Statement of

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I. Introduction & Summary.

Mr. Chairman, Mr. Ranking Member and members of the Committee, thank you for providing the Natural Resources Defense Council, Inc. (NRDC) this opportunity to present our views on the Discussion Draft, S. __, Nuclear Waste Policy Amendments Act of 2019. We appreciate that the Committee sees the need to commence work again on solving our national nuclear waste dilemma and we hope to work with all of you on a constructive process.

NRDC is a national, non-profit organization of scientists, lawyers, and environmental specialists, dedicated to protecting public health and the environment. Founded in 1970, NRDC serves more than three million members, supporters and environmental activists with offices in New York, Washington, D.C., Los Angeles, San Francisco, Chicago, Bozeman, Montana, and Beijing. We have worked on nuclear waste matters since our founding and continue to do so.

In our years of appearing before this Committee and others, NRDC almost always begins with a straightforward introduction that highlights our key observations and then proceeds to map out precisely what we think about the bill in question, section by section, and in detail. But we are cognizant of the long history of this matter, the veritable tsunami of legislative history detailing objections or support to similar pieces of legislation as the one before us today. Indeed, we’ve contributed to that wealth of testimony. And we are keenly aware that our time before you is valuable and we don’t want to waste a moment of your important attention.

Therefore, in a more summary fashion than is our usual wont, we make the following points. Title I of the Discussion Draft attempts to clear the legal obstacles to allow New Mexico or Texas to receive sizable portions of the nation’s nuclear waste at a consolidated interim storage site that has not been licensed, has significant legal and technical challenges, and is opposed by

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the entire New Mexican Congressional delegation and Governor. Title II of the Discussion Draft sets the abandoned, defunct Yucca Mountain licensing process back in motion, but with an even more truncated environmental review, and with a set of new potential sources of state funding. Nevada issued its notice of disapproval of Yucca Mountain on April 8, 2002 and has repeatedly stated its opposition, seemingly to no avail. Last, the other titles set forth various matters such as an expansion of the use of the Nuclear Waste Fund in ways that place ever more burdens on taxpayers and fewer on the industry.

Respectfully, but bluntly, enacting Titles I and II into law would immediately precipitate a welter of controversy and litigation from the potential recipient states, which would result in no progress toward a solution and more states firmly objecting. Witness, as a keen example, the Private Fuel Storage interim nuclear waste storage site in Utah, which was licensed in 2006 but has not – and will not – ever receive waste due to the state’s steadfast resistance. The result of enacting Titles I and II would also continue all the attendant frustrations that come with nuclear waste in pools or dry storage at Nuclear Regulatory Commission (NRC) licensed reactors around the country. Seven years ago, then Chairman and now Ranking Member Carper rightly noted that consent-based siting, with meaningful partnerships and open communication among federal, state, local, and tribal leaders, is a most important step toward establishing a geologic nuclear waste repository. This Discussion Draft does not adhere to that wise observation, and rather than spend your valuable time repeating arguments in the record on these matters, we turn to explaining two things – first, the fundamental flaw in the Nuclear Waste Policy Act (NWPA) that Congress must fix – namely, removing the Atomic Energy Act’s (AEA) exemptions from environmental law – and second, why the removal of those environmental exemptions can result in nuclear waste repositories that are both scientifically defensible and publicly accepted.

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2 This is notable as there is a nod toward “consent” in the text of the legislation, see Section 143(a)(2), Conditions for MRS Agreements, and it would therefore seem that the New Mexico consolidated interim storage site could be dispensed with now and any plans abandoned. There is no such similar provision for the repository process in Title II.
II. How Did We Get Here?

A. Today’s Impasse Has Many Causes.

After more than 50 years of effort, the federal nuclear waste program in this country has failed to deliver a final resting place for highly toxic, radioactive waste that will be dangerous for millennia. Over the years, there have been numerous efforts to attribute the failure of the repository program to certain Senators, to Nevada Governors of both parties, to NRC Commissioners, and even to the public for failure to accept its part in disposing of nuclear waste. All of this is wrong.

