Statement of

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on

S. 1234, Nuclear Waste Administration Act of 2019

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Committee on Energy & Natural Resources
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I. Introduction

Chairman Murkowski and Ranking Member Manchin, and members of the Committee, thank you for providing the Natural Resources Defense Council, Inc. (NRDC) this opportunity to present our views on S. 1234, a bill *[T]o establish a new organization to manage nuclear waste, provide a consensual process for siting nuclear waste facilities, ensure adequate funding for managing nuclear waste, and for other purposes*. 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 one million members, supporters and environmental activists with offices in New York, Washington, Los Angeles, San Francisco, Chicago and Beijing. NRDC has worked on nuclear waste issues for more than four decades, and we continue to be engaged in shaping United States (U.S.) law and policy on the nuclear fuel cycle.

II. Summary of Testimony's Major Points

Nuclear waste is an unresolved political and technical challenge. Despite residual good intentions and skeletal remains of the original legislative efforts from 2012's Blue Ribbon Commission on America's Nuclear Future[1] that survive in S. 1234 today, this bill will not provide the changes in law necessary to solve U.S. nuclear waste challenges. Fundamental components of what is necessary to establish a scientifically defensible and publicly accepted set of solutions to nuclear waste are simply not present in S. 1234. We oppose this bill in its current form and offer today the reasons for our objections. Importantly, NRDC offers a precise alternative legislative prescription for a durable and successful path forward on nuclear waste.

S. 1234 is premised on a good intention – finding a way forward on storing or disposing of commercial spent nuclear fuel. With a few cosmetic changes, this draft is the same text as 2013's S. 1240, introduced in the 113th Congress.[2] We object because the bill: 1) severs the crucial link between storage and disposal; 2) places highest priority on establishing a federal interim storage facility at the expense of getting the geologic repository program back on track; 3) fails to ensure that adequate geologic repository standards will be in place before the search for candidate geologic repository sites commences; 4) fails to provide the Environmental Protection Agency (EPA) and – most importantly, states – with regulatory authority under existing environmental law over radiation-related health and safety issues associated with nuclear waste facilities; and 5) fails to prohibit the Administrator (or Board) from using available funds to engage in or support spent fuel reprocessing (chemical or metallurgical).

We lodged those objections seven years ago. The passage of time and the continued travails of the nuclear industry have only confirmed our original reaction. Since the last time this bill was proposed, the commercial nuclear industry has added approximately 12,000 metric tons of spent

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[1] President Obama's "*Blue Ribbon Commission on America's Nuclear Future - Report to the Secretary of Energy, January 31, 2012*" (hereafter "BRC"); *see* full report online at https://www.energy.gov/sites/prod/files/2013/04/f0/brc_finalreport_jan2012.pdf.

[2] *See* https://www.congress.gov/bill/113th-congress/senate-bill/1240. Also, I summarize the trajectory of legislation in the background section, *infra*, at 3-5, n. 9, 10.

fuel to its at-reactor storage, shut down, or decommissioning sites where this nuclear waste becomes stranded spent fuel; and the idea and false promise of a nuclear renaissance (which would only add to the already sizable waste burden of ~82,000 metric tons) died under the load of gigantic capital costs and the inability to compete with renewable energies and natural gas.[3] None of this is likely to change in the near future, even if we continue to artificially subsidize the existing reactor fleet so that many plants operate beyond what the competitive capital markets might have allowed.

Contemporaneously, despite significant shows of legislative, regulatory and financial support for the nuclear industry in Congress, nuclear waste bills of various stripes came and went, with some even passing out of a chamber. But the waste issues remained locked in a stalemate for all the reasons we articulated seven years ago. To wit, Utah's Private Fuel Storage Facility, licensed in 2006, remains forever blocked by a wilderness area originally sponsored by former Utah Senator Orrin Hatch; initial licensing efforts at interim sites in New Mexico and Texas remain controversial, fiercely opposed, and unlikely to ever result in waste storage;[4] and unwise attempts to restart the abandoned Yucca Mountain licensing process in Nevada have repeatedly foundered.

Despite all of this, S. 1234 is offered as it was years ago, and again wrongly prioritizes the narrow aim of getting a government-run interim spent fuel storage facility up and running as soon as possible. We had evidence in 2013 that it would be unlikely to succeed, and we are now quite sure that enacting what is on offer today would immediately precipitate a welter of controversy and litigation from the potential recipient states, resulting in no progress toward a solution and years more unproductive rancor. President Obama's BRC rightly found that consent-based siting, with meaningful partnerships and open communication among federal,

[3] It should be noted that the failure of the nuclear waste program and the impending closure of uneconomic nuclear reactors are not related. The domestic nuclear waste program has had a consensus position since at least 1957, when the National Academies first stated that geologic repositories were necessary and the best solution. NRDC concurs with that finding. During the decades from 1957 to the present day – a time period that includes the construction of more than 100 domestic commercial reactors built in this country – there has been no nuclear waste solution. Yet the glaring and unwise lack of a solution for nuclear waste has not halted or substantially perturbed the construction or operation of nuclear reactors. By contrast, what has perturbed and halted reactor construction in the United States (and globally) are the gigantic up-front costs of building nuclear reactors and a distinct lack of economic competitiveness in modern energy markets. As of now, thanks to decades of direct subsidies and legal protections such as the federal assumption of both the liability in the case of an accident and the waste burden that is the subject of this hearing, nuclear power represents approximately 19 percent of all U.S. electricity production (and 11% of production worldwide), and the U.S. nuclear plant fleet comprises 98 reactors at 61 facilities across 30 states. But most of the plants were designed and constructed in the 1960s and 1970s and almost all reach the end of their 60-year operating licenses in the 2030s and 2040s. New reactors are rare because, as we've seen with the failure of the VC Summer plant in South Carolina, the up-front costs required are astronomical. And a portion of the existing reactors are at risk of closing before their license end dates because they are no longer economical, have potential looming safety issues, and cannot compete in the marketplace, often because of the low price of natural gas and renewable energy and in some cases due to the need to replace expensive major components. The delays of the waste program have no bearing on the market failures of the nuclear industry.

[4] Discussed *infra* at 6, n. 14.

state, local, and tribal leaders, is the most important step toward establishing geologic nuclear waste repositories. S. 1234 bypasses that wise observation and tries a slight variation of the same tired approach of forcing the waste on Nevada, New Mexico, and Texas (or elsewhere).

There is another way forward; one that defuses the rancor before it begins. A legislative change that would provide potential host states the right to say "No," but also "Yes, and on these strict, protective terms, and with these distinct limits." A legislative change that might not address all the nuclear waste at once, but could get the federal government started, at least incrementally, and likely in a much faster time frame than attempting to fight Nevada (or New Mexico) once again. This path forward can happen if Congress fixes the fundamental flaw in the Nuclear Waste Policy Act, 42 U.S.C. §10101 *et seq*. (NWPA) – the exemption of radioactivity from environmental laws that has been part and parcel of the Atomic Energy Act for decades. Ending this set of exemptions through legislative change will then allow for meaningful, full regulatory authority from the EPA and the potential host states. S. 1234 won't start moving nuclear waste off reactor sites, but the change in law we suggest can.

III. Legislative History & Background for S. 1234

A. The BRC

In 2009, then President Obama's Administration concluded the proposed Yucca Mountain project was "unworkable" and took steps to withdraw its license application for the facility. This action finished years of disputes over the viability of the proposed site. President Obama recognized the failure of the repository program and immediately commenced a bipartisan effort – the BRC. Hearings were held, interim reports published for comment, and, after approximately three years, the BRC offered findings and recommendations to the Administration and Congress.[5]

B. Multiple Attempts at Legislation

Following on the heels of the BRC Final Report, the Senate Environment and Public Works Committee held a hearing in June 2012.[6] This first hearing was closely followed by the first legislative attempt to bring the BRC recommendations to life in legislation, S. 3469, sponsored by then Chairman Bingaman of this committee.[7] S. 3469 (which despite being tabled subsequent to the hearing, included several aspects that merited NRDC's support) was followed by further years of legislative efforts.[8]

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[5] *See* NRDC statements before the BRC, *e.g*., Statements of Christopher Paine & Dr. Thomas Cochran, https://www.nrdc.org/sites/default/files/nuc_10101201a.pdf; and https://www.nrdc.org/sites/default/files/nuc_10062201a.pdf.

[6] Hearing Before the Committee for Environment & Public Works, Subcommittee on Clean Air and Nuclear Safety "*Recommendations from the Blue Ribbon Commission on America's Nuclear Future for a Consent-Based Approach to Siting Nuclear Waste Storage and Management Facilities*." June 7, 2012, https://www.epw.senate.gov/public/index.cfm/hearings?ID=A5351696-802A-23AD-472E-965E66850ABE.

