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On April 21, 2005, this Court issued in this case a Memorandum Opinion and Order to Show Cause Why the Standard Contract Should Not Be Held Void and Restitution Awarded from the Nuclear Waste Fund, inviting "any interested entity" to file an *amicus* brief addressing the issues raised by the Court. The State of Nevada thanks the Court for this opportunity and respectfully requests consideration by the Court of this *amicus* brief.

I. NEVADA'S INTEREST IN THIS PROCEEDING

Under the Nuclear Waste Policy Act of 1982, as amended, 42 U.S.C. §§ 10101, *et seq.* ("NWPA"), the Department of Energy's ("DOE's") site at Yucca Mountain, Nevada ("Yucca") is the only site in the United States slated for potential development as a national repository for the disposal of high-level radioactive waste and spent nuclear reactor fuel, including spent fuel from the nuclear power reactor now being decommissioned by the Sacramento Municipal Utility District ("SMUD"). The NWPA, and the regulations of the U.S. Nuclear Regulatory Commission ("NRC") that apply to the possible licensing of Yucca, afford Nevada (as the host state) special participation rights in the development and licensing of the Yucca repository. 42 U.S.C. §§ 10135 and 10136; 10 C.F.R. § 2.309(d)(2)(iii). Nevada has availed itself of all opportunities under these laws to review the activities of DOE and other agencies with respect to Yucca. Nevada is accordingly highly qualified to furnish the Court with additional material that may bear on the Court's deliberations in this case.

The Yucca site is located only 90 miles from Las Vegas, Nevada. Led by Clark County, where Las Vegas is located, Nevada is the fastest growing state in the United States. DOE Final Environmental Impact Statement for a Geologic Repository of Spent

Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, February, 2002 ("Yucca FEIS") at p. 3-86 (*see* www.ocrwm.doc/documents/feis_a/index.htm). In addition to constructing and operating Yucca, DOE proposes to build the largest new rail line in the United States in many decades, connecting the interstate rail system to the Yucca site along a new corridor within Nevada that is over 300 miles long. Yucca FEIS at pp. 2-51 to 2-53. Accordingly, Nevada has great interest in the Yucca project, and in assuring that its development, if it ever occurs, affords adequate protection of the health and safety of Nevada's citizens and the regional environment. Because the repository project would also trigger tens of thousands of shipments of spent nuclear fuel and high-level waste over the nation's rail system, its interstate highways, on inland waterways, and through dozens of cities (Yucca FEIS at pp. 2-42 to 2-47), the project is also a matter of substantial general public interest.

II. THE REAL YUCCA SCHEDULE

A. The Repository is Unlikely Ever to Open

Nevada strongly believes that Yucca will *never* be developed as the nation's nuclear waste repository. This is likely to be the case because (a) DOE has demonstrated a profound unfitness to qualify as an NRC licensee for the project; (b) DOE has yet to complete the design of the repository or submit a license application to NRC and may never actually complete such an application to the degree required by NRC; (c) the proposed project cannot technically be licensed by NRC even if the application is completed; (d) if the application is completed and docketed by NRC, all of the data and analysis supporting the project must withstand expert review and cross-examination in a

formal NRC “on the record” hearing and multiple layers of NRC review; (e) the repository is no longer needed due to the widespread development and use of economical on-site interim dry storage facilities; and (f) there are legal mechanisms to resolve disputes between utilities and DOE that would prejudice neither side and save billions of dollars for ratepayers and taxpayers without Yucca. Indeed, by forestalling examination of superior waste management alternatives, Yucca presently stands as the greatest obstacle to the development of a sound national solution to the back-end of the nuclear fuel cycle.

B. DOE’s Revised Repository Schedule

It has long been DOE’s practice to announce and hold unrealistic schedule milestones for the proposed development of the Yucca repository. Though the Court cited a DOE December 2004 projected schedule for when shipment of spent fuel could commence, DOE has subsequently amended that date and is “now hoping” for 2012, though it presented Congress with cost estimates for a 2015 opening. See “Energy Officials Turn Shy in Talk About Yucca Schedule,” *Las Vegas Review Journal*, March 11, 2005 (Exhibit No. 1). Industry sources have surmised it may be 2015 to 2020. *Id.*

At this point, however, any projection of when the repository might ever be open for business is pure conjecture, since numerous obstacles could either delay the project or altogether terminate it, as discussed below.