Failure cannot be laid at the feet of any one person or entity or the public, and this defeat has many causes. Several agencies (including the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE), the NRC, and the U.S. Department of Justice (DOJ)) and Congress repeatedly distorted the process established in the NWPA, including for developing licensing criteria for a proposed repository. In each instance, such action weakened environmental standards rather than strengthening them, and always to ensure the site would be licensed, no matter the end result. These actions both precipitated and gave traction to ferocious resistance from Nevada, Tennessee, New Mexico, Washington, Texas, Louisiana, Mississippi, Utah, Georgia, Maine, Minnesota, New Hampshire, North Carolina, Virginia, Wisconsin, and Indian tribes. But even those actions are not the reason we remain locked in a virtual cul de sac, witness to repeated attempts to try and force the same the result by the same fashion – i.e., transferring the entirety of the nation’s nuclear waste to an above ground parking lot in a resistant New Mexico, or to the technically inadequate attempt at a repository in Nevada.

B. Science & Politics Are Both Necessary.

Nuclear waste remains a third rail of American politics for a singular reason – a deep misunderstanding of federalism and the necessary role of states in the process of solving this challenge. If you take one message from our appearance before you today, it is that there is
another way to try and cut this Gordian Knot, but it must be done in a fashion that respects the extraordinary history of cooperative federalism in environmental law.

We urge the Committee to appreciate the metamorphosis of Congressman Mo Udall’s (D-AZ) NWPA, the organic subject of today’s hearing. Indeed, NRDC views the original incarnation of the NWPA as a remarkable, nearly visionary piece of legislation that contained one tragic, fatal flaw: a deep misunderstanding of federalism and the necessary role of states. And that flaw is the single clear conclusion that we have drawn from the history of failures associated with nuclear waste.

As the Committee is aware, the enacted 1982 NWPA set forth obligations and duties for EPA, DOE and NRC, with Congressional oversight and checkpoints along the way. The law attempted to place science in the forefront and balance political power in a way that might allow for this fraught, difficult process of finding and developing disposal sites for nuclear waste. But, importantly, the NWPA never challenged or altered in any way the AEA’s provision for exclusive federal jurisdiction over radioactive waste. Despite this baked-in oversight, the NWPA’s attempt at the legal balancing act was unprecedented at the time and that observation remains true today. And as we all know, the balancing act was upset as the NWPA was repeatedly altered and the process was finally abandoned by the previous administration in 2009.

But why the repeated derailments? A myriad of answers get offered, generally suggesting that “not in my backyard” (NIMBY) sensibilities and associated politics are responsible for the failure to license and open Yucca Mountain. But as noted at the outset – this is wrong. The deep misunderstanding of federalism and the necessary role of states at the heart of the NWPA just kept getting lost over the years. The federal exclusivity over nuclear waste regulation was simply presumed a priori, without consideration as to whether that might be at the root of the problem.

So how is the misunderstanding of federalism at the root of the problem? The relationship of the federal government to the governments of the 50 states that comprise our republic is the fundamental fact of American politics. Our political system has never easily digested or durably
solved profound national problems like voting rights, health care, gun control, carbon restrictions, or the disposal of nuclear waste, by either federal fiat or, conversely, by turning matters over to the states entirely. And in every instance of national decision making on these and other complex issues, heavily compromised laws or regulations have taken into account the needs and perspectives of states.

Bedrock environmental laws reflect this fact. With the notable exceptions of the AEA (the organic act for nuclear power) and its progeny, the NWPA, there is federalist intention at the heart of environmental statutes and a role expressly reserved for the states. As examples, the Clean Water Act, Clean Air Act, and Resource Conservation & Recovery Act (RCRA) allow states authority to implement those air, water, and waste programs, respectively, in lieu of a federal program. States that obtain “delegated” authority from the federal government must meet minimum federal standards (and the federal government retains independent oversight and enforcement authority). And generally, depending on state law, those delegated states can impose stricter requirements or different, but no less protective regulatory mandates that meet the needs of the state in question. Nuclear waste should be no different, but under the AEA and the NWPA, it is different.