[7] Hearing Before the Committee on Energy and Natural Resources, United States Senate, 112th Congress, Second Session, Testimony On S. 3469, *The Nuclear Waste Administration Act Of 2012*, September 12, 2012 https://www.govinfo.gov/content/pkg/CHRG-112shrg76685/pdf/CHRG-112shrg76685.pdf. NRDC's statement for the record can be found at *Id*., 33 – 42.

[8] On September 12, 2012, NRDC testified before this committee on S. 3469. We commended the bill's adherence to three principles that, in our view, must be complied with if America is ever to develop an adequate, safe solution for

In 2013, the second legislative attempt subsequent to the BRC came – the "Discussion Draft" sponsored by then Chairman Wyden and Ranking Member Murkowski. Unfortunately, the Discussion Draft was a dispiriting retreat from many of the stronger aspects of S. 3469 and, in contrast to the previous year, precipitated NRDC's strong objection on several items. Attachment A (hereinafter, "Att. __").

Then later in 2013 came S. 1240, sponsored again by then Chairman Wyden, Ranking Member Murkowski, and Senators Alexander and Feinstein.[9] As with the previous year, an extensive hearing record was created, and it is this record we chiefly rely on today to avoid overstepping the Committee's time or effort by repeating ourselves.[10]

Next, in 2015, then Chairman Murkowski and Senators Alexander, Feinstein, Cantwell, and Wyden again offered an updated version of S. 1240 (now S. 854) with only the cosmetic changes on offer today, but there was no hearing on the draft legislation.[11] Since that time, nuclear waste legislation was offered in the House of Representatives (2015's H.R. 3643, 2016's H.R. 4745, 2017's H.R. 474, 2017's H.R. 4442, 2018's H.R. 3053, 2019's H.R. 2699, 2019's H.R. 3136, 2019's H.R. 1544).

Regrettably, S. 1234, introduced this past spring and the subject of today's hearing, is essentially the same bill as S. 1240. It suffers the same maladies that halted the bills' progress in 2013-15 and, we suspect, will again block progress on dealing with nuclear waste unless serious changes are made along the lines suggested *infra* at 8-16.

IV. Specific Comments on S. 1234

We commented extensively on S. 1240, the nearly identical precursor to S. 1234, and there is little reason to burden the Committee with a set of redundant observations. Therefore, we

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nuclear waste – (1) radioactive waste from the nation's commercial nuclear power plants and nuclear weapons program must be buried in technically sound deep geologic repositories, the waste permanently isolated from the human and natural environments; (2) governing legislation must contain a strong link between developing waste storage facilities and establishing final deep geologic repositories that ensures no "temporary" storage facility becomes a permanent one; and (3) nuclear waste legislation must embody the fundamental concept that the polluter pays the bill for the contamination that the polluter creates. In short, we found that "Chairman Bingaman has made a laudable effort and turned some of the stronger ideas in the recent BRC report into legislative language. We support fundamental components in the proposed bill, dispute other parts, and have several key suggestions for expansion and refinement of S.3469. But the Chairman's emphasis on the necessity of repositories and the need to link any potential storage site with the development of a disposal site is of lasting value. Any legislation that fails to adhere to these concepts will prolong the failures of the past 30 years in developing solutions for nuclear waste." NRDC's full testimony can be found online at https://www.energy.senate.gov/public/index.cfm/files/serve?File_id=54965BF6-E91B-41F8-A3E7-342B695C58AA.

[9] Hearing Before the Committee on Energy and Natural Resources, United States Senate, 113th Congress, 1st Session, S. 1240, *The Nuclear Waste Administration Act of 2013*, July 30, 2013, https://www.govinfo.gov/content/pkg/CHRG-113shrg85875/pdf/CHRG-113shrg85875.pdf.

[10] We incorporate our testimony on S. 1240 into this record by reference. *Id*., link at n. 9 above, at 64-75. In brief, NRDC could not support S. 1240 for the reasons listed on page 1 of today's testimony.

[11] *See*, S.854, *Nuclear Waste Administration Act of 2015*, 114th Congress, https://www.congress.gov/bill/114th-congress/senate-bill/854/cosponsors.

provide a short summary and update some key observations, made more trenchant by the events of the past several years.

A. Title I

Title I of S. 1234 closely tracks the original template laid out by 2012's S. 3469, which in turn, recognized our generation's ethical obligation to future generations regarding nuclear waste disposal.

B. Title II

Title II of S. 1234 creates a Nuclear Waste Administration, an idea with which we have no quarrel in light of the failures of the past 40 years. However, we caution that any new federal entity must be subject to all of the nation's environmental laws, including the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, *et seq*. Explicit language is necessary to clarify specific application of NEPA at certain junctures of the siting process (for example, in support of the initial guidelines), but the Committee should make precisely clear that NEPA has full application to S. 1234. We hope the Committee will speak to this matter in the record of this proceeding and clarify the matter in future and improved versions of the bill.

Another matter in Title II merits updated comments. In our 2013 comments on the Discussion Draft (Att. A at 14-16), we stated that representation on this board of directors should be balanced by political party representation, by governmental affiliation (*i.e*., federal, state, or tribal), and include representation by non-governmental organizations in addition to industry. We emphatically stand by those comments today and are compelled to reiterate them. In establishing the board of directors of the nuclear waste entity, the legislation should have a provision explicitly prohibiting the majority on the board from comprising members with existing or historical ties to the nuclear industry. Such a requirement would recognize the existing revolving door between government service at NRC, DOE and the nuclear industry. Ensuring the board is not disproportionately composed of members with existing or historical ties to the nuclear industry would improve public trust and acceptance of the government's newly legislated nuclear waste disposal program.

As a last note on Title II, it has long been NRDC's view that independent oversight is critical to safe and environmentally sound operation of DOE nuclear weapons production facilities and commercial nuclear facilities regulated by the NRC. Indeed, while creating a review board may be a useful initial step, more important is ensuring that the full suite of existing environmental laws have full application to nuclear waste matters. And should the new Nuclear Waste Administration be created, it must be bound by, and benefit from, clearly defined external regulation. We address this issue in more detail, *infra* at 8-16.

C. Title III

Disposal of nuclear waste in geologic repositories should remain the core focus of this legislation. Regrettably, since 2013, the nuclear waste legislative process has been moving in the wrong direction on this issue. Indeed, S. 1234 still includes much of "alternative" Section 305

from the Nuclear Waste Discussion Draft[12] including presenting a structure that advantages immediate introduction of interim storage options over development of a sound geologic repository program. The BRC initially set out a phased, careful approach to developing both repositories and storage sites with strong checks to ensure storage sites could not become *de facto* repositories. This has been transmogrified in S. 1234 to a measure that prioritizes consolidated storage at the expense of a meaningful repository program. In short, if S. 1234 becomes law, a future Congress will be forced to deal with this issue again, with no meaningful disposal solution on the horizon, but with an even larger burden of dangerous radioactive waste that lasts for a million years. Our comments on Title III of S.1240 should be directed to Title III of S. 1234 as the language is essentially the same,[13] but three items merit a specific expansion of our 2013 comments.

First, S. 1234 lacks the specific check on the development of interim storage sites pending meaningful progress on the repository program found in Section 306 of S. 3469. This was troubling in 2013 and is even more so today in light of the recent objections by the States of New Mexico and Texas to the current nuclear waste interim storage proposals (Att. C, D, and E). Both states, and New Mexico most explicitly thus far, demonstrate the precise need for "consent" called for by the BRC, and the continued inability to obtain that consent.[14]

In contrast to the emerging legislative confusion this year over interim storage, the requirement in S. 3469's Section 306(a) stated: "The Administrator may not possess, take title to, or store spent nuclear fuel at a storage facility licensed under this Act before ratification of a consent agreement for a repository under Section 304(f)(4)." Such a provision wisely put the horse before the cart and ensured the crucial linkage between storage and disposal that the BRC acknowledged is necessary.[15] Such language is not in S. 1234 and therefore elicits our prompt

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[12] The Nuclear Waste Discussion Draft released by the Committee in March 2013 included a proposal for an alternative Section 305 as a suggested replacement of Section 304(b)-(g) of the draft bill. S. 1240 includes the replacement language, and while some elements of alternative Section 305 have been altered from the Discussion Draft, the majority of the text remains the same.

[13] S*ee supra,* n. 9, at 68-70, which we incorporate here by reference.