C. Invalidation of EPA’s and NRC’s Yucca Rules

First, as the Court has recognized, in *Nuclear Energy Institute v. Environmental Protection Agency*, 373 F.3d 1251 (D.C. Cir. 2004), a case brought by Nevada and the Natural Resources Defense Council, the D.C. Circuit invalidated a critical part of the

radiation standard being used by DOE and NRC to assess whether disposal at Yucca would be safe. As a result, there presently is no Yucca radiation protection standard, nor is there a rule that would allow licensing of Yucca to proceed. Nearly a year following that decision, EPA has yet to issue a proposed new rule, though it has announced it may do so by the end of the summer. EPA's last rulemaking setting the first radiation standard for Yucca took over seven years to finalize. While the new rule is not expected to take that long, it is hard to imagine EPA taking less than an additional 18 months, which would still be record time for that agency's rulemaking. Then, when the EPA rule is issued, NRC must amend its Yucca licensing rules to accommodate the new EPA rule. See Section 801 of the Energy Policy Act of 1992, 42 U.S.C. § 10141-note. And then, DOE must assess repository performance using the new standard. Whether DOE can divine the ultimate rules and assess performance results in sufficient detail to submit an application prior to the rules being finalized is undetermined, though Nevada intends to challenge any docketing by NRC of a DOE Yucca license application prior to finalization of the new rules.

In gauging itself against the likely new rule, DOE will face a further quandary. A straight-forward application of the D.C. Circuit's decision would have EPA simply extending its present radiation dose limit out to the time of peak dose to humans from the repository, as the National Academy of Sciences recommended. However, Yucca will not be able to pass this licensing test based on what is known after years of Yucca scientific study. Every DOE performance model released to date shows that Yucca will be unable to meet such a new standard. See, e.g., Yucca FEIS at p. 5-26. If, on the other

hand, EPA departs materially from what the D.C. Circuit and the Academy required, then Nevada will renew its challenge to the new rule in court.

D. Recertification of DOE's Yucca Documents

At least six months before DOE can even submit a license application, NRC's regulations at 10 C.F.R. §§ 2.1003 and 2.1009 require DOE to make a formal certification that it has made all relevant Yucca documentary material within its custody or control publicly available on an electronic, web-based data management system. DOE made such a certification last summer but, upon Nevada's motion, an NRC licensing board struck the certification on August 31, 2004 as not being in good faith. *U.S. Department of Energy (High-Level Waste Repository: Pre-Application Matters)*, LBP-04-20, August 31, 2004 (Docket No. PAPO-00) (NRC's adjudicatory materials related to Yucca are available on NRC's electronic hearing docket at www.nrc.gov/reading-rm/ehd.html). While DOE may attempt to make a new certification sometime later this year, NRC's licensing board is poised to adopt even stricter standards for document production. See, e.g., *U.S. Department of Energy (High-Level Waste Repository: Pre-Application Matters)*, First Case Management Order, January 24, 2005 (Docket No. PAPO-00). Nevada believes that DOE will be unable to meet its latest projected date of recertification. When and if DOE does recertify its documents, Nevada anticipates challenging the new certification if it remains defective.

E. Nevada's Challenge to DOE's Transportation Plan

Nevada presently has pending in the D.C. Circuit a lawsuit against DOE alleging gross violations by DOE of the National Environmental Policy Act ("NEPA") in selecting a national transportation mode for moving waste to Yucca, and in adopting a

particular corridor within Nevada within which it proposes to build a new rail line to the site. *See State of Nevada v. DOE*, No. 04-1039 (D.C. Cir. filed Sept. 8, 2004). One of the primary challenges brought by Nevada concerns DOE's adoption of a national transport mode that it had explicitly rejected in its environmental impact statement as too impracticable, too costly, and having the largest health and safety and occupational health consequences. DOE adopted this mode precisely because it believed that its proposed new rail line would not be ready in time to meet DOE's needs to ship spent fuel by rail to the repository. *See* 69 Fed. Reg. 18,557, 18,561 (April 8, 2004) (anticipated delay of six years). If Nevada prevails in this lawsuit, DOE may need to re-do its environmental analysis of transport options, opening the issue to additional public comment or transferring the project to the federal Surface Transportation Board, which Nevada alleges has primary jurisdiction.

F. Falsification of Documents at Yucca

In March 2005, DOE Secretary Bodman announced that DOE had determined that government scientists performing key water infiltration studies and hydrogeologic modeling at Yucca had been falsifying data and records. DOE Press Release "Statement From Secretary of Energy, Samuel Bodman," March 16, 2005 (Exhibit No. 2). The Secretary's announcement prompted criminal investigations by the Inspector Generals for the Department of the Interior and the Department of Energy, as well as the FBI. *See* "FBI Steps unto Yucca document investigation" Las Vegas Sun, March 31, 2005 (Exhibit No. 3). Nevada's Congressman Porter, as Chairman of the Subcommittee on the Federal Workforce and Agency Organization, Committee on Government Reform, has begun what may be a year long investigation into the allegations. (Exhibit No. 4). The

Committee has begun to subpoena Government scientists to testify before the Porter Subcommittee. (Exhibit No. 5). DOE's own investigation of the matter is expected to result in an initial report by September of this year.