So, where do these observations leave us? It is NRDC’s firm conclusion that Congress is right to take up these matters, that new nuclear waste legislation must be written, and that a new process must be created. Consistent with the expressed statements of Ranking Member Carper and former Senate Energy & Natural Resources Committee Chairman Bingaman, whatever results must be “consent based,” concordant with President Obama’s bipartisan Blue Ribbon Commission (BRC), and take into account the needs of the industry and their federal

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3 For perspective on the ever-present interplay of the constitutional principles of federalism and equal sovereignty of the states and the extraordinary controversies that still attend such matters, see the 2013 landmark (5 votes to 4 votes) Voting Rights decision and its vigorous dissent, Shelby County, Ala. v. Holder, 133 S. Ct. 2612 (2013).

champions. But this time, any new legislation must also take into account the fundamental need for public and state acceptance and there is only one way to do that, as we explain next.

C. It Is Past Time to Normalize the Treatment of Nuclear Waste Under Environmental Law.

State consent and public acceptance of a nuclear waste solution will never be willingly granted unless and until power to make such a decision as to how, when and where such waste is disposed of is shared rather than decided by federal fiat. There is only one way that can happen consistent with the protective, cooperative federalism at the heart of environmental law. Specifically, Congress must finally end the AEA’s exemptions from environmental law. Our hazardous waste and clean water laws must have full authority over radioactivity and nuclear waste facilities so that EPA and – most importantly – the states can assert direct regulatory authority. This will necessarily alter the federalism oversight that has been central to the failure of the NWPA.

The NWPA’s (and AEA’s) misunderstanding of the importance of federalism is at the heart of the repository program’s failure. If we don’t find a way to give EPA and the states regulatory power over nuclear waste – and that is accomplished only by doing away with the environmental exemptions in the AEA – we will not solve this dilemma. Lack of consent from an unwilling host state selected in an expedient demonstration of legislative and administrative power over the (statutorily defined) powerless is a recipe for inaction and, ultimately, disaster in this country, whether the issue is nuclear waste or any other great public concern.

III. NRDC’s Prescription & How To Get This Right.

A. Five Recommendations to Get the Nuclear Waste Program Back on Track.

We can dispose of nuclear waste and do so in a fashion that is both scientifically defensible and publicly accepted, but we cannot do so if we keep trying the approach that has failed for over 50 years. To that end, NRDC urges Congress to – (1) recognize that geologic repositories must
remain the focus of any legislative effort; (2) create a coherent legal framework before commencing any geologic repository or interim storage site development process; (3) arrive at a consent-based approach for nuclear waste storage and disposal via the fundamental change in law we described above; (4) address storage in a phased approach consistent with the careful architecture of former Senator Bingaman’s S. 3469 (introduced in 2012); and (5) exclude delaying, proliferation-driving and polarizing closed fuel cycle and reprocessing options from this effort to implement the interim storage and ultimate disposal missions.

Importantly, our view on each area is premised on a single overarching caution: in order to avoid repeating the mistakes of the last four decades, Congress must create a transparent, equitable process incorporating strong public health and environmental standards insulated from weakening repository performance standards in order to ensure, at the conclusion of the process, the licensing and operation of a suitable repository site (or sites).


NRDC concurs with the long held, consensus recognition that our generation has an ethical obligation to future generations regarding nuclear waste disposal. Adherence to the principle of deep geologic disposal as the solution to this obligation is consistent with more than 60 years of scientific consensus. The decision to isolate nuclear waste from the biosphere implicates critical issues, including: financial security, environmental protection, and public health, and no other solutions are technically, economically, or morally viable over the long term. This is why NRDC strongly supports development of a science-based repository program that acknowledges the significant institutional challenges facing nuclear waste storage and disposal. Thus, in whatever legislation moves forward, we urge explicit adherence to the first purpose of the NWPA, 42 U.S.C. § 10131(b)(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. **Recommendation 2 – Create A Coherent Legal Framework That Ensures The “Polluter Pays” Before Commencing Any Repository Or Interim Storage Site Development.**