[14] We include the following three supporting documents: Att. B, June 7, 2019 *Ltr. From NM Governor Michele Lujan-Grisham to Energy Secretary Perry regarding opposition to the proposed interim storage of high-level nuclear waste in New Mexico*; Att. C. *Proclamation of Texas Governor Greg Abbot, Disapproval and Veto of Senate Bill No. 1804*, which states in pertinent part: "Senate Bill 1804 was a laudable effort to address domestic violence, until someone slipped in an ill-considered giveaway to a radioactive waste disposal facility. Unfortunately, the bill author's good idea about domestic violence has been dragged down by a bad idea about radioactive waste."; and Att. D, June 19, 2019 *Ltr. From New Mexico Commissioner of Public Lands to Krishna P. Singh, President & CEO of Holtec International*, which concludes in pertinent part: "Given these safety concerns, and lack of concern for the State Land Office's fiduciary responsibilities, I do not believe that Holtec's proposed nuclear storage project is in the best interest of the State Land Office, its lessees, and its beneficiaries."

[15] *See* BRC Final Report at xii, "[A]t the same time, efforts to develop consolidated storage must not hamper efforts to move forward with the development of disposal capacity. To allay the concerns of states and communities that a consolidated storage facility might become a de facto disposal site, a program to establish consolidated storage must be accompanied by a parallel disposal program that is effective, focused, and making discernible progress in the eyes of key stakeholders and the public." *See also*, "[t]his means that a program to establish consolidated storage will succeed only in the context of a parallel disposal program that is effective, focused, and making discernible progress in the eyes of key stakeholders and the public. A robust repository program, in other words, will be as

objection. And in light of the legal questions flurrying around the private efforts at sites in New Mexico and Texas (putting the lack of consent and controversy to the side), the need to provide that kind of assurance is key to any meaningful progress in developing confidence in potential host states.

Second, section 306(e), Consent Agreements, was the subject of extensive comments on our part in 2013. For today's purposes, we additionally remind the Committee that the subsection functionally ignores the reality that the proposed Yucca license application was submitted long ago and there is no way to walk back the failure to gain Nevada's consent, either at that time or in the future. Excluding that failure from coverage under the law undercuts entirely the BRC's clearest admonition that consent must be obtained before proceeding.

Third, the preference in site selection for co-location presents a host of problems that could lead to the consolidated storage site morphing into the *de facto* repository, regardless of the progress in the repository program (if, *e.g.*, the co-located repository program derails late in the process for technical or institutional reasons). Indeed, there is nothing in Title III barring the construction and operation of facilities for repackaging nuclear spent fuel and nuclear waste, which could include construction and operation of facilities for spent fuel reprocessing (chemical or metallurgical). We are aware of efforts and interest over the years in co-locating storage and reprocessing facilities. Such activities merit our immediate and strong objection and any waste legislation should explicitly bar such efforts.

As a last matter, the consent process for storage and repository facilities should be strongly consistent, if not identical. For storage facilities, there is the possibility, but not the requirement, of a "cooperative agreement" in Section 305(b)(3)(C). The consent process should require this minimal, initial agreement. The consent process of Section 305(b)(4)(B) includes no provisions related to the contents or terms and conditions of a consent agreement as were included in S. 3469. In addition to the lack of adequate technical requirements, this lack of an adequate consent process is contrary to the purpose of "establish[ing] a new consensual process" (Section 102(3)) and makes it unlikely that there will be successful siting of storage facilities. And the recent reactions of Texas and New Mexico to non-consensual nuclear waste siting underlines this point.

Further, the consent process for repositories still exists in Section 306(e) of S. 1234 (but clearly does not include or "grandfathers out" the Yucca Mountain project, yet again unwisely ignoring the long-expressed intention of that state). But the ratification requirement that was present in S. 3469 Section 304(f)(4) is missing.[16] So apparently, Congress could, at any time, choose not to ratify the consent agreement, or ratify it with changed conditions, or not provide funding or allow other provisions to be implemented. It is not clear to NRDC why any state would consider

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important to the success of a consolidated storage program as the consolidated storage program will be to the success of a disposal program. Progress on both fronts is needed and must be sought without further delay." BRC Final Report at 40.

[16] *See also* Section 506(a), which states that "[t]his Act shall not affect any proceeding or any application for any license or permit pending before the Commission on the date of the enactment of this Act; thereby allowing "consent" to be ignored the cases of Nevada, New Mexico, Texas and Utah. We stress that this is the precise recipe to further entrench the national stalemate on nuclear waste.

this to be an adequate "consent" process, when its requirements could be arbitrarily overturned by Congress. Take the lesson that New Mexico and Texas are offering right now – a lesson that is consistent with 50 years of failure in siting nuclear waste sites – create a process that is both scientifically defensible and publicly accepted. In our next section, we describe how to create this legal framework.

V. How the Evolution of the BRC Process Can Be Saved: NRDC's Prescription

A. Understanding the History & Need for a Fundamental Change in Law

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; rather, this defeat has many causes. Several agencies (including the EPA, the 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 strengthened them, and always aimed 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 stuck in a virtual *cul de sac*, witness to repeated attempts to try and force the same 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, and we suggest today there is a leading 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 laws.

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 flaw: a deep misunderstanding of federalism and the necessary role of states. And that that flaw is fatal 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 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? Some of my fellow witnesses here today suggest 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.[17] And in every instance of national decision making on these and other complex issues, laws or regulations reached through compromise 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 so many in the Congress today, whatever results must be "consent based," concordant with President Obama's bipartisan BRC, and take into account the needs of the industry and their federal champions. But this time, any

[17] 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).

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 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.

D. NRDC's 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 using the approach that has failed for more than 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.

Rather than repeat mistakes of the last four decades, Congress must create a transparent, equitable process incorporating strong public health standards that are insulated from efforts to weaken those same standards when expedient to license a facility. Such a process can conclude with the licensing and operation of a suitable repository site (or sites) that can be effectively regulated under long effective environmental laws. We will briefly describe the criteria necessary for this path.

1. Recommendation 1 - Deep Geologic Repositories Are The Solution For Nuclear Waste And Must Remain The Focus.

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 fundamental result of 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, as well as a precise set of language to follow, former 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 the items on offer today, ignore this wise sequencing, thus ignoring BRC's recommendation that new, applicable rules be in *final* form before site selection.

And regarding site selection, the Committee would be wise to direct the United States Geological Survey (USGS) to commence an update of its 40 years old analysis of the appropriate geologic media for nuclear waste disposal.[18] In this report, the USGS commences with a useful characterization:

[18] Geological Survey Circular 847, U.S. Geological Survey, *Research in Radioactive Waste Disposal-Fiscal Year 1979*; found online at https://pubs.usgs.gov/circ/1982/0847/report.pdf.

> Since the advent of the atomic age, scientists have known that the release of radioactivity could have harmful effects on the environment and on man. It was also recognized that the potential transport of this radioactivity from buried sources to the human environment would involve water. For these reasons and because the U.S. Geological Survey (USGS) is the principal earth-science agency in the Federal Government, the various agencies concerned with nuclear facilities and the testing of nuclear weapons have requested the advice of the USGS for many years on the relation of geology and hydrology to the isolation of radioactivity from the biosphere.

Id. at 1. Then, USGS goes to provide a first cut analysis of many regions across the country, but without any conclusions. The USGS described its first objective was "to identify or contribute to the identification of geohydrologic environments with hydrodynamic, geochemical, and geologic characteristics which provide independent, multiple natural barriers to the migration of radionuclides and which may warrant intensive study." *Id*. at 3. This is precisely the kind of analysis and science that needs to begin again to start us on the road to a publicly transparent, consent-based siting process.[19]

Last, 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 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.

3. Recommendation 3 – Develop A Consent-Based Approach For Nuclear Waste Disposal Through A Fundamental Change In Law.

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. Regrettably, current law has treated these relationships as

[19] Contemporaneous with and informed by a renewed look across the country, we also urge attention to the BRC's adoption of the National Academies of Science 2006 transportation recommendations, including "full-scale cask testing, more systematic examination of social or societal risk and risk perception, making planned shipment routes publicly available, shipping stranded spent fuel from shutdown reactor sites first, and executing technical assistance and funding under NWPA, Section 180(c)." BRC Final Report, 81, 150.

dispensable afterthoughts, preempted from any meaningful power and authority over radioactive waste disposal sites. And S. 1234 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 3), 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 as 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.[20]

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.

[20] BRC Final Report at 21.

Ending the anachronistic AEA exemptions does not guarantee a repository will be sited in the next few years. Indeed, expecting immediate 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, ongoing state oversight over nuclear waste. Any such statutory change bars the substantial likelihood of Congressional terms and modifications being 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 in H.R. 2699 and 3136 – 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,[21] 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 already well underway with New Mexico and Texas citizens, governments, and delegations (as previously happened in 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, we have urged 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. Congress could legislatively direct such efforts and would be wise to do so.

