority for the adjustment of charges that Exelon will pay into the Nuclear Waste Fund. We intend to defend the PECO settlement in the courts.

Id.

¹³⁹ See *supra* Section III.

¹⁴⁰ See CRS WASTE BRIEF, *supra* note 27.

¹⁴¹ *Id.*

¹⁴² See YMP DEIS, *supra* note 6, at A-22.

- Estimated costs to complete the repository design and licensing process, and build, operate, monitor, close, and seal the repository—\$18.7 billion
- Estimated costs of expanding the current repository to accommodate expected additional waste beyond the current limit, if authorized—\$4.5 billion
- Estimated costs of transporting waste to Yucca Mountain—\$6.7 billion
- Payments to states—\$3.2 billion
- Management—\$2.5 billion¹⁴³

Therefore, the total estimated future costs are \$36.6 billion in constant 1998 dollars.¹⁴⁴ This is a best case scenario analysis as well. The DOE considers the funding of the repository as adequate and on schedule. In December of 1999, as part of the required statutory review process, the OCRWM determined that the fee charged to civilian producers of SNF was marginally adequate to pay the costs of the program.¹⁴⁵ This report makes clear however, that future projections are based in many cases upon financial trends that are much more favorable than the historical averages.¹⁴⁶ The audit also makes no concessions for any permanent or

¹⁴³ JAMES E. MIELKE, CRS REPORT FOR CONGRESS: PROPOSED HIGH-LEVEL NUCLEAR WASTE REPOSITORY: YUCCA MOUNTAIN SITE CHARACTERIZATION PROGRESS (May 27, 1999), *available at* <http://cnie.org/NLE/CRSreports/Waste/waste-30> (last visited Dec. 1, 2001) [hereinafter CRS YMP REPORT].

¹⁴⁴ *Id.*

¹⁴⁵ See OFFICE OF CIVILIAN RADIOACTIVE WASTE MGMT., U.S. DEP'T OF ENERGY, REPORT ON ASSESSMENT OF FEE ADEQUACY BASED ON FY 1999 TSLCC UPDATE, TDR-CRW-SE-000003 REV 1 (1999).

¹⁴⁶ *Id.* at 24.

This assessment concludes that the 1.0 mill per kWh fee is sufficient at this time for Cases 1 and 2. However, future economic conditions may vary from the forecasts used in this analysis, and costs may vary due to future changes in program scope. This analysis used forecasted (CRWMS M&O 1999a) real interest rates that remained above the historical average for the entire analysis period. In the future real interest rate forecast may decline toward its historical average.

Id.

temporary deferment of fees as authorized by the DOE-PECO Amendment.

If past overruns and increases are any indication, the NWF will need to be significantly larger than the amounts projected here. The NWF can not spare any interruption of its funding from its only source—the fees paid by utilities for the construction and operation of the repository. In fact, the March 1996 report of the Nuclear Waste Technical Review Board, an independent agency set up by NWPA to oversee the actions of the DOE, recommended increasing the amounts paid into the NWF by contract holders in order to meet the increasing costs of the program.¹⁴⁷

B. *Title, Transfer, and Storage*

As stated earlier, the overriding goal of the NWPA is to allow the DOE as the representative of the government to take title to the SNF, transfer the waste to a designated repository, and store the waste long-term for disposal.¹⁴⁸ All actions of the DOE to the present in negotiating contracts, planning and design of Yucca Mountain and resolving the current disputes with the nuclear utilities seem in accord with this stated purpose.¹⁴⁹

In 1999, Secretary of Energy Bill Richardson attempted to negotiate with the utilities to begin this process.¹⁵⁰ As a representative of the DOE and the federal government, Richardson proposed that the DOE would take title to the SNF at reactor sites across the country and pay the utilities a fee for the storage.¹⁵¹ Unfortunately as with past attempts for settlements, buoyed by the recent victories in court, utilities were not amenable to a bargain such as this.¹⁵² Ultimately this resolution failed

¹⁴⁷ See NWTRB 1996 REPORT, *supra* note 88. The report states:

Given current funding projections, it appears that the Nuclear Waste Fund will be only marginally capable, at best, of supporting the long-term development and operation of a repository for the permanent disposal of spent fuel. Therefore, the costs of a limited federal storage facility could be recovered through a new fee assessed on the users of that facility. . . . This would avoid having the taxpayer bear the costs of final closure of the repository.