These investigations go to the heart of the question of whether DOE can ever qualify as an NRC licensee because of NRC's requirement that applicants exhibit a strong "safety first" culture. See NRC's "Guidance for Establishing and Maintaining a Safety Conscious Work Environment," 69 Fed. Reg. 61049, October 14, 2004. NRC also has very strict quality assurance regulations in 10 C.F.R. §§ 63.141-144 that are designed to assure the integrity and traceability of safety documentation. Whether the Yucca project can ultimately survive given admitted underlying problems with its data, its records, its quality assurance program, and the veracity of its scientists is presently unknown. Nevada will further probe these issues during Yucca's licensing proceeding.

G. The Yucca Licensing Proceeding

If somehow the EPA's and NRC's rulemakings successfully conclude (litigation notwithstanding), and DOE successfully completes its license application, certifies its documents, overcomes NEPA litigation obstacles, and emerges from criminal investigations not fatally undermined, then it must survive years of litigation before the NRC to obtain a construction authorization for the repository. The first step in that process will be the application's docketing, 10 C.F.R. § 2.101(f), which can be done only if it is "complete and accurate in all material respects." 10 C.F.R. § 63.10. Presently, the application is incomplete, and Nevada believes DOE, for political and public relations purposes, may file an incomplete application in the hope that it will form a "placeholder" that can be supplemented after submission, in a process perhaps taking years. However,

unfortunately for DOE, NRC's repository licensing rules (in contrast to its rules for licensing of reactors) make no provision for the docketing of a partial application.

In any event, if and when the application is eventually docketed, the proceedings before the NRC, which will include full discovery and formal "on the record" adjudicatory hearings with cross-examination, are likely to last for many years. While the NWPA provides for a period of up to 4 years for the NRC to determine whether the repository should be granted a construction authorization, 42 U.S.C. § 10134(d), the NWPA has no penalty or other regulatory consequence for failure to meet this statutory deadline. Indeed, a similar NWPA deadline, a requirement that DOE submit the license application ninety days after the President's recommendation of the Yucca site takes effect, 42 U.S.C. § 10134 (b), elapsed over three years ago without so much as a whisper in the regulatory and political arenas.

With a team of some 30 eminent technical experts it has retained from around the globe, Nevada intends to make numerous challenges to various procedural and substantive aspects of the application – possibly filing up to hundreds of contentions. Other interest groups and government entities also expect to make challenges, including those along transport routes. Those challenges may lawfully include virtually all aspects of DOE's environmental impact statement for the project. *See NEI v. EPA*, 373 F.3d at 265-67. Accordingly, the Chairman of the NRC licensing board presiding over pre-application matters for Yucca commented recently about "the likelihood that this [licensing] proceeding will go on for an extended period of time, contrary to what's politically correct to say," even to the point where "memories fade, attorneys come and go, [and] judges come and go." *U.S. Department of Energy (High-Level Waste*

Repository: Pre-Application Matters), Case Management Conference, May 18, 2005, at p. 365 (Docket No. PAPO-00).

If a construction authorization is actually granted for the repository, and it survives appeal to the full Commission and possible court challenge, DOE must still obtain a second authorization from NRC to actually emplace high-level waste and spent nuclear fuel in the repository. 10 C.F.R. § 63.46. This proceeding, too, will be subject to litigation.

DOE may foster the untested hope that it will be able to construct a gargantuan above-ground “aging facility” at the Yucca site to be in a position to ship spent fuel to the site and store it there in dry casks years before it can actually be disposed of in the repository. Yucca FEIS at p. 2-12. But such an “aging facility” is merely a euphemism for a retrievable storage facility, which is expressly prohibited anywhere within the State of Nevada by NWPA Section 145(g), 42 U.S.C. § 10165(g). Moreover, such a facility would also have to be licensed by NRC. 42 U.S.C. § 10161(d).

H. Conclusion on the Yucca Schedule

In conclusion, DOE’s projected schedule for the development of the Yucca repository, even as revised, is sheer fantasy. The Court’s observation on the record in this litigation that “the government doesn’t appear, at least in my lifetime, to be picking up this fuel under these [standard] contracts” is, if anything, optimistic. Tr. at p. 1585. Because utilities know this only too well, they have begun to implement their own solutions to the management of their spent fuel. These solutions are eminently practical.