[21] 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 (including those under discussion today) 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.[22] As Senator Bingaman noted in 2012 at the outset of legislative efforts subsequent to the BRC process, "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."[23] At no point should this evolving nuclear waste process include support for so-called closed fuel cycle options.

VI. Conclusion

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, will lead to years of litigation, and will thereby derail needed efforts to find scientifically defensible 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, the United States is doomed to repeat this dismal cycle until a future Congress gets it right.

NRDC looks forward to continuing to work with the Committee on this difficult topic, and I am happy to answer any questions.

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[22] BRC Final Report at 100.

[23] *See*, *Previewing the Nuclear Waste Bill,* Remarks by Chairman Bingaman to the Bipartisan Policy Center, June 6, 2012, online at https://www.energy.senate.gov/public/index.cfm/democratic-news?ID=490349a4-4b5e-4ac2-83e7-6e9a54c7aaf0.

NRDC's Response to S. ____, *To establish a new organization to manage nuclear waste, provide a consensual process for siting nuclear waste facilities, ensure adequate funding for managing nuclear waste, and for other purposes*.

Introduction

Chairman Wyden, Ranking Member Murkowski, and Senators Feinstein and Alexander, thank you for providing the Natural Resources Defense Council, Inc. (NRDC) this opportunity to present our views on your discussion draft of S. ____, a bill *[T]o establish a new organization to manage nuclear waste, provide a consensual process for siting nuclear waste facilities, ensure adequate funding for managing nuclear waste, and for other purposes* (hereinafter, "Nuclear Waste Discussion Draft"). Last fall, NRDC testified on S. 3469 – the template for the Nuclear Waste Discussion Draft – before the Energy & Natural Resources Committee. We reference our testimony on S. 3469 throughout our response this day and include it as a resource for the Senators and staff.[1]

Mission Statement

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 one million members, supporters and environmental activists with offices in New York, Washington, Los Angeles, San Francisco, Chicago and Beijing. We have worked on nuclear waste issues since our founding, and we will continue to do so.

Overview of NRDC's Response to Questions

We commence our comments on the Nuclear Waste Discussion Draft with disappointment over severing S. 3469's clear and careful linkage between storage and disposal. Specifically, no "temporary" storage facility should become a permanent one, and this discussion draft, if it becomes law, invites just such an outcome.

A strong linkage that never allows an interim or temporary storage site to become a *de facto* repository should guide the legislative process. NRDC concurs with former Chairman Bingaman's caution that whatever case made for interim storage can be done "only as an integral part of the repository program and not as an alternative to, or de facto substitute for, permanent disposal." Such caution is consistent with decades of national policy and the purpose of the Nuclear Waste Policy Act (NWPA), 42 U.S.C. § 10131(b)(1). Indeed, while we expressed concerns that the pilot program offered in S. 3469 upset the likelihood of a strong repository

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[1] *See* Attachment 1, Statement of Geoffrey H. Fettus, Senior Attorney, Natural Resources Defense Council, Inc. on S. 3469, *Nuclear Waste Administration Act of 2012*, Before the Committee on Energy & Natural Resources, United States Senate, Washington, D.C., September 12, 2012.

program, the evisceration of the linkage between storage and disposal found in this Nuclear Waste Discussion Draft dooms the process, and virtually guarantees a repeat of the mistakes made in the failed Yucca Mountain effort.

Specifically, severing strong links between contemporaneous progress on storage and disposal options removes meaningful impetus for adherence to the principle that waste from the nation's nuclear weapons program and its commercial nuclear power plants must be buried in deep geologic repositories, permanently isolated from the human and natural environments. The primacy of geologic disposal as the solution for nuclear waste is consistent with more than 50 years of scientific consensus and, and, most recently, with the findings of President Obama's bipartisan Blue Ribbon Commission on America's Nuclear Future (BRC). No other solutions are technically, economically or ethically viable over the long term for the environment and human society, and NRDC strongly supports the development of a science-based repository program that acknowledges the significant institutional challenges facing spent fuel storage and disposal. Advancing this Nuclear Waste Discussion Draft without reinstating a strong link between storage and disposal does grave harm to the effort to find a final solution for nuclear waste.

We remind you the United States attempted to sever the link between interim storage and final disposal previously, only to conclude doing so was a mistake. Beginning in 1957, the Atomic Energy Commission (AEC) pursued a geologic repository program for high-level radioactive waste (HLW) in a salt deposit near Lyons, Kansas. Opposition initially came from the Kansas Geological Survey but soon spread. Concerns over conditions in the mine, the presence of numerous oil and gas wells in the vicinity, and the fact that there was solution mining at an operating adjacent salt mine operated by American Salt Company forced the AEC to abandon the site in 1972. Following the demise of the Lyons repository effort, later in 1972 the AEC announced it intended to develop a 100-year Retrievable Surface Storage Facility (RSSF). The U.S. Environmental Protection Agency (EPA) and others opposed this interim storage proposal because it diverted attention and resources from efforts to find a permanent geologic disposal solution. As a consequence of this opposition, the Energy Research and Development Agency (ERDA) abandoned its plans for a RSSF in 1975. The similarities of this history with failed attempts to force acceptance of the proposed Yucca site should be apparent.

As we have noted repeatedly over the last few years, the success of any legislative outcome depends on a consensus process that– (1) recognizes that repositories must remain the focus of any legislative effort; (2) creates a coherent legal framework before commencing any geologic repository or interim storage site development process; (3) arrives at a consent-based approach for nuclear waste storage and disposal via a fundamental change in law; (4) addresses storage in a phased approach consistent with the careful architecture of S. 3469 and NRDC's suggestions; and (5) excludes polarizing closed fuel cycle and reprocessing options from this effort to implement the interim storage and ultimate disposal missions. The Nuclear Waste Discussion Draft is a retreat from some of the better aspects of last year's S. 3469 and we urge the Senators to go back to that earlier template and to incorporate the suggestions that follow.

Questions from the Senators

1. *Should the Administrator take into account, when considering candidate storage facility sites, the extent to which a storage facility would: (a) unduly burden a State in which significant volumes of defenses wastes are stored or transuranic wastes are disposed of; or (b) conflict with a compliance agreement requiring the removal of nuclear waste from a site or a statutory prohibition on the storage or disposal of nuclear waste at a site? Alternatively, should the State and other non-federal parties seeking to site a candidate storage facility be allowed to determine whether they are unduly burdened? Should the final consent agreement, which would be sent to Congress for ratification, contain an authorizing provision to amend any conflicting compliance agreement or statutory prohibition?*

NRDC Response:
This first question has several parts and presumes the viability of consolidated interim storage sites as defined by the Nuclear Waste Discussion Draft. In order to present an orderly response to the important ideas contained in the question, we begin with (a) our prescription for how to address a pilot project for consolidated interim storage and avoid supporting closed nuclear fuel cycles; we then turn to the questions' related matters of (b) undue burdens on states and (c) meaningful state authority. We conclude the response with (d) our prescription for meaningful state authority.

To understand our specific responses, we begin with four general observations:

1.) Consolidated storage of spent fuel from currently operating reactor sites at an alternate, previously greenfield site is unnecessary and ill-advised. Any pilot project for consolidated storage should be limited to hardened, dry-cask storage of stranded spent fuel from shut down reactor sites.
2.) If emergency conditions arise at an existing operating reactor site, *e.g.*, due to an earthquake, discovery of a fault under the reactor(s), or a disaster related condition, that threatens the environment and public health, the reactors should be shut down and the spent fuel at the site would qualify as stranded spent fuel.
3.) Existing and currently operating reactor sites have government and implicit public consent for interim storage of spent fuel.
4.) Consolidated spent fuel storage should not be viewed as a step toward, or means of furthering, spent fuel reprocessing.

(a) NRDC's Support for Interim Storage Pilot Project at a Commercial Reactor Site
As preliminary matter, NRDC is not opposed in principle to commencing work on consolidated interim storage, and development of an interim storage facility for stranded fuel. Indeed, we proposed a set of steps to develop a pilot interim storage option in our testimony on S. 3469.

Specifically, NRDC sees merit in a pilot project to address the total stranded spent fuel at closed reactor sites (currently eleven sites), and where spent fuel is stored in dry casks within one or more hardened buildings similar to the Ahaus facility in Germany. Potential volunteer sites

already demonstrating "consent" are found in operating commercial reactors. The utility of using existing commercial operating reactor sites rather than burdening new areas with spent nuclear fuel should be apparent. Far less in the way of new infrastructure is required and the capacity for fuel management and transportation is already in place, along with consent necessary for hosting nuclear facilities in the first instance. And by keeping consolidated, interim-stored spent nuclear fuel under the guardianship of the nuclear industry that produced the waste in the first instance, Congress ensures that careful progress will continue with the necessary repository program.

