

Testimony for the Record
Nuclear Energy Institute
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U.S. Senate Committee on Energy and Natural Resources
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I am Maria Korsnick, President and Chief Executive Officer of the Nuclear Energy Institute (NEI).¹ I appreciate the opportunity to provide testimony on the Nuclear Waste Administration Act of 2019 (S. 1234). On behalf of NEI and its members, I sincerely appreciate the Committee's deliberate effort to develop an effective federal used fuel management program. We look forward to continuing to work with lawmakers to reach bipartisan consensus on the best approach for a durable solution.

Since this bill was first introduced in 2013, several things have changed. Because of a court order, the U.S. Department of Energy (DOE) has reduced the Nuclear Waste Fund fee to zero. That notwithstanding, the Nuclear Waste Fund now has a balance of more than \$41 billion and each year more than \$1.5 billion in interest is added to the principal. The U.S. Nuclear Regulatory Commission (NRC) technical staff has also completed safety and environmental reviews of the Yucca Mountain license application, concluding that Yucca Mountain complies with all regulations. A final Yucca Mountain decision, however, awaits an extensive formal hearing, which requires further appropriations. Finally, private initiatives are now underway to develop consolidated storage facilities in two states.

These developments all put squarely before Congress the obvious and pressing need to revitalize the federal used nuclear fuel program, including providing direction to move the Yucca Mountain application forward and support private consolidated interim storage facilities. Used nuclear fuel is stored safely and securely at sites in 35 states. But onsite storage was intended to be temporary until the federal government meets its legal obligation to develop a permanent solution. Action by the federal government is long overdue. The failure of the federal government to implement the statutorily required used fuel management program has given the industry a black eye for far too long despite the fact that nuclear generation provides more than half of the nation's carbon-free electricity. Further, there are many advanced reactor designs being developed that can usefully be deployed in the U.S. in the near future to meet our clean energy needs. Burdening these promising technologies with the weight of a floundering federal used fuel management program unnecessarily and unreasonably limits the tools we have to combat climate change at a time when we need every carbon-free generation option available.

Utilities and their electricity customers have done their part, as their contributions have resulted in the \$41 billion balance in the Nuclear Waste Fund. In addition, taxpayers have been saddled with the consequences of the federal government's inaction as more than \$7 billion in damages has already been paid from the Judgment Fund and billions more in liability continue to mount the longer delay on the program continues. And let us not forget about the communities in 35

¹ NEI is responsible for establishing policy on issues affecting the commercial nuclear energy industry. NEI has about 300 members, including companies licensed to operate U.S. commercial nuclear power plants, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, materials licensees, labor organizations, universities, and other organizations involved in the nuclear energy sector.

states that host the facilities used to store used fuel. The citizens of those communities, and particularly those where there is no longer an operating plant, are an often-overlooked constituency with a significant stake in a fully functioning used fuel management program. Both they and the site owners are currently prevented from redeveloping the land on which these storage facilities sit. Congress owes it to these communities to ensure science—not political whims—determines the fate of Yucca Mountain.

The Importance of Nuclear Power to the United States

Nuclear energy is the largest and most efficient source of carbon-free electricity in the United States. Currently, 97 commercial nuclear power plants in 29 states provide nearly 20 percent of America's electricity and more than half of the emissions-free electricity. Because electricity generation from nuclear energy does not release carbon dioxide and other harmful air pollutants, by maintaining the domestic nuclear fleet, the United States will not have to choose between the health of its electric grid and the health of its citizens. Nuclear plants run 24 hours a day, 7 days a week, producing power with unmatched reliability, and have the added benefit of 18-24 months of fuel on site. Nuclear plants are hardened facilities that are protected from physical and cyber threats, helping to ensure we have a resilient electricity system in the face of potential disruptions.

Nuclear energy facilities are essential to the country's economy and the local communities in which they operate. The typical operating plant generates \$470 million each year in the sale of goods and services in the local community, and employs 700 to 1000 workers. Construction of a new nuclear plant provides approximately 3,500 jobs at peak periods. Collectively, the nuclear industry contributes about \$60 billion every year to the U.S. economy, by supporting over 475,000 jobs and producing over \$12 billion annually in federal and state tax revenues.

The Used Nuclear Fuel Stalemate

Unlike fossil fuel-fired power plants, which emit carbon dioxide and other air pollutants to the atmosphere, nuclear generation's primary byproduct is contained in the solid fuel it uses to produce electricity. After generating electricity for about five years, used nuclear fuel assemblies are removed from the reactor and safely stored initially in a concrete and steel fuel pool. When cool enough that the used fuel no longer needs to be stored underwater—a few years after removal from the reactor—it can be transferred and stored in dry casks, which are large steel-reinforced concrete containers. Over the past three decades, industry has safely loaded and placed into storage more than 3,000 of these containers. All the used fuel produced by the U.S. nuclear energy industry in more than 50 years of operation would, if stacked end to end, cover a football field to a height of approximately 10 yards.