To avoid repeating failures of past decades and consistent with the bipartisan BRC recommendations, both the standards for site screening and development criteria must be in final form before any sites are considered. Generic radiation and environmental protection standards must also be established prior to consideration of sites. To give this recommendation explicit and simple context, Senator Bingaman’s 2012 legislative effort (S.3469, specifically in Sections 304, 305 and 306) set in place some of the necessary structures that could avoid repeating the failure of the Yucca Mountain process. Specifically, the bill would have directed EPA to adopt, by rule, broadly applicable standards for the protection of the general environment from offsite releases of radioactive material from geologic repositories. The bill also directed NRC to then amend its regulations governing the licensing of geological repositories to be consistent with any relevant standard adopted by EPA. Further, embedded in Senator Bingaman’s bill was the requirement that the polluters pay the bill for the contamination created. This bipartisan concept has long history as bedrock American law and must remain in full force in any legislation.

These requirements and this phasing of agency actions in Senator Bingaman’s bill were appropriate (i.e., first EPA sets the standards and then NRC ensures its licensing process meets those standards) – and in the next recommendation we’ll expand on how this coherent legal framework must be improved. But it is key that a coherent legal framework be in place before siting decisions get made. Unfortunately, recent iterations of nuclear waste legislation, including this Discussion Draft, ignore this wise sequencing, thus ignoring BRC’s recommendation that new, applicable rules be in final form before site selection.

Congress should also direct that standards for site screening and development criteria be based on careful characterization of the radiation sources and resulting doses. The chief sources of radiation in high-level nuclear waste forms are the beta-decay of fission products like Cs-137 and
Sr-90 and the alpha-decay of actinide elements like Uranium, Neptunium and Americium. Beta-decay is the primary source of radiation during the first 500 years of storage, as it originates from the shorter-lived fission products. Then alpha-decay becomes the dominant source after approximately 1,000 years. These radiation sources and doses must be considered to ensure a scientifically defensible legal framework for site selection.


a. The BRC Failed To Define Consent & Thereby Did Not Point The Way Forward.

For all its laudable qualities, the 2012 BRC report did not accurately portray the fundamental problem facing how to finally solve our nuclear waste disposal challenges. The BRC should have explicitly stated – and we do so here today – that Congress, with its firm understanding of federalism, should legislate a role for EPA and the states in nuclear waste disposal by amending the AEA to remove its express exemptions of radioactive material from environmental laws.

State, local and tribal governments must be central in any prescription for a successful repository and waste storage program. Senator Carper wisely observed as much many years ago and we hope that this remains his position today. Regrettably, current law has treated these relationships as dispensable afterthoughts, preempted from any meaningful power and authority over radioactive waste disposal sites. And the current effort at draft legislation suffers the same malady.

Rather than address this problem head on, seven years ago the BRC chose to carefully skirt the matter in its report, while still noting that federal and state tensions are often central in nuclear waste disputes. We think this failure to squarely address the matter provides the continued impetus to ignore this elephant in the room. The BRC’s Final Report states in pertinent part:

We recognize that defining a meaningful and appropriate role for states, tribes, and local governments under current law is far from straightforward, given that
the Atomic Energy Act of 1954 provides for exclusive federal jurisdiction over many radioactive waste management issues. Nevertheless, we believe it will be essential to affirm a role for states, tribes, and local governments that is at once positive, proactive, and substantively meaningful and thereby reduces rather than increases the potential for conflict, confusion, and delay.

BRC Final Report at 56 (citation omitted).

The first sentence above both makes an observation and states a fact. The observation is that defining a meaningful and appropriate role for states, tribes, and local governments under current law is far from straightforward. The fact is that the AEA provides for exclusive federal jurisdiction over many radioactive waste management issues. According to the BRC, the difficulty of defining a meaningful and appropriate role for states is a “given” because of the fact of exclusive federal jurisdiction.