Further, the Nuclear Waste Discussion Draft is silent on an important matter – the current configuration of spent fuel storage at a number of operating reactor sites. The BRC cited no evidence for why continued reliance on densely-packed wet storage should be accepted as adequate in light of the health, safety and security risks that interim wet storage poses. This is true regardless of the seismic, population density, or other natural factors that might create concern with the current storage configuration. NRDC and others noted the BRC was negligent in not recommending that Congress statutorily direct movement of spent fuel from wet pools to dry casks as soon as practical, *i.e.*, as soon as spent fuel has cooled sufficiently to permit safe dry cask storage, generally about five to seven years following discharge from the reactor. We again urge Congress to act on this issue in this legislation or even a stand-alone bill.

To reiterate, a pilot interim storage project housed at an existing commercial reactor site addressing issues of stranded fuel would go far in addressing a number of public safety and environmental harms, do no damage to a carefully constructed bill that focuses on repository development, and presents an option of greater efficiency and expediency.

By contrast, the unlimited interim storage allowed for in the Nuclear Waste Discussion Draft, regardless of the state of repository program, is an expedient course for the narrow financial interests of industry, does little to advance final repository solutions, and sets up a clear set of incentives for reprocessing and fast reactors. This is an enormous step back from S. 3469. Last year former Chairman Bingaman noted:

> The Commission wisely resisted the allure of reprocessing, concluding that there is "no currently available or reasonably foreseeable" alternative to deep geologic disposal. In short, we need a deep geologic repository. 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.

NRDC concurs. No limit consolidated interim storage increases the probability of continued efforts at reprocessing the spent fuel, resulting in plutonium separations with no way to ensure that the plutonium would not be used to make nuclear weapons. Inclusion of incentives for reprocessing and fast reactors would necessitate NRDC's objection to such nuclear waste legislation. In addition, reprocessing is expensive, environmentally disastrous, and a serious non-proliferation threat. As the BRC found, reprocessing is also not a viable waste management strategy because it does not significantly reduce the radioactivity of the waste that must be stored

in a repository. Indeed, just as for spent fuel, we must also work to resolve the path to a repository for the millions of gallons of dangerous, highly radioactive waste generated by spent nuclear fuel reprocessing in the United States over the past half century.

In contrast to this setup for reprocessing and fast reactors, NRDC's recommendation of an interim storage pilot project that is strictly limited to existing commercial operating sites avoids many of the burdensome problems posed and assumed in the question. First, our consolidated pilot proposal gets the ball rolling on spent fuel almost all parties agree is "stranded." Second, with its strict limit to shut down reactors and careful attention to establishing appropriate safety criteria, any such interim site could solve immediate public safety risks but not take the air out of meaningful progress geologic repository program.

(b) Undue Burdens

Turning to the specific subparts of the question about consolidated storage sites, NRDC asserts that any Administrator of a federal nuclear waste program should take into account a host of factors in considering equities of nuclear waste disposal, including existing burdens of defense-generated HLW or transuranic (TRU) waste, cleanup/compliance agreements, and statutory prohibitions against import of nuclear waste. Other considerations must include: an assessment of existing infrastructure and the potential for consent for spent fuel management; environmental justice; and reducing the need to unnecessarily transport spent fuel prior to final disposal in a repository.

Addressing the alternative question posed, of whether a (1) State should be allowed to determine the extent of any "undue burden," or (2) should any final consent agreement contain an authorizing provision to amend conflicting compliance agreements or statutory prohibitions, NRDC notes that the Senators' question suggests States – if operating consistent with the text found in Section 304 of Nuclear Waste Discussion Draft – could somehow have meaningful oversight roles, which we address at length below.

(c) State Authority

As a first matter, NRDC does not believe the Nuclear Waste Discussion Draft provides full and clear authority to States to determine the extent of any undue burden or necessarily to negotiate conflicting compliance agreements or statutory prohibitions. As we noted last fall, while several components of subsection 304(f) have merit – as it provides language responsive to the BRC's recommendation that any successful approach must be "consent based" and allow affected States and communities to retain control – the proposed legislation falls short of the mark in developing solutions and in way that sheds light on the Senators' query.

Section 304 provides allowances for any recipient state to have regulatory oversight authority and authority over operational limitations at either a storage or disposal site. Such things are crucial recognitions of the need for meaningful state oversight that have been missing from previous efforts at nuclear waste disposal. Equally important is the statutory requirement that Congress must ratify (and, assuredly, the President must therefore sign) any consent agreement.

And finally, the statutory direction that neither party (the federal or state government) may unilaterally amend or revoke the contract is a concept that NRDC fully supports.

But for all those laudable qualities in Section 304, we believe the suggested consent agreements will not solve the fundamental problem facing nuclear waste disposal nor allow States the oversight role suggested by the Senators' question. Rather, Congress, with its firm understanding of federalism, should legislate a role for states in the matter of nuclear waste disposal by amending the Atomic Energy Act (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. The BRC recognized as much and noted federal and state tensions are often central in nuclear waste disputes. 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.

Final Report at 56 (citation omitted).

Without fundamental changes in the law to address such federal, state and tribal tensions, we will never approach closure and consent on transparent, phased, and adaptive decisions for nuclear waste siting. Indeed, even if such a provision as Section 304(f) is enacted into law, we think it likely disputes will continue unchecked unless Congress avails itself of the opportunity to finally suggest a decades-overdue change in the law which we will now explore in more detail.

(d) NRDC's Prescription for State Authority – Remove the AEA's Exemptions from Environmental Law

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 the Resource Conservation and Recovery Act (RCRA) are at the foundation of state and, we submit, even fellow federal agency distrust of both commercial and government-run nuclear complexes.

As the Senators are 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 Department of Energy (DOE) and Nuclear Regulatory Commission (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. Indeed, the BRC Report discusses the State of New Mexico's efforts to regulate aspects of the Waste Isolation Pilot Plant under RCRA as critical positive element in the development of the currently active site (Final Report at 21). 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 the NRC and the DOE, but the agencies can, and will, 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 HLW 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. Further, we could likely avoid some of the ongoing legal and regulatory disputes over operations at commercial nuclear facilities. 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, others might not. But 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 storage sites and geologic repositories.

Section 304(f) is a detailed attempt to remedy regulatory deficiencies that could be more simply and effectively handled by ending exemptions under the AEA. Removing the ability of the United States to unilaterally break the terms of the contract could potentially give a state some measure of comfort that the agreement it had painstakingly negotiated over "undue burdens" or conflicting compliance agreements will hold fast. But there would be nothing stopping Congress from revisiting this law, ratifying the consent agreements with conditions, and thereby removing whatever meaningful restraint a state might assert. Thus, ultimately what is offered as a thoughtful contract provision could be rendered inoperable, and could eviscerate a state's protection against altered, less favorable terms.

By contrast, ending the anachronistic AEA exemptions solves the matter of meaningful state oversight and does not carry with it substantial likelihood of congressional terms and modifications exacted from states years into a good faith negotiation on a site. Indeed, while it would be 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 overdue 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.

NRDC's Concluding Thoughts on Question 1 from the Senators
Interim storage configurations that provide clear incentives for reprocessing and fast reactors guarantees strong objection from NRDC. And leaving assessments of "undue burdens" or reconciling conflicting cleanup and compliance obligations to the Administrator illustrates our contention that the ultimate decision making power still resides with the federal entity, thus running afoul of the dangers BRC warned about by failing to allow States meaningful oversight roles.

And further, relying on Section 304 of Nuclear Waste Discussion Draft to provide the meaningful oversight role States seek is another recipe for gridlock as there is nothing in the law stopping Congress from revisiting any negotiated agreement, ratifying the consent agreements with conditions, and thereby removing whatever meaningful restraint a state might assert. The Energy Department's current effort to reclassify HLW and ship that waste to the WIPP Project in New Mexico illustrates just how an agency can and will take such liberties. *See* Attachment 2, NRDC, SRIC and HC Marc 27, 2013 letter to Energy Secretary Chu, Re: *Proposal to Ship Hanford High-Level Radioactive Waste to New Mexico*.

In contrast to the difficulties in structuring state and federal roles noted above, ending the anachronistic AEA exemptions solves the matter of meaningful state oversight once and for all. It is past time for Congress to end anachronistic AEA exemptions from environmental law and this is the legislation where it should finally be done.

2. *Should the bill establish a linkage between progress on development of a repository and progress on development of a storage facility? If so, is the linkage proposed in section 306 of the bill appropriate, too strong, or too loose? If a linkage is needed, should it be determined as part of the negotiations between the state and federal governments and included in the consent agreement rather than in the bill?*

NRDC Response:
NRDC asserts that the bill should establish a linkage between progress on development of a repository and progress on development of a storage facility, and that the linkage proposed in section 306 of the bill is too loose. The needed linkage should not be determined as part of the negotiations between the state and federal governments and included in the consent agreement. Linkage between storage and disposal should be required and in the legislation.