Used nuclear fuel is stored safely and securely at reactor and storage sites around the country, but onsite storage was never intended to be permanent. The Nuclear Waste Policy Act of 1982 (NWPAct) codified DOE's obligation to dispose of used fuel generated by U.S. commercial nuclear power plants and the reciprocal obligation of plants owners and operators to offset disposal costs by paying fees into the Nuclear Waste Fund. To cement these obligations, the NWPAct required plant owners/operators to enter into the legally binding Standard Contract with

DOE. Pursuant to that contractual obligation, the owners and operators of nuclear plants—and the consumers of their electricity—have paid billions into the Nuclear Waste Fund. However, despite these massive investments, the federal government has fallen far short of meeting its end of the bargain as no tangible progress is being made toward developing a durable used fuel program.

In enacting the NWPA, Congress recognized that it was important to drive the government's action to complete the project by providing statutory deadlines by which significant milestones were to be met. Most prominently, Congress directed DOE to begin accepting used fuel by January 31, 1998. To help ensure this date was met, Congress amended the NWPA in 1987 to designate Yucca Mountain as the sole candidate for a repository. Despite this statutory deadline, by the mid-1990s, DOE made clear that it could not meet the 1998 deadline. Nonetheless, as statutorily required, DOE extensively evaluated the Yucca Mountain site before formally recommending moving forward with the repository in 2002. Congress again endorsed moving forward with Yucca Mountain and established a 90-day deadline for DOE to submit a construction authorization application to the NRC. Missing another deadline, DOE did not submit its application to the NRC until 2008, which triggered a 2012 deadline for the NRC to complete its review of the application. This was yet an additional deadline that was missed because in 2010, DOE—without basis—shut down the Yucca Mountain project in the middle of the NRC's application review and hearing process.

The failure to meet these deadlines—and the resulting harm to the industry, consumers, taxpayers, and local communities—has spurred literally dozens of lawsuits.² These lawsuits were necessary to protect the rights of generating companies and electricity consumers, and required the expenditure of countless resources that would have been better used elsewhere. Two of the more recent lawsuits are particularly relevant to the current used fuel stalemate.

First, the U.S. Court of Appeals for the D.C. Circuit in 2013 ordered DOE to reduce the Nuclear Waste Fund fee to zero until either the Yucca Mountain project is revived as required by the NWPA or Congress enacts an alternative plan.³ This decision squarely places the ball before Congress to fund the Yucca Mountain project or develop a comprehensive alternative disposal plan. In short, the court made clear that DOE would not be permitted to start assessing fees from electricity customers unless tangible progress is made on a repository.

Second, also in 2013, the D.C. Circuit ordered the NRC to complete safety and environmental reviews of the Yucca Mountain license application.⁴ Although these reviews by the NRC's technical staff have since concluded that Yucca Mountain complies with all regulations, a final

² See, e.g., *Texas v. United States*, 891 F.3d 553 (5th Cir. 2018); *Nat'l Ass'n of Regulatory Util. Comm'rs v. DOE*, 680 F.3d 819 (D.C. Cir. 2012); *Dairyland Power Coop. v. United States*, 645 F.3d 1363 (Fed. Cir. 2011); *Pacific Gas & Elec. Co. v. United States*, 536 F.3d 1282 (Fed. Cir. 2008); *Yankee Atomic Elec. Co. v. United States*, 536 F.3d 1268 (Fed. Cir. 2008); *Alabama Power Co. v. DOE*, 307 F.3d 1300 (11th Cir. 2002); *Roedler v. DOE*, 255 F.3d 1347 (Fed. Cir. 2001); *Northern States Power Co. v. United States*, 224 F.3d 1361 (Fed. Cir. 2000); *Maine Yankee Atomic Power Co. v. United States*, 225 F.3d 1336 (Fed. Cir. 2000); *Northern States Power Co. v. DOE*, 128 F.3d 754 (D.C. Cir. 1997); *Indiana Michigan Power Co. v. DOE*, 88 F.3d 1272 (D.C. Cir. 1996).

³ *Nat'l Ass'n of Regulatory Util. Comm'rs v. DOE*, 736 F.3d 517 (D.C. Cir. 2013).

⁴ *In re Aiken County*, 725 F.3d 255 (D.C. Cir. 2013).

decision awaits an extensive formal hearing in which Nevada and others opposing the project can present evidence and arguments challenging DOE's license application to NRC's independent administrative judges. But these hearings cannot proceed absent further congressional appropriations.