So what did the BRC suggest Congress do about this? Do away with the explicit federal jurisdiction? Increase the exclusivity of the federal jurisdiction? Somehow argue that the problems can be addressed without altering the exclusive federal jurisdiction in some fashion? There is nothing so clear or direct in the text. Rather, the BRC’s very next sentence is simply an aspiration, without any explicit recommendation addressing the “given” (i.e., exclusive federal jurisdiction) that makes the process so difficult. The BRC simply noted that it is “essential to affirm a role for states, tribes, and local governments that is at once positive, proactive, and substantively meaningful.” NRDC agrees with the aspiration, but plainly the BRC missed an important opportunity to address the fundamental roadblock to solving our nuclear waste problem.

Without fundamental changes in our current, non-consent based law that explicitly address what the BRC termed, “federal, state and tribal tensions,” we will never approach closure and consent on transparent, phased, and adaptive decisions for nuclear waste siting. We now explore in more detail this decades-overdue change in the law.
b. NRDC’s Prescription For Ensuring States’ Authority – Remove The AEA’s Exemptions From Environmental Law.

As we stated at the outset (supra at 2), a meaningful and appropriate role for states in nuclear waste storage and disposal siting can be accomplished in a straightforward manner by amending the AEA to remove its express exemptions of radioactive material from environmental laws. The exemptions of radioactivity make it, in effect, a privileged pollutant. Exemptions from the Clean Water Act and RCRA are at the foundation of state and, we submit, even fellow federal agency distrust of both commercial and government-run nuclear complexes. Removing the exemptions would make the treatment of radioactive waste consistent with every other bedrock environmental law.

As the Committee is aware, most federal environmental laws expressly exclude “source, special nuclear and byproduct material” from the scope of health, safety and environmental regulation by EPA or the states, leaving the field to DOE and NRC. In the absence of clear language in those statutes authorizing EPA (or states where appropriate) to regulate the environmental and public health impacts of radioactive waste, DOE retains broad authority over its vast amounts of radioactive waste, with EPA and state regulators then only able to push for stringent cleanups on the margins of the process. The NRC also retains far reaching safety and environmental regulatory authority over commercial nuclear facilities, with agreement states able to assume NRC authority, but only on the federal agency’s terms.

States are welcome to consult with NRC and DOE, but the federal agencies can, and do, assert preemptive authority where they see fit. This has happened time and again at both commercial and DOE nuclear facilities. This outdated regulatory scheme is the focal point of the distrust that has poisoned federal and state relationships involved in managing and disposing of high-level radioactive waste and spent nuclear fuel, with resulting significant impacts on public health and the environment.
If EPA and the states had full legal authority and could treat radionuclides as they do other pollutants under environmental law, clear cleanup standards could be promulgated, and the Nation could be much farther along in remediating the toxic legacy of the Cold War nuclear weapons production complex. Further, we could likely avoid some of the ongoing legal and regulatory disputes over operations at commercial nuclear facilities. Indeed, the BRC Report discusses New Mexico’s efforts to regulate aspects of the Waste Isolation Pilot Plant under RCRA as a critical positive element in the development of the currently active site (BRC Final Report at 21). Any regulatory change of this magnitude would have to be harmonized with appropriate NRC licensing jurisdiction over facilities and waste, and harmonized with EPA’s existing jurisdiction with respect to radiation standards: but such a process is certainly within the capacity of the current federal agencies and engaged stakeholders. Some states would assume regulatory jurisdiction over radioactive material as delegated programs under the Clean Water Act or RCRA, and others might not. In any event, substantially improved clarity in the regulatory structure and a meaningful state oversight role would allow, for the first time in this country, consent-based and transparent decisions to take place on the matter of developing nuclear waste storage sites and geologic repositories.

Ending the anachronistic AEA exemptions does not guarantee a repository will be sited in the next few years. Indeed, expecting fast progress on nuclear waste seems a fool’s errand in light of the history. But ending these exemptions and providing RCRA authority for nuclear waste solves the most crucial matter for consent – the opportunity for meaningful state oversight over nuclear waste. Any such statutory change bars the substantial likelihood of Congressional terms and modifications exacted from states (that might be willing to host a repository) years into a good faith negotiation on a site. Indeed, while it would be theoretically possible for a future Congress to revisit the AEA and re-insert exemptions from environmental law, it would have to do so in a manner that would remove jurisdictional authority from all states (or Congress would have to single out one state for special treatment). The difficulty of prevailing over the interest of all 50 states rather than simply amending legislation that affects the interests of just one state should be apparent. It is past time to normalize nuclear waste with the rest of environmental law and NRDC sees this as the key to developing a durable consent-based approach.
4. **Recommendation 4 – Address Storage In A Phased Approach Consistent With The Careful Architecture Of 2012’s S. 3469.**

Efforts to initiate a temporary away-from-reactor storage facility – that are now, unfortunately, in process – must be inextricably linked with development of a permanent solution. This linkage, which is a crucial guard against a “temporary” storage facility becoming a permanent one, or essentially dictating the choice of a nearby site, should guide the legislative process. Consistent with the BRC’s findings, a case can only be made for interim storage if it is an integral part of the repository program and not as an alternative to, or *de facto* substitute for, permanent disposal.

Specifically, the only way in which NRDC could see merit in a pilot project is in a hardened building, located at one of the currently operating commercial reactor sites. These potential volunteer sites – operating commercial reactors – already have demonstrated “consent” by hosting spent nuclear fuel for years or decades. Far less of the massive funding that would be necessary in the way of new infrastructure would be required, and the capacity for fuel management and transportation is already in place, along with the consent necessary for hosting nuclear facilities in the first instance. Further, Congress would avoid entirely the ferocious fight that is sure to ensue with New Mexico and Texas citizens (and as happened with Utah and Tennessee) if they continue down the road with the DOE and the existing license applications in those states.

Rather than prematurely bypassing a careful, consent-based process that can arrive at protective, publicly accepted and scientifically defensible solutions, NRDC urges NRC and industry to focus spent fuel storage efforts on ensuring that all near-term forms of storage meet high standards of safety and security for the decades-long time periods that interim storage sites will be in use.

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5 An example of such a hardened building is the Ahaus facility in Germany.
5. **Recommendation 5 – Exclude Unsafe, Uneconomic Closed Fuel Cycle And Reprocessing Options From This Effort.**

Both the BRC Recommendations and all the subsequent legislative iterations have, for the most part, wisely resisted inclusion of support for reprocessing, fast reactors, or other closed fuel cycle options as a corollary to new nuclear waste policy. We agree with relevant BRC findings, that there are “no currently available or reasonably foreseeable” alternatives to deep geologic disposal.\(^6\) As Senator Bingaman noted at the 2012 Energy & Natural Resources Committee hearing, “even if we were to reprocess spent fuel, with all of the costs and environmental issues it involves, we would still need to dispose of the radioactive waste streams that reprocessing itself produces and we would need to do so in a deep geologic repository.” At no point should this evolving nuclear waste process include support for closed fuel cycle options.

IV. **Conclusion.**

On one thing I hope we can all agree; the history of the federal nuclear waste program has been dismal. But decades from now others will face the precise predicament we find ourselves in today if Congress again tries to push through unworkable solutions contentiously opposed by states, lacking a sound legal and scientific foundation, and devoid of wide public acceptance and consent. Efforts to quickly restart the abandoned Yucca Mountain licensing process or fast track an interim storage facility will not work, lead to years of litigation, and thus derail needed efforts to find disposal sites. Unless and until Congress fundamentally revamps how nuclear waste is regulated and allows for meaningful state oversight by amending the AEA to remove its express exemptions of radioactive material from environmental laws, we’re doomed to repeat this dismal cycle until a future Congress gets it right.

We deeply appreciate the opportunity to testify today and I am happy to answer any questions.

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\(^6\) BRC Final Report at 100.