Id.

¹⁴⁸ See Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101-270 (1994).

¹⁴⁹ *Id.*

¹⁵⁰ See Richardson Testimony, *supra* note 69.

¹⁵¹ *Id.*

¹⁵² See, e.g., Mellor Testimony, *supra* note 11.

because the utilities recognized that the action of taking title to the waste was a relatively small step in the process of delivering the waste to the repository, and a step that utilities believed was of little value.

The concept of taking title to the SNF does have significant value, however. It requires the DOE to provide payment for the dry storage containers and transfer of SNF at those utilities that require more fuel pool space.¹⁵³ It also requires the DOE to pay for the construction of facilities to store and monitor the dry casks of SNF and requires the DOE to pay for security and administrative costs associated with the storage.¹⁵⁴ Nevertheless, even if it may be a financial incentive to utilities, the taking title bargain is poor economics. Paying utilities to purchase equipment and facilities for short-term use makes little sense when the costs of the equipment are exorbitantly high.¹⁵⁵ Currently only a handful of manufacturers make dry casks and the production of such equipment has a long lead-time, ultimately increasing the price.¹⁵⁶ Further, with the guidance on the ultimate storage vessels only in the planning stage, this purchase of numerous dry casks may be abandoned in a few years if the dry casks are not suitable for transportation and long-term storage.¹⁵⁷

Both the DOE and the nuclear utilities project extremely high transportation costs when the SNF finally begins transport to the repository; as noted above these costs comprise nearly 20% of the projected costs of the YMP.¹⁵⁸ If the DOE wishes to bargain for an

¹⁵³ See, e.g., DOE-PECO AMENDMENT, *supra* note 75, at 11.

¹⁵⁴ *Id.*

¹⁵⁵ MARK HOLT, CRS REPORT FOR CONGRESS: CIVILIAN NUCLEAR SPENT FUEL TEMPORARY STORAGE OPTIONS (Mar. 27 1998), available at <http://cnie.org/NLE/CRSreports/Waste/waste-20.cfm> (last visited Dec. 1, 2001) [hereinafter CRS TEMPORARY STORAGE REPORT]. Citing a study by the Electric Power Research Institute ("EPRI"), the report estimates that:

[D]ry storage capital costs [would range] from \$350,000 to \$500,000 for each concrete cask or module Each U.S. reactor discharges an average of about 20 tons of spent fuel annually, so a reactor that had filled its pool storage [70% of reactors by 2010] would need to spend an average of \$700,000 to \$1.3 million per year to construct additional dry storage capacity. If DOE does not take any spent fuel from reactor sites until 2010, nuclear utilities will need dry storage facilities for about 10,000 metric tons . . . therefore, total reactor dry storage construction costs could reach \$350-650 million by 2010 and double by 2020.

Id.

¹⁵⁶ See DOE TRANSPORTATION PLAN, *supra* note 101, at 13 & app. A.

¹⁵⁷ See generally YMP DEIS, *supra* note 6.

¹⁵⁸ See CRS YMP REPORT, *supra* note 143.

element that would not be wasteful economically, it may begin negotiations regarding transportation to an interim facility. The current administration has stated its intention to continue the opposition to any proposal that requires shipment of SNF to an interim facility in Nevada.¹⁵⁹ Nevertheless, the DOE operates facilities in Georgia and Idaho that are currently accepting SNF shipped from overseas as part of the nuclear non-proliferation doctrine.¹⁶⁰ These facilities could accommodate a limited amount of SNF transferred from especially needy facilities. Facilities that are preparing to decommission and are waiting on the transfer of SNF may fit into this category.

The DOE has recently released its consolidated plan for the transfer of SNF from utilities to the repository at Yucca Mountain.¹⁶¹ In the plan, the DOE describes the expected measures to be taken in the future for the transportation of waste to YMP.¹⁶² Little more than a plan of research, the report calls on contractors to provide analyses as to the most efficient means of cask fabrication and transfer to the repository.¹⁶³ Because this planning is in a stage of infancy, the contractors and the DOE both could benefit from actual transfers of SNF to an existing facility. This would provide the future contractors and the DOE with effective data on which to base the costs and logistics required for future transfers.

Regardless of the inevitability of the shipping of SNF under any plan, opposition to transfer of SNF by the public is extremely high.¹⁶⁴ The planning of the long-term repository in Nevada mobilized local opposition

¹⁵⁹ See Barrett Presentation, *supra* note 57.

¹⁶⁰ See DOE TRANSPORTATION PLAN, *supra* note 101, at 5.

In May 1996, the Department of Energy, in cooperation with the U.S. State Department, initiated a program under which spent nuclear fuel and target material at research reactors in 41 countries, containing uranium that was enriched in the United States, could be shipped to two DOE facilities, the Savannah River Site (SRS) and the Idaho National Engineering and Environmental Laboratory (INEEL), for management pending permanent disposition. This program supports the U.S. nonproliferation objective to reduce and eventually eliminate highly enriched uranium in civil commerce. The spent nuclear fuel is entering the United States through Charleston Naval Weapons Station in Charleston, South Carolina and the Concord Naval Weapons Station in Concord, California. To date [January 2001], 18 shipments have been successfully completed, 15 to SRS and three to INEEL.

Id.

¹⁶¹ See *id.*

¹⁶² See *id.*

¹⁶³ See *id.* at 9.

¹⁶⁴ See, e.g., NNWPO FACTSHEET, *supra* note 116.

to the government's proposals rather quickly, and slowly the rest of the nation has begun to realize that the SNF and HLW will need to be shipped on the roads and rails throughout the country.¹⁶⁵ Some groups have stressed that allowing the SNF to cool significantly on-site will minimize the dangers from accident or sabotage during transport.¹⁶⁶ Many groups have expressed concern that the Draft EIS for the Yucca Mountain Project did not address concerns raised in the transport of SNF.¹⁶⁷ The plan does go into great detail regarding the possible transportation methods and routes,¹⁶⁸ but ultimately does not provide conclusive guidance on routes and methods.¹⁶⁹

Transportation of SNF and/or HLW is probably the single largest issue that unites parties in opposition to any plan that requires mass movement of nuclear waste in this nation. Groups that have been opposed to Yucca Mountain from the earliest stages have been especially critical of the lack of guidance provided by the Yucca Mountain Project Draft Environmental Impact Statement.¹⁷⁰ Even the Nuclear Waste Technical Review Board has withheld comment on the DEIS until a thorough analysis of the proposed routes and methods is promulgated by the DOE.¹⁷¹ For its part, the OCRWM has accepted the comments of all

¹⁶⁵ See *id.* Summarizing the scope of the affected population, the Factsheet reports:

The transport of [SNF] and [HLW] to the proposed Yucca Mountain repository site in Southern Nevada has the potential to impact communities across the nation. Studies by the State of Nevada and the [DOE] indicate that 43 states would be directly impacted by thousands of SNF and HLW shipments to the proposed Yucca Mountain repository. At least 109 cities with populations over 100,000 plus thousands of smaller communities could be affected by such shipments.

Id.

¹⁶⁶ *Id.*

¹⁶⁷ See Letter from Amy Shollenberger, Public Citizen Critical Mass Energy and Environment Program, to Wendy Dixon, EIS Project Manager, RE: Comments on the Draft Environmental Impact Statement for a Geologic Repository for Nuclear Waste at Yucca Mountain (Feb. 25, 2000), at <http://www.citizen.org/CMEP/RAGE/radwaste/DEISYuccaComments.htm> (last visited Dec. 1, 2001) [hereinafter Shollenberger Letter] ("The DEIS does not identify the preferred mode of transportation (rail or truck) and does not identify the specific routes for the shipping campaign that would be initiated if Yucca Mountain is approved.").

¹⁶⁸ See YMP DEIS, *supra* note 6.

¹⁶⁹ *Id.*

¹⁷⁰ See Shollenberger Letter, *supra* note 167.

¹⁷¹ See U.S. NUCLEAR WASTE TECHNICAL REV. BD., REPORT TO THE U.S. CONGRESS AND THE SECRETARY OF ENERGY (1999).

interested groups, but has not provided any further guidance regarding the proposed transportation methods or routes.

Recent court decisions have reinforced the often-stated position of activists opposing any large-scale transportation of SNF. Transportation of nuclear waste through any area on a regular basis causes environmental harm. In one high profile case, the New Mexico State Supreme Court upheld an award for damages due to the partial taking of property from landowners who lived near the transportation route from Los Alamos Nuclear Labs to the Waste Isolation Pilot Project ("WIPP") in New Mexico.¹⁷² The DOE conceived the WIPP in 1979 and, after its own extensive saga of battling local resistance, the WIPP has recently begun to accept radioactive waste.¹⁷³ The WIPP accepts "transuranic" wastes; too radioactive to be disposed of in shallow burial sites but not meeting the requirements for long-term storage of SNF and HLW.¹⁷⁴ The court in the WIPP case upheld an action whereby property owners asserted a Fifth Amendment taking had occurred to their property because of the continuous transport of highly radioactive waste nearby.¹⁷⁵ Significantly, the court authorized the award of compensation based upon a loss of market value, even though the loss was based on fears and not on objective standards.¹⁷⁶ The New Mexico court has decided no other cases

¹⁷² *Santa Fe v. Komis*, 845 P.2d 753 (N.M. 1992).

¹⁷³ Waste Isolation Pilot Plant Land Withdrawal Act of 1992, Pub. L. No. 102-579, 106 Stat. 4777 (1992).

¹⁷⁴ See 42 U.S.C. § 2014(ee) (1994). It states that:

The term "transuranic waste" means material contaminated with elements that have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 10 nanocuries per gram, or in such other concentrations as the Nuclear Regulatory Commission may prescribe to protect the public health and safety.

Id.

¹⁷⁵ See *Komis*, 845 P.2d at 755. According to the appellate court summary of the facts of the matter:

The property was condemned on November 14, 1988 and the highest and best use at that time was speculative investment for subdivision into rural homesites or for recreational purposes. The property was appropriated to permit construction of a bypass around the City. The bypass will be used to transport hazardous nuclear waste from Los Alamos to the WIPP site.

Id.

¹⁷⁶ *Id.* at 756. The court stated:

If a loss of value can be proven, it should be compensable regardless of its source. Thus, if people will not purchase property because they fear

regarding the taking of property due to transport of radioactive waste, but it seems reasonably certain that many of the same types of actions will commence as the date for SNF transport nears in Nevada.¹⁷⁷

These concerns go against the record of transportation of SNF. For over forty years, the military has transferred SNF by rail and truck¹⁷⁸ and the commercial industry has a long record of SNF transportation as well.¹⁷⁹ Since the beginning of the nuclear industry, not one serious accident involving the transfer of SNF has occurred, and the record continues to date.¹⁸⁰ However, this stellar record should not relieve the DOE and OCRWM from their obligation to develop an effective, coherent, and applicable plan for the transport of waste to Yucca Mountain. Until the DOE selects a definite method and route for all SNF that they will be required to transport, no meaningful critique of future plans can commence.

C. *Transportation Casks and Canisters*

Closely intertwined with the issues raised by an investigation of proposed transportation routes and methods is the choice of container in which to transport the SNF or HLW. Whether the transport is by rail or by truck will significantly affect the choice of shipping container, as rail shipment containers may be several times larger than those carried by legal weight trucks.¹⁸¹ The first line of defense against an accident involving the release of radioactive materials is the shipping container and the selection of containers for shipment of all types of nuclear waste has

living or working on or near a WIPP route, or if a buyer can be found, but only at a reduced price, a loss of value exists.

Id.

¹⁷⁷ For an extended discussion of the issues surrounding the liabilities generated by the transportation of nuclear waste, see Michael B. Gerrard, *Fear and Loathing in the Siting of Hazardous and Radioactive Waste Facilities: A Comprehensive Approach to a Misperceived Crisis*, 68 TUL. L. REV. 1047 (1994).

¹⁷⁸ U.S. NUCLEAR REG. COMM'N, PUBLIC INFORMATION CIRCULAR FOR SHIPMENTS OF IRRADIATED REACTOR FUEL, NUREG-0725 (1996) at 2 [hereinafter PUBLIC INFORMATION CIRCULAR].

¹⁷⁹ Many utilities with multiple reactors store all SNF for each facility at one site. This involves rail or truck shipments on the same scale as would be required in shipments to the YMP. Also, after the 1979 partial meltdown at Three Mile Island in Pennsylvania, the DOE transported portions of the melted fuel to Idaho for inspection. *Id.*

¹⁸⁰ See PUBLIC INFORMATION CIRCULAR, *supra* note 178.

¹⁸¹ See YMP DEIS, *supra* note 6, at 6-5. The DEIS also envisions a transportation plan that could transfer rail cask to "heavy-haul" trucks for short distances in Nevada. *Id.*

been a concern of the NRC for many decades.¹⁸² Not by coincidence, the NRC also publishes a list of approved casks for storage of SNF at on-site storage facilities.¹⁸³ These two purposes—transportation and temporary storage—have been combined to create “dual-purpose” casks that have become the industry standard.¹⁸⁴ Most new cask designs for temporary storage of SNF are of the dual-purpose variety,¹⁸⁵ perhaps because of the economic uncertainty of a date when the DOE will ultimately remove the SNF from on-site storage facilities.

The DOE has not been blind to the opportunity created by a single cask that serves several functions, otherwise termed a “multi-purpose canister” (“MPC”). If a single cask could be designed for temporary storage at existing reactor sites, transportation to Yucca Mountain and long-term storage, it could save the government and utilities millions of dollars in duplicative costs over the next several years. As early as 1994, the DOE suggested that it could partially compensate utilities for its delay in accepting SNF in 1998 by providing MPCs to plants that required additional storage capacity.¹⁸⁶ The DOE planned to design the sealed

¹⁸² See, e.g., PUBLIC INFORMATION CIRCULAR, *supra* note 178.

¹⁸³ See generally 10 C.F.R. §§ 72.230-48 (2000) (listing procedures and testing required for the approval of spent fuel storage casks at independent spent fuel storage installations).

¹⁸⁴ Even the DOE insists that the spent fuel it receives from PECO in the DOE-PECO agreement will be contained in dual-purpose casks. See DOE-PECO AMENDMENT, *supra* note 75. The Amendment reads at the critical part, “DOE shall only take title to Peach Bottom SNF/HLW that is contained in a dual-purpose cask system certified by the Commission for storage and transport under 10 CFR Parts 71 and 72.” *Id.* at 7.

¹⁸⁵ See DOE TRANSPORTATION PLAN, *supra* note 101, at app. A.

¹⁸⁶ See Notice of Inquiry: Waste Acceptance Issues, 59 Fed. Reg. 27,007 (May 25, 1994).

The Department recognizes that there are a number of potential forms of cost sharing arrangements, but at this time, the Department has not reached a decision whether to proceed with, nor is it predisposed to, any particular form of cost sharing. Currently, the Department is evaluating a design for multi-purpose canisters (“MPC”) to support spent nuclear fuel transportation, storage and disposal. The MPC offers the potential for considerable standardization, simplification and, consequently, cost savings for both utilities and the Federal waste management system. Given the potential benefits of the MPC, the Secretary has directed that the options to be explored by the Department should include, to the maximum extent possible, the provision and use of MPCs to address both schedule and cost concerns arising from the potential unavailability of a repository or an MRS in 1998.

Id. 27,009.

canisters to fit into different shielded "overpacks" for storage, transportation, and permanent disposal.¹⁸⁷ Unfortunately for all involved, sharp budget cuts in FY 1996 forced the DOE to abandon the project due to the high design and start-up costs.¹⁸⁸

It is clearly time to resurrect the MPC program. The DOE's own report on the transfer and storage of SNF encourages manufacturers to fabricate multipurpose casks that can be used for transfer and storage.¹⁸⁹ Immediate DOE purchase and delivery of MPCs to the utilities will have three economic advantages. First, it will prevent the utilities from purchasing their own dry casks that may later need to be discarded following DOE approval of a suitable long-term storage cask.¹⁹⁰ Second, courts and utilities may use the purchase of the canisters as part of an equitable method for payment of damages in current litigation.¹⁹¹ Finally, the DOE would immediately begin funding a portion of the nuclear waste disposal program that will ultimately achieve the end goal of long-term storage and not simply analysis and design.

V. CONCLUSION

The broad plan to dispose of spent nuclear fuel articulated by the Congress in the NWPA has created significant challenges for the DOE. The process of selecting and preparing a site for long-term storage has proved both enormously controversial and costly. After more than fourteen years of analysis of Yucca Mountain and the surrounding environment, the DOE has failed to even approve the site.¹⁹² In terms of actual approval or construction, the plan for transporting and storage of the waste is no closer to completion now than it was when the NWPA was first proposed.¹⁹³

The DOE must promulgate concrete plans and specifications for the transportation of SNF and HLW from the seventy-seven reactor sites throughout the country. Currently the draft environmental impact

¹⁸⁷ See CRS TEMPORARY STORAGE REPORT, *supra* note 155.

¹⁸⁸ *Id.*

¹⁸⁹ See DOE TRANSPORTATION REPORT, *supra* note 101.

¹⁹⁰ See CRS TEMPORARY STORAGE REPORT, *supra* note 155.

¹⁹¹ See *Northern States Power Co. v. Dep't of Energy*, 128 F.3d 754, 760 (D.C. Cir. 1997). The court believed that it was up to the parties involved to negotiate a settlement rather than enforce a court ordered judgment. *Id.*

¹⁹² See generally YMP DEIS, *supra* note 6.

¹⁹³ See generally DOE TRANSPORTATION REPORT, *supra* note 101.

statement offers only a number of options from which the DOE may choose before operation of the repository. This indecision not only makes reasoned analysis of the DOE's plans impossible at the present time, but the failure to promote concrete proposals will likely require several supplemental environmental impact statements prior to the beginning of SNF transport. Similarly, the selection of long-term storage casks and facility design (commonly referred to as "waste packaging") should provide a single, reliable design to ensure the safety of the public and the environment. Ideally the DOE should consider the use of MPCs to minimize the economic waste and delays that will result if utilities adopt several different packaging designs.

After successful court challenges to the DOE in *Maine Yankee Atomic Power Co.* and other actions, the investor-owned nuclear utilities of the U.S. appear to be in a strong position to force the government to begin to accept waste or to pay damages. Since 1994, attempts by the DOE to negotiate a settlement have received little or no interest and a single amended settlement contract is now challenged by other third-party utilities. Both legally and equitably, utilities have every right to enforce the terms agreed to and paid for by the Standard Contract. But nuclear energy has never been a popular form of electric power production in large part due to the public perception of the dilemma posed by nuclear waste. Storing spent nuclear fuel at seventy-seven sites throughout the country will not make these reactors any better neighbors in their respective communities. Utilities should realize they have much to gain by resolving differences with the DOE and making a valid attempt at an equitable settlement.

The DOE and utilities should create several priorities for themselves in future agreements between the parties. First, they should agree that no amendment to the Standard Contract should include a reduction in fees to the NWF. The NWF serves the purposes of all involved in the disposal of SNF and the contributions to the fund ensure the continued progress toward the goal of constructing and operating the Yucca Mountain Project. Second, they should agree that in the interest of the prevention of economic waste, those facilities that are waiting on transfer of SNF to complete decommissioning should be relieved first, perhaps before the construction of Yucca Mountain by removal to another suitable government site such as Savannah River or the Idaho Labs. Finally, the DOE should take title to all SNF stored at utility sites in dry casks and should immediately begin a plan to fabricate and provide multi-purpose canisters to nuclear utilities for current storage and future transfer of SNF. Ideally, the final environmental impact statement for the Yucca

Mountain Project and the final transportation plan should be coordinated to require the use of the same type of cask or canister. Four years before the contracted opening, the DOE once had the foresight to attempt to reconcile the inability to open the repository on schedule with economic considerations of all parties involved. Now four years after the contracted opening, DOE must once again take the lead in proposing a valid settlement.

Congress developed the policies and regulations of the NWPA in part to ensure that the producers of SNF and HLW suffered the costs inherent in the long-term storage required for disposal of the waste. The decisions in *Maine Yankee Atomic Power Co.* and other actions make clear that the federal courts intend to hold the government accountable for the delay in accepting nuclear waste for disposal. If the DOE and the nuclear utilities can not agree to an equitable arrangement for the negotiation of the terms of the Standard Contract, the costs for disposal will likely be borne by the taxpayers of the United States. Further delay by the DOE will cause only further financial hardship to the DOE and the citizens of the nation.