Actions to Address Used Fuel are Well Understood and Technologically Achievable

Used fuel is and can continue to be stored safely onsite or at consolidated interim storage facilities. Although most used fuel remains at the reactors that generated it, used fuel has been and will continue to be transported safely and securely. Ultimately, however, a permanent disposal solution is needed. The consensus within the scientific and technical community engaged in used fuel management is that safe geologic disposal is achievable with currently available technology.⁵ Yet the U.S. is the only major nuclear nation without a used fuel management program. To help the U.S. maintain its role as a leader in the nuclear arena, NEI urges Congress to implement the following critical steps, which will put the U.S. on the path toward a viable used fuel management solution:

1. Reach a Decision on Yucca Mountain: The NRC has yet to decide whether it will approve DOE's license application for the Yucca Mountain project. We support completing the Yucca Mountain license application proceeding. But to move forward, Congress must grant the NRC's and DOE's requests for funding to complete their duties. S.1234 could help move the Yucca Mountain licensing proceeding forward by establishing a deadline for the NRC to issue a final decision on the Yucca Mountain construction authorization application. The NRC missed the original deadline because of funding shortfalls and the absence of a cooperative applicant. A new deadline would add certainty and reinforce Congress's mandate to make meaningful progress. With adequate funding and a committed applicant, a 2- to 3-year deadline would be achievable and would give the NRC a reasonable timeframe in which to consider and rule on the challenges to the application raised by Nevada and other stakeholders.

2. Authorize Consolidated Interim Storage: NEI appreciates the leadership demonstrated by S.1234's establishment of a consolidated interim storage program. NEI supports the development of a consolidated interim storage program in willing host communities and states in parallel with completing the Yucca Mountain licensing proceeding. Moving the consolidated interim storage program forward in parallel with the Yucca Mountain project helps to alleviate state and local concerns that interim storage will become a *de facto* disposal facility and will distract from repository development. New Mexico Governor Lujan Grisham's June 7 letter to DOE Secretary Perry and NRC Chairman Svinicki identified this very concern.⁶ To address these concerns, NEI urges Congress to include language in the bill that would require moving forward with the Yucca Mountain licensing proceeding.

⁵ Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy § 4.3 (Jan. 2012).

⁶ Letter from New Mexico Governor Michelle Lujan Grisham, to DOE Secretary Rick Perry and NRC Chairman Kristine Svinicki at 1-2 (June 7, 2019) (claiming that "the absence of a permanent high-level radioactive waste repository creates even higher levels of risk and uncertainty around any proposed interim storage site" and that "given that there is currently no permanent repository for high-level waste in the United States, any interim storage facility will be an indefinite storage facility").

A consolidated interim storage program would enable DOE (or a new management organization) to move existing dry casks, which are already designed and licensed for transportation, from nuclear plant sites to a consolidated interim storage facility where they can be more efficiently managed until a permanent repository is built. Such a program would, over time, reduce the federal government's liability for not meeting its obligation to take title to used fuel, which in turn would reduce payments from the taxpayer-funded Judgment Fund. Efforts to protect taxpayers, however, should not come at the expense of electricity consumers and the owners and operators of nuclear plants. As such, the forced and legally questionable "settlement" provision in the bill should be removed. There is no basis for mandating that contract holders settle all claims for DOE's failure to meet its obligation as a condition precedent for taking title to and moving used fuel to a storage facility. That is, this provision would deny plant owners and operators of their legal right under the Standard Contract to have their fuel taken by the federal government unless they agreed to accept a settlement of *all* of their breach of contract claims. As a practical matter, a forced settlement is likely to be crafted with whatever terms the government wanted to impose. Where the Department of Justice sees fit to settle the breach of contract lawsuits, it must be on reasonable terms with willing contract holders.

The Committee should also update the bill to recognize that private applicants have already begun the licensing process and may have already completed that process by the time the bill becomes law. The bill should not impede the opportunity to move fuel in a timely manner to these private facilities when licensed. Furthermore, given the progress being made by private applicants for consolidated interim storage facilities, S.1234 should prioritize storage at such non-federal facilities unless there is a clear demonstration that it would be faster and less expensive to site, construct, and operate a federally-owned facility.

3. Reform the Nuclear Waste Fund and Fee Process: Because of contributions of the owners and operators of nuclear plants—and the consumers of their electricity—the Nuclear Waste Fund has a balance of more than \$41 billion and each year more than \$1.5 billion in interest is added to the principal. Historically, congressional budgeting practices have prevented the use of this fund for its intended purpose. Any legislation that becomes law must provide access to the Nuclear Waste Fund corpus.

NEI supports—and electricity customers deserve—granting access to the Nuclear Waste Fund for its intended purpose without reliance on the annual appropriations process. We appreciate that the sponsors of S.1234 recognize the challenge of accessing the Nuclear Waste Fund and would establish a Working Capital Fund, separate from the Nuclear Waste Fund, making any future fees readily accessible without reliance on congressional appropriations. This approach is a good first step, but more should be done to provide access to the Nuclear Waste Fund. The program can only succeed if it has resources to do so. Congress should authorize the use of the Nuclear Waste Fund in a manner that avoids the competition with other programs and uncertainty inherent in the appropriations process.

In addition, Congress should do more to protect electricity consumers from unnecessary new fees. It would be unfair to restart assessing fees until there is a showing, at a minimum, that (1) the annual expenses for the program's ongoing projects exceed the annual investment income on the Nuclear Waste Fund and (2) the projected life-cycle cost demonstrates that additional fees

are necessary to achieve full cost recovery over the life of the program.

4. Establish a New Management Organization: A key element to the long-term success of a federal program is establishing a new entity to assume program management responsibility from the DOE. NEI supports the establishment of a new management and disposal organization outside of DOE that is empowered with the authority and resources to succeed.

NEI greatly appreciates the efforts made by the sponsors of S.1234 to tackle this challenge. The bill would create a new agency, the Nuclear Waste Administration (NWA), which would be led by an Administrator and Deputy Administrator who are appointed by the President and confirmed by the Senate. It appears, however, that both the Administrator and Deputy Administrator can be removed without cause by the President. The bill would also establish a five-member Nuclear Waste Oversight Board, with its members also appointed by the President and confirmed by the Senate. Members of the Oversight Board, however, may not have a financial interest in any NWA contract holder despite their being important stakeholders in the process. The Oversight Board is also limited to making recommendations, which need not be accepted by the Administrator.

To achieve greater separation from political election cycles than has been the case with DOE's program, NEI suggests that the new management organization be structured as a governmental or quasi-governmental corporation rather than a federal agency. This would alleviate many of the political uncertainties associated with presidential appointments so that the organization can focus on performing the task at hand with the requisite attention to nuclear safety and security. Instead of a presidentially appointed Administrator, we suggest that the new organization have a chief executive officer hired by a board of directors. The board should be required to include directors from contract holders and public utility commissions, and should serve more than an advisory function. Numerous studies of the management issue carried out over the past decades consistently advocate for a management entity with a corporate structure to provide continuity, efficiency, and an appropriate degree of insulation from political influences.⁷

Used fuel is a Political Problem, Not a Technical One

As history has shown, the government inaction impeding completion of a durable and permanent solution for used nuclear fuel is caused by political, not technical obstacles. But with strong leadership, they can be overcome.

In charting a path forward, Congress should not allow the political will of one state to stymie progress on an important project that would benefit 35 other states and the nation as a whole. This is not to say that Nevada should have no say in this process or that Yucca Mountain should be constructed without a full and fair airing of the concerns raised by those opposing the project.

Nevada and other stakeholders with technical concerns should be given the opportunity to demonstrate their perspectives on whether Yucca Mountain should be granted a license to

⁷ See, e.g., Report of the Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Management Facilities: A Report to the Secretary of Energy (Dec. 1984); Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy § 7.2 (Jan. 2012).

receive fuel and operate as our nation’s repository. There are approximately 300 contentions admitted in the NRC licensing hearing on Yucca Mountain. Should funding be restored and those proceedings restarted, Nevada and others who oppose the project can make their case to NRC’s independent administrative judges and then appeal those rulings—allowing a licensing decision on Yucca Mountain to be determined based on its scientific and technical merits. Congress owes it to the communities in 35 states around the country where used fuel is currently being stored to ensure that science—not the political whims—determines the fate of the Yucca Mountain repository as required by law.

Establishing a new management organization more akin to a corporation than a federal agency could also improve relations with Nevada and local communities. As the Blue Ribbon Commission noted, “by signaling a clear break with the often troubled history of the U.S. waste management program [a new organization] can begin repairing the legacy of distrust left by decades of missed deadlines and failed commitments.”⁸ Thus, should the NRC deem Yucca Mountain safe and should the project move forward, a new management organization would be in a better position to work collaboratively with Nevada and other stakeholders.

Conclusion

On behalf of NEI and its members, I thank the bill’s sponsors for reintroducing the Nuclear Waste Administration Act of 2019. The industry sincerely appreciates the Committee’s deliberate effort to find a durable solution. We look forward to continuing to work with lawmakers to reach bipartisan consensus on the best approach for the long-term management of the nation’s used fuel. We urge lawmakers to ensure that resulting legislation protects both electricity consumers and taxpayers.



⁸ Blue Ribbon Commission on America’s Nuclear Future, Report to the Secretary of Energy § 7.1 (Jan. 2012).