III. INTERIM DRY STORAGE

A. Safety and Pervasiveness of Dry Storage

In the absence of Yucca, and in the face of its accelerating delay and uncertainty, utilities have broadly developed and implemented their own "no-action" alternative to Yucca. This alternative involves the design, construction, licensing and operation of passive, dry storage facilities that are likely able to store all of the utilities' spent fuel for centuries in a safe and fully retrievable manner.

NRC has estimated that spent nuclear fuel can be stored safely in dry storage facilities for at least 100 years. Over fifty of these facilities will be in use within the next few years, according to the agency. See NRC Spent Fuel Project Office Licensing Process Conference, February 8, 2005, graph of "Spent Fuel Storage" (Exhibit No. 6) and NRC "Locations of Independent Spent Fuel Storage Installations (Exhibit No. 7). In 1999, NRC testified before Congress that "we have not identified any safety or environmental issues that would preclude issuance of a [independent dry storage license] for 100 years." NRC Statement Before the Subcommittee on Energy and Power, House Committee on Commerce, February 10, 1999. DOE's Yucca FEIS addressed the impacts of long-term dry storage of spent fuel as part of DOE's consideration of the so-called "no-action" alternative, required by NEPA. DOE concluded that, even in the improbable worst case of a complete loss of institutional control at reactor sites after one hundred years, with the concrete storage module and the internal spent fuel canister gradually degrading, there would be no release of any radioactive material for at least one thousand years. Yucca FEIS at pp. K-9, K-40.

In short, the days when a spent fuel "crisis" could be used to justify an accelerated rush to Yucca have long since passed, and "urgency" is no longer part of the rationale for Yucca or for spent fuel management generally. There is no crisis whatsoever in spent fuel management in this country. While spent fuel is being safely stored, a safe repository may or may not be developed, or some alternative waste management technology (such as transmutation, reprocessing, or other technologies being analyzed worldwide) may supersede the need for geologic disposal. In a study commissioned by DOE itself for the Yucca EIS, it was concluded that continued indefinite on-site dry storage of spent fuel would not be sufficiently costly to adversely impact the marginal cost of producing nuclear-generated electricity. Note to file, Jason Technologies, 6/17/97 (a DOE contractor for its Yucca FEIS) (Exhibit No. 8).

Given these realities, the Court correctly observed that the real question appears to reduce to issues of title and money.

B. The PECO Deal

In July 2000, DOE's Secretary announced the signing of a deal with PECO Energy (now a part of Exelon Corporation) in Pennsylvania pursuant in which that utility would end its spent fuel litigation against DOE in return for DOE's agreeing that if the spent fuel did not go to Yucca by a date certain, DOE would take title to the waste, and manage it indefinitely in dry storage casks in a safe interim facility built by the utility and financed by DOE. DOE press release, "First Agreement Reached with Utility as Nuclear Waste Acceptance," July 20, 2000 (Exhibit No. 9). In signing the first such deal with PECO, DOE's Secretary hailed it as a "precedent for all utilities." *See Alabama Power v. DOE*, 307 F.3d 1300, 1306 (11th Cir. 2002) (DOE "will use the [deal] as a settlement

model on an industry-wide basis"). But because DOE chose to pay for the deal by allowing PECO to offset payments to the utilities' NWP Nuclear Waste Fund, several utilities sued to block that part of the arrangement. The Eleventh Circuit in *Alabama* invalidated this element, but not its underlying terms, including the provision by which DOE would take title to the spent fuel. Moreover, this Court has observed correctly that, while *Alabama* holds that the Government may not utilize monies from the Nuclear Waste Fund to pay for the interim storage costs of the standard contract holders, *Alabama* did not address the possibility of declaring the Standard Contract void and/or awarding restitution from the Nuclear Waste Fund.

Regardless of how an arrangement like the PECO deal is paid for, it sets the predicate for one possible resolution of the entire panoply of state and utility lawsuits now facing DOE over spent nuclear fuel, including the SMUD case. Under a PECO-type arrangement instituted on an industry-wide basis, DOE would take title to all spent fuel by a date certain, and would ultimately take ownership of utilities' dry storage facilities and manage the spent fuel on site. This would permit utilities to remove spent fuel liabilities from their corporate books, allow them to safely decommission their plants, remove state utility commissions from a position of having jurisdiction over the facilities or the fuel (since those facilities would no longer be utility assets subject to state rate regulation), and would likely end the ability of states to block new reactor licensing on grounds, established in *Pacific Gas & Electric Co. v. State Energy Resources Cons. Comm'n*, 461 U.S. 190 (1983), that the availability of waste disposal is an economic issue for utilities that is appropriate for state regulation. In short, the future of nuclear power would be altogether decoupled from Yucca.

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