FINANCING USED NUCLEAR FUEL STORAGE

Randall W. Miller

The Nuclear Waste Policy Act of 1982 (NWPA) requires the federal government to provide a permanent storage facility for used nuclear fuel (UNF); however, no permanent storage facility has been developed since the suspension of the Yucca Mountain project. Nuclear Waste Policy Act of 1982 (NWPA), Pub. L. No. 97-425, 96 Stat. 2201 (1982) (codified at 42 U.S.C. §§ 10101–10270 (2013)); *Nat'l Ass'n of Regulatory Utility Comm'rs v. U.S. Dept. of Energy*, 2013 WL 6064021, at *2 (D.C. Cir. Nov. 19, 2013). As a result, nuclear utilities and ratepayers will continue to shoulder the interim UNF storage costs for the foreseeable future.

Overview of UNF Storage

Currently, more than 65,000 metric tons of UNF are stored at 78 nuclear reactor sites in 35 states. Andrew C. Kadak, *Storage of Spent Nuclear Fuel, Managing Nuclear Waste*, The Bridge, Summer 2012 at 24; James D. Werner, CRS, R42513, U.S. Spent Nuclear Fuel Storage 2 (May 24, 2012), *available at* http://www.fas.org/sgp/crs/misc/R42513.pdf. Nuclear reactors typically generate about 2000 metric tons of UNF annually, and the amount of UNF "is expected to more than double to about 140,000 metric tons by 2055, when the last of currently operating reactors is expected to retire." U.S. Gov't Accountability Office, GAO–12–797, Spent Nuclear Fuel: Accumulating Quantities at Commercial Reactors Present Storage and Other Challenges 19 (Aug. 2012), *available at* http://www.gao.gov/assets/600/593745.pdf. According to the 2012 final report issued by the Blue Ribbon Commission on America's Nuclear Future, most UNF will remain in storage pools until a permanent storage option is found. Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy 11 (Jan. 2012) (hereinafter BRC Report). Some storage pools, however, have reached capacity and others will do so in the near future. *Nuclear Fuel Pool Capacity*, U.S. Nuclear Regulatory Commission, http://www.nrc.gov/waste/spent-fuel-storage/nuc-fuel-pool.html.

UNF Storage Costs and the Nuclear Waste Fund

The annual security and monitoring costs for UNF stored at the 70 shutdown nuclear reactor sites in the United States range from $350 to $550 million. BRC Report at 36. The storage costs for UNF at each shutdown site can "range from $4.5 million to $8 million per year, compared to an incremental $1 million per year or less when the reactor is still in operation." BRC Report at 35. In addition to paying for interim UNF storage, nuclear utilities must pay a Nuclear Waste Fund (NWF) fee to fund the future development of a permanent UNF storage facility or repository. 42 U.S.C. § 10222 (2013). The fees generate about $750 million annually and are assessed at the rate of one-tenth of a cent per "every kilowatt-hour of nuclear-generated electricity as a *quid pro* payment in exchange for the federal government's contractual commitment to begin accepting commercial spent fuel . . ." *Oversight Hearing—Nuclear Waste Programs and Strategies: Hearing Before the Subcomm. on Energy and Water Development, and Related Agencies of the H. Comm on Appropriations*, 113th Cong. 2 (2013) (statement of Susan Eisenhower, Former BRC Member); BRC Report at 70. As of January 2013, the fund totaled more than $28 billion and accrued an annual interest amount of about $1.3 billion. *Nat'l Ass'n of Regulatory Utility Comm'rs*, 2013 WL 6064021, at *2–3; Martha Groves Pugh, *United States: D.C. Circuit Orders DOE to Stop Collecting Nuclear Waste*, Mondaq (Nov. 23, 2013), *available at* http://www.mondaq.com/unitedstates/x/276764/Waste+Management/DC+Circuit+Orders+DOE+to+Stop+Collecting+Nuclear+Waste+Fee.

On November 19, 2013, the Court of Appeals for the District of Columbia (D.C. Circuit) ordered the Department of Energy (DOE) to submit a proposal to Congress with the recommendation that the NWF fee be reduced to zero. *Nat'l Ass'n of Regulatory Utility Comm'rs*, 2013 WL 6064021, at *7. The

Honorable Judge Silberman stated the reason for the order:

> According to the Secretary [of Energy], the final balance of the fund to be used to pay the costs of disposal could be somewhere between a $2 trillion deficit and a $4.9 trillion surplus. This range is so large as to be absolutely useless as an analytical technique to be employed to determine—as the Secretary is obligated to do—the adequacy of the annual fees. . . .

Id. at *3. The D.C. Circuit stated that the NWF fee may be reinstated once the Secretary makes an adequate fee assessment as required by the NWPA. *Id.* at *7.

According to estimates by the DOE in 2008, the repository at Yucca Mountain would have cost "$96.2 billion (in 2007 dollars) to license, construct, operate, and close." BRC Report at 31. This estimate takes into account that the legislated capacity of Yucca Mountain was only 70,000 metric tons of UNF, which accounts for half of the amount of UNF that is estimated to accumulate by 2055. *Id.*; U.S. Gov't Accountability Office, *supra*, at 19 (Aug. 2012). Should Congress decide not to pursue development of the Yucca Mountain repository, additional funds would be needed to cover the costs associated with identifying a replacement site. *See* BRC Report at 31 (acknowledging that no sites have been identified for UNF management).

Federal Liability

As of September 30, 2013, the Judgment Fund, 31 U.S.C. § 1304, had paid $2.7 billion in settlements to nuclear utilities for the federal government's failure to open a repository and accept UNF. U.S. Dep't of Energy, OAS-FS-14-02, Audit Report: Department of Energy's Nuclear Waste Fund's Fiscal Year 2013 Financial Statement Audit 18 (Dec. 2013). If the federal government cannot accept UNF by 2020, it will be liable for approximately $20.8 billion. BRC Report at 79. The federal government can reduce its liability by developing a permanent repository, enacting new legislation that would change the NWPA, or providing interim storage options for nuclear utilities until a repository is available to receive UNF.

Randall W. Miller is a third-year law student at Washington and Lee School of Law, where he serves as the Note Editor for the Journal of Energy, Climate, and the Environment. In 2013, he interned with the U.S. Senate Committee on Environment and Public Works and the Commodity Futures Trading Commission Division of Enforcement.

Upcoming Events of Interest

The International Nuclear Law Association (INLA) is organizing its next biennial congress in Buenos Aires, Argentina, October 20–23, 2014. The congress will cover the entire range of topics related to nuclear law—safety, security, nonproliferation, and liability. While most presentations will be delivered in English, interpretation in Spanish will be provided. For further information on the congress and for submission of papers or possible participation as a presenter, please contact the secretariat of INLA at brigitte@aidn-inla.be.

The purpose of the INLA, a private association created some 40 years ago, is to promote the study of legal issues associated with the peaceful uses of nuclear energy and to encourage the exchange of information and education in this domain.

Note: If you have any upcoming events of interest that you would like printed in the committee newsletter, please e-mail the editor at christine.jochim@klgates.com.