Appropriating the term from the question, the linkage between storage and disposal provided in Section 306 is indeed far too loose. NRDC believes the linkage originally suggested in our fall 2012 testimony on S.3469 and here today in response to Question 1 provides a workable plan, allowing for both a meaningful pilot project on interim storage that does not undercut what the BRC made perfectly clear is the solution for nuclear waste.

Unfortunately, this iteration of Section 306 severs the strong linkage:

> Notwithstanding subsection (a), the Administrator may site, construct, and operate storage facilities in the absence of parallel progress on the siting, construction, or operation of a repository if the Administrator is making substantial progress towards siting, constructing, and operating a repository, as measured by the mission plan.

Section 306(b). Unfortunately, measurement by the "mission plan" does not provide a meaningful linkage between storage and disposal. In brief, the "Mission plan" is the report required under section 504, presented to Congress, the Oversight Board, the NRC, the Nuclear Waste Technical Review Board and then released for public comment. All this is to be done in short order. The proposed mission plan is due not later than 1 year after the date of enactment of the Nuclear Waste Discussion Draft. There is no specific date for final issuance, and there is provision for revision to reflect major changes in the planned activities, schedules, milestones, and cost estimates reported in the mission plan.

The pertinent dates of the mission plan are found in subsection (b), where the Administrator is to set out schedules for operation of a pilot facility not later than December 31, 2021; a storage facility for "nonpriority" waste not later than December 31, 2025; and a repository not later than December 31, 2048, likely more than three decades distant from the passage of any iteration of the Nuclear Waste Discussion Draft. Any analysis of "meaningful" progress on the repository during the first few years subsequent to the Act is meaningless when weighed against a scale of more than 3 decades. The likelihood of halting movement of nuclear waste – expedient for the industry – is unlikely in the extreme. Further, the allowance for revision of the mission plan can be used to simply shunt aside observations about problems in repository development or rapid development of the interim storage sites.

The certification process and suspension proceedings in subsections (c) and (d) could prove to be politically fraught, but ultimately meaningless in light of the time frames. The oversight board, comprised of the Deputy Director of the Office of Management and Budget, the Chief of Engineers of the Army Corps of Engineers and the Deputy Secretary of Energy, with the President designating one chair, is unlikely to brook any suggestion that any lack of progress on something decades away should halt an expedient activity for some of the largest corporations in the United States.

Rather than the hard cap on volume present in S. 3469 or, as NRDC suggests, an interim storage pilot project at an operating commercial site limited to the stranded fuel, the Nuclear Waste Discussion Draft sets out a functionally meaningless process that requires the Administrator to move quickly with consolidated interim storage and posit (likely rosy) scenarios about repository development decades away.

3. *Should the bill establish separate storage and disposal programs with clearly defined requirements for each, with any linkage negotiated in the consent agreement between the federal and non-federal parties, to allow the two program to run on separate, but parallel tracks, as proposed in the alternative section 305 (which would replace section 304(b)-(g) of the draft bill)?*

NRDC Response:
No.

The proposed alternative section 305 does away the residual linkage left by Section 306 of the Nuclear Waste Discussion Draft. First, alternative section 305 hypercharges the consolidated interim storage process by requiring the Administrator to issue a request for proposals for cooperative agreements for a pilot program for storing priority waste within 180 days. Second, the alternative section does away with the Nuclear Waste Discussion Draft's fig leaf *Suspension For Lack Of Substantial Progress*, severing even the barest link that remained, leaving the repository program and storage program on two entirely separate tracks. The priority and preference in site selection for sites suitable for co-location of a storage facility and a repository are cold comfort. Preference and priority for co-location are not presented as binding factors, and even if they were, such preference presents a host of problems that could lead to the consolidated storage site morphing into the de facto repository, regardless of the progress in the repository program.

Alternative section 305 fails to heed Chairman Bingaman's caution that whatever case made for interim storage can be done "only as an integral part of the repository program and not as an alternative to, or de facto substitute for, permanent disposal." Such a provision, if enacted into law, is inconsistent with decades of national policy and the purpose of the Nuclear Waste Policy Act (NWPA), 42 U.S.C. § 10131(b)(1).

4. *To what extent should the siting and consensus approval process for spent fuel storage facilities differ from that for the repository? Should the Administrator be required to conduct sufficient site-specific research (referred to as "characterization" in the bill) on candidate storage sites to determine if they are suitable for storing nuclear waste or only on candidate repository sites to determine if they are suitable for geologic disposal of nuclear waste? Should the Administrator be required to hold public hearings both before and after site characterization (as required by current law in the case of the Yucca Mountain site) or only before site characterization?*

NRDC Response:
The siting and consensus approval for storage and repository facilities should be strongly consistent, if not precisely the same. NRDC has five recommendations for ensuring the success of any legislative outcomes– (1) recognize that 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 a fundamental change in law; (4) address storage in a phased approach consistent with the careful architecture of S. 3469, not what is currently under review in the Nuclear Waste Discussion Draft; and (5) exclude polarizing closed fuel cycle and reprocessing options from this effort to implement the interim storage and ultimate disposal missions. We discussed these five recommendations in our testimony last fall on S. 3469 and will not repeat them here.

It should suffice to say that ensuring a coherent legal framework is crucial to avoid repeating the failure of the proposed Yucca Mountain process. We urged the BRC and we urge the Senators collectively now to be explicit and state clearly in legislation that both the standards for site screening and development criteria be in final form before any sites are considered. We also urge that generic radiation and environmental protection standards be established prior to consideration of any sites. S. 3469 went much of the way toward structuring such a result, but we have some specific concerns with that iteration and have even more concerns with the Nuclear Waste Discussion Draft and Alexander-Feinstein alternative.

4.b. Should the Administrator be required to conduct sufficient site-specific research (referred to as "characterization" in the bill) on candidate storage sites to determine if they are suitable for storing nuclear waste or only on candidate repository sites to determine if they are suitable for geologic disposal of nuclear waste?

Not necessarily – as we noted, a pilot project to address the current total stranded spent fuel at the eleven closed reactor sites, accommodated in a hardened building at one or more sites that follows the example of the Ahaus facility in Germany. Potential volunteer sites already demonstrating "consent" are operating commercial reactors. The utility of using existing commercial operating reactor sites rather than burdening new areas with spent nuclear fuel should be apparent. Far less in the way of new infrastructure is required and the capacity for fuel management and transportation is already in place, along with consent necessary for hosting nuclear facilities in the first instance. And by keeping consolidated, interim-stored spent nuclear fuel under the guardianship of the nuclear industry that produced the waste in the first instance, Congress ensures that careful progress will continue with the necessary repository program.

4.c. Should the Administrator be required to hold public hearings both before and after site characterization (as required by current law in the case of the Yucca Mountain site) or only before site characterization?

Yes, the Administrator should be required to hold public hearings both before and after site characterization. The engagement of the public should be seen as a long running and iterative partnership process for the development of a repository program based on sound science and consensus acceptance. Ending the public hearing process after site characterization is a recipe similar to the mistakes of the past.

After more than 55 years of failure, policy makers must look with clear eyes at the history of U.S. nuclear waste policy, an exercise that President Obama's Blue Ribbon Commission only

partially accomplished. The BRC recommended geologic repositories and the Nuclear Waste Discussion Draft suggests a new path to arrive at them. But we emphasize today that the record created by this process should fully reflect the story of how the EPA, the DOE, the NRC, the Justice Department, and the U.S. House and Senate together corrupted the process for developing and implementing licensing criteria for the Yucca Mountain repository. Public engagement was not the source of Yucca Mountain's demise. Failure to understand that history will doom any new effort.

While the BRC recognized that the 1987 amendments to the NWPA were "highly prescriptive" and "widely viewed as being driven too heavily by political considerations," those observations are insufficiently critical assessments of what actually occurred. We recommend Congress be clear about what happened to avoid repeating the mistakes of the past. Put bluntly, first DOE and then Congress corrupted the site selection process leading to Yucca Mountain as the only option. The original NWPA strategy contemplated DOE first choosing the best out of four or five geologic media, then selecting a best candidate site in each media alternative. Next, DOE was to narrow the choices to the best three alternatives, finally picking a preferred site for the first of two repositories. A similar process was to be used for a second repository. Such a process, if it had been allowed to fairly play out, would have been consistent with elements of the adaptive, phased, and science-based process to which the BRC referred.

But instead, what happened was that DOE first selected sites that it had pre-determined. Then in May of 1986 DOE announced that it was abandoning a search for a second repository, and narrowed the candidate sites from nine to three, leaving in the mix the Hanford Reservation in Washington (in basalt medium), Deaf Smith County, Texas (in bedded salt medium) and Yucca Mountain in Nevada (in unsaturated volcanic tuff medium). Next, all equity in the site selection process was abandoned in 1987, when Congress, confronted with cost of characterizing three sites and strong opposition to the DOE program, amended the NWPA of 1982 to direct DOE to abandon the two-repository strategy and to develop only the Yucca Mountain site. Not by coincidence, at the time, Yucca Mountain was DOE's preferred site, as well as being the politically expedient choice for Congress. The abandonment of the NWPA site selection process jettisoned any pretense of a science-based approach, led directly to the loss of support from the State of Nevada, diminished Congressional support (except to ensure that the proposed Yucca site remained the sole site), and eviscerated public support for the Yucca Mountain project.

Briefly, with respect to Title II and the creation of a Nuclear Waste Administration, as NRDC has expressed numerous times over past years, the failures of the AEC and its successor agencies (ERDA, DOE and the NRC) make the case that an alternative institutional vehicle for nuclear waste disposal is necessary. However, we note that any such new federal entity must be subject to all of the nation's environmental laws, including the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, *et seq*. We presume such is the case for this proposed agency. Alternative language may be necessary to clarify specific application of NEPA at certain junctures of the siting process (for example, in support of the initial guidelines), but it is clear to us that NEPA has full application to the newly proposed Nuclear Waste Administration.

Additionally, it has long been NRDC's view that independent oversight is critical to safe and environmentally sound operation of DOE nuclear weapons production facilities and commercial nuclear facilities regulated by the NRC. Indeed, the full suite of environmental laws should have full application. We addressed this issue in more detail when discussing Section 304, *infra* at __.

5. *Should the siting process in section 304 of the draft bill be streamlined? If so, how?*

NRDC Response:
No.

Efforts to "streamline" or "reduce regulatory obligations" are in significant measure how the Yucca project was derailed. Rather than trying to anticipate an imaginary parade of onerous regulatory obligations that lengthen this decades long dispute over nuclear waste disposal, NRDC urges careful attention to creating a coherent legal framework before commencing any geologic repository or interim storage site development process. Then (and only then) arriving at a consent-based approach for nuclear waste storage and disposal consistent with our history of federalism. *See* pages 4-7 *infra*.

As we noted last fall, while several components of section 304 have merit – as it provides language responsive to the BRC's recommendation that any successful approach must be "consent based" and allow affected States and communities to retain control – the proposed legislation falls short of the mark in developing solutions and needs no streamlining.

Section 304(a)
Turning to specific subsections and how they might be reformed, section 304(a) sets out the general terms of a process that reflects the transparent, adaptive, consent based qualities called for by the BRC. Allowing affected communities to decide, and on what terms, they will host a nuclear waste facility is an important step forward that has not heretofore existed in nuclear legislation.

Section 304 (b)
Next, section 304(b) wisely provides for consistency with section 112(a) of the NWPA but requires issuance of guidelines not later than one year after the date of enactment of this Act. We think one year an inadequate time frame. We support such consistency with the enumerated provisions in section 112(a) and agree that additional attention is important to detailed considerations such as minimizing impacts of transportation and handling and to not unduly burden states storing significant volumes of defense or transuranic wastes is important. But it is our strong recommendation that more time should be provided for the agency to get up and running before final guidelines become statutory time restrictions. Indeed, such guidelines must comply with NEPA, and ensuring those guidelines are in place prior to consideration of any storage or disposal site could go a long way in avoiding the mistakes of the past.

Section 304(c)
Section 304(c) sets up a process for determining candidate sites that, in general terms, could chart a process arriving at protective disposal solution, if it is: (1) undertaken subsequent to imposition of sound final site screening and development criteria and sound final generic radiation and environmental protection standards; and (2) not hamstrung or corrupted by Congress, other federal agencies or the Executive Branch. However, the Environmental Assessment required in section 304(c)(4) should explicitly be termed an Environmental Impact Statement to ensure there is no confusion regarding NEPA obligations.

As a final comment on section 304(c)(4)(A), we think any legislative record associated with the Nuclear Waste Discussion draft, should such a thing come to pass, must make it clear that there is no transference of the NRC's "waste confidence" obligation to the Administrator. By its terms, the "confidence" sought in section 304(c)(4)(A) is whether the environmental assessment provides the Administrator with a reasonable basis to be confident that "the proposed nuclear waste facility at the proposed site" will be safe. The "confidence" at stake in the NRC's waste confidence decision is "whether there is reasonable assurance that an off-site storage solution will be available by ... the expiration of the plant's operating licenses, and if not, whether there is reasonable assurance that the fuel can be stored safely at the sites beyond those dates." *Minnesota v. NRC*, 602 F.2d 412, 418 (D.C. Cir. 1979); *see also, New York, et al. v. NRC*, 681 F.3d 471 (D.C. Cir. 2012). The confidence required of the NRC is nuclear waste generated at a reactor can be safely stored somewhere and stems from the NRC's NEPA and Atomic Energy Act obligations. The confidence required of the Administrator under section 304(c)(4)(A) relates to a specific candidate site and stems from the Administrator's obligation under this legislation to select sites that have a reasonable prospect of proving suitable.

6. *Should the new entity be governed by a single administrator or by a board of directors? (a) If by a single administrator, should the administrator serve for a fixed term? If so, how long should the term of service be? Should the legislation prescribe qualifications for the administrator? If so, what should be the selection criteria?*

NRDC Response:
NRDC advises that the new entity be governed by a board of directors. We think that the lengthier processes associated with arriving at consensus decisions – as compared to the decision making capacity of a single administrator – can be painful but are worthwhile. It is NRDC's view that the success of any legislative outcomes will depend on a consensus process that includes– (1) recognize that 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 a fundamental change in law; (4) address storage in a phased approach consistent with, as one example, the careful architecture of S. 3469 and our associated clarifications and suggestions; and (5) exclude polarizing closed fuel cycle and reprocessing options from this effort to implement the interim storage and ultimate disposal missions. A single administrator could upset the entire disposal architecture in one term, but a diverse board of directors is less

likely to do so in short order. The BRC is a good example where diverse viewpoints (and not nearly as diverse as we suggested or think was necessary) can and could produce some useful results.

(b) If by a board of directors, how many people should comprise the board and how should they be selected?

NRDC Response:
As an initial suggestion we suggest somewhere between 5 to 9 members directing the operations of a CEO. Representation should be balanced by party representation, government (federal, state, tribal), non-governmental organizations, and industry. The legislation establishing the board of directors should have an explicit requirement that the majority on the board not be composed of members with existing or historical ties to the nuclear industry. Such a requirement should also be attentive to the revolving door that has existed between government service at NRC, DOE and the nuclear industry.

7. The Blue Ribbon Commission recommended establishment of both a board of directors for management oversight (whose "primary role ... is not to represent all stakeholder views, but rather to carry out fiduciary responsibilities for management oversight") and "a larger and more widely representative stakeholder advisory committee." The draft bill responds to these recommendations, first, by establishing a Nuclear Waste Oversight Board of senior federal officials and, second, by authorizing the Administrator to establish advisory committees. Should the Oversight Board and advisory committee be combined into a single body to perform both management oversight and stakeholder representation functions? Should the focus and membership of any advisory committees be established in the legislation or left to the Administrator?

NRDC Response:

As we described briefly above, we believe direct control and oversight of the program could and should exist in a board of directors and a directly accountable Chief Executive Officer that carries out the duties, attendant to the specific direction of the Board. Ensuring that the board is not heavily composed of members with existing or historical ties to the nuclear industry would go far in ensuring improved public trust and acceptance of a nuclear waste storage and disposal program.

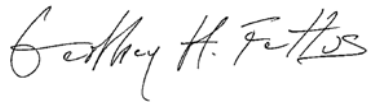
8. Dr. Meserve testified in 2012 that representatives of stakeholders and public utility commissioners should be added to the Nuclear Waste Oversight Board. Would these additions make the Board better able to carry out its fiduciary oversight mission effectively?

NRDC Response:

Yes. Outside "oversight" could only improve what has for too long been a closed and insular process.

For additional information or questions regarding these responses, please do not hesitate to contact us.

Sincerely,



Geoffrey H. Fettus
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NRDC Attachment B

State of New Mexico

Michelle Lujan Grisham
Governor

June 7, 2019

The Honorable Rick Perry
Secretary
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

The Honorable Kristine Svinicki
Chairman
U.S. Nuclear Regulatory Commission
Mail Stop O-16B33
Washington, DC 20555-0001

Dear Secretary Perry and Chairman Svinicki:

I write to express my opposition to the proposed interim storage of high-level radioactive waste in the state of New Mexico. The interim storage of high-level radioactive waste poses significant and unacceptable risks to New Mexicans, our environment and our economy. Furthermore, the absence of a permanent high-level radioactive waste repository creates even higher levels of risk and uncertainty around any proposed interim storage site.

As you know, the Nuclear Regulatory Commission (NRC) is evaluating the issuance of a 40-year license to Holtec International for a consolidated interim storage facility in southeastern New Mexico. As proposed, this facility would store spent nuclear fuel (SNF) and reactor-related materials greater than low-level radioactive waste.

A facility of this nature poses an unacceptable risk to New Mexicans, who look to southeastern New Mexico as a driver of economic growth in our state. New Mexico's agricultural industry contributes approximately $3 billion per year to the state's economy, $300 million of which is generated in Lea and Eddy Counties, where the proposed facility is to be sited.

Further, the Permian Basin, situated in west Texas and southeastern New Mexico, is the largest inland oil and gas reservoir and the most prolific oil and gas producing region in the world. New Mexico's oil and natural gas industry contributed approximately $2 billion to the state last year. According to the U.S. Energy Information Administration (EIA), Lea County and Eddy County were ranked the second and sixth oil-producing counties in the country, respectively, earlier this year, with production continuing to increase.

The Honorable Rick Perry
The Honorable Kristine Svinicki

Establishing an interim storage facility in this region would be economic malpractice. Any disruption of agricultural or oil and gas activities as a result of a perceived or actual incident would be catastrophic to New Mexico, and any steps toward siting such a project could cause a decrease in investment in two of our state's biggest industries. For those reasons, the New Mexico Cattle Growers' Association, the New Mexico Farm and Livestock Bureau and the Permian Basin Petroleum Association have all sent me letters opposing high-level waste storage in southeastern New Mexico. I have attached their letters for your review.

In addition to significant economic concerns about this project's potential impact on agriculture and the oil and gas industry, I am concerned about the financial burden it could place on the state and local communities. Transporting material of this nature safely requires both well-maintained infrastructure and highly specialized emergency response equipment and personnel that can respond to an incident at the facility or on transit routes. The state of New Mexico cannot be expected to support these activities.

Finally, 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. Over this time, it is likely that the casks storing SNF and high-level wastes will lose integrity and will require repackaging. Any repackaging of SNF and high-level wastes increases the risk of accidents and radiological health risks. Again, New Mexicans should not have to tolerate this risk.

Given the potential for adverse impacts to public health, the environment and our economy, I cannot support the interim storage of SNF or high-level waste in New Mexico.

I thank you for your consideration of these concerns and look forward to your reply.

Sincerely,

Michelle Lujan Grisham

Michelle Lujan Grisham
Governor

NRDC Attachment C

PROCLAMATION

BY THE

Governor of the State of Texas

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pursuant to Article IV, Section 14, of the Texas Constitution, I, Greg Abbott, Governor of Texas, do hereby disapprove of and veto Senate Bill No. 1804 as passed by the Eighty-Sixth Texas Legislature, Regular Session, because of the following objections:

> Senate Bill 1804 was a laudable effort to address domestic violence, until someone slipped in an ill-considered giveaway to a radioactive waste disposal facility. Unfortunately, the bill author's good idea about domestic violence has been dragged down by a bad idea about radioactive waste.

Since the Eighty-Sixth Texas Legislature, Regular Session, by its adjournment has prevented the return of this bill, I am filing these objections in the office of the Secretary of State and giving notice thereof by this public proclamation according to the aforementioned constitutional provision.

IN TESTIMONY WHEREOF, I have signed my name officially and caused the Seal of the State to be affixed hereto at Austin, this 5th day of June, 2019.

GREG ABBOTT
Governor of Texas

ATTESTED BY:

JOE ESPARZA
Deputy Secretary of State

FILED IN THE OFFICE OF THE SECRETARY OF STATE
4:30 pm O'CLOCK
JUN 05 2019

NRDC Attachment D

Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
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June 19, 2019

Krishna P. Singh
President and CEO
Holtec International
Krishna P. Singh Technology Campus
1 Holtec Blvd.
Camden, NJ 08104

Dear Dr. Singh:

I write regarding Holtec International's stated plans to build and operate a nuclear waste storage facility in western Lea County, New Mexico, near the Eddy County line. In the course of applying for a 40-year permit from the United States Nuclear Regulatory Commission (NRC) to deposit in New Mexico up to 120,000 metric tons of highly radioactive waste from nuclear facilities across the United States, Holtec has stated that its proposal enjoys "overwhelming support" in the state. In fact, a number of New Mexico industry associations, from the New Mexico Cattle Growers' Association to the Permian Basin Petroleum Association, recently have expressed serious concerns about – and in some instances outright opposition to – Holtec's proposal. Along with elected officials and non-profit organizations, they have raised significant questions about the effect of the proposed nuclear waste storage site on New Mexico's oil and gas industry, farm and ranch economy, and environment. This letter will not restate those concerns, which are a matter of public record.

Instead, as New Mexico's Commissioner of Public Lands, with direct oversight of mineral leasing at the location of Holtec's planned facility, I write to express my safety concerns and to address several misrepresentations that Holtec has made to the NRC and New Mexicans about its control of the proposed disposal site as well as agreements that it claims to have secured from New Mexico State Land Office mineral lessees. The State Land Office has reviewed a number of Holtec's submissions to the NRC, including the company's Facility Environmental Report (FER) and Safety Analysis Report (SAR). Those

submissions contain statements that have the potential, intended or not, to mislead federal regulators and the public alike, and require immediate correction.

The site for Holtec's proposed nuclear waste facility (the Site) is located in Section 13, Township 20 South, Range 32 East, and portions of Section 17 and 18, Township 20 South, Range 33 East, between the cities of Hobbs and Carlsbad. Holtec has repeatedly and publicly characterized the Site as under its control. *See, e.g.*, FER 2.2.1. In fact, the subject land is a split estate; while Eddy-Lea Energy Alliance, LLC privately owns the surface estate, the State of New Mexico, through the New Mexico State Land Office, owns the mineral estate. The State Land Office's control of the Site's mineral estate is not disclosed in the FER or other NRC submissions. To the contrary, in its filings with the NRC, Holtec appears to have entirely disregarded the State Land Office's authority over the Site's mineral estate. Holtec sent notice of its initial license application in March 2017 to over 60 elected and appointed government officials, but failed to include the State Land Office. The company's subsequent filings continue to ignore the State Land Office's legal interest in the Site. For example, Table 1.4.1 of the FER lists all applicable regulatory requirements, permits and required consultations – but conspicuously omits any reference to the State Land Office.

As you know, the Site is located within the Permian Basin, one of the world's most productive oil and gas-producing regions, and there is significant oil and gas development (as well as potash mining) in the Site's immediate vicinity. Holtec claims throughout its NRC submissions that it has secured the agreements of mineral lessees on or near the Site to forebear from certain development activities. For instance, Section 2.4.2 of the FER states that "[b]y agreement with the applicable third parties, the oil drilling and phosphate extraction activities have been proscribed at and around the site and would not affect the activities at the site." Along similar lines, Section 2.6.4 of the SAR notes: "With regard to potential future drilling on the Site, Holtec has an agreement [2.6.9] with Intrepid Mining LLC (Intrepid) such that Holtec controls the mineral rights on the Site and Intrepid will not conduct any potash mining on the Site. Additionally, any future oil drilling or fracking beneath the Site would occur at greater than 5,000 feet depth, which ensures there would be no subsidence concerns [2.1.8]."

Holtec's claim that it has secured third-party agreements for control of the Site is incomplete at best. Site control generally refers to ownership of, or a leasehold interest in, a right to develop a particular tract of land. Holtec does not "control" the "mineral rights on the Site." Instead, Holtec only has an agreement with a single company, Intrepid, relating to that company's potash mining – an agreement that has yet to be approved by the State Land Office, under whose authorization Intrepid conducts its mining activities on the Site. The State Land Office's oil and gas lessees, meanwhile, confirm they have not entered into agreements with Holtec to suspend or limit their oil and gas development to accommodate Holtec's planned nuclear waste disposal facility. In addition, there are other mineral resources potentially present on the Site that may fall within the State Land Office's mineral estate that are not addressed in Holtec's filings at all.

In addition to misstating its control over the Site, Holtec also treats as a foregone conclusion the State Land Office's ability and desire to restrict oil and gas drilling on the Site. Holtec, through the Eddy-

Lea Energy Alliance, has proposed that the State Land Office impose a negative easement called a "land use restriction or condition" on all mineral development on the Site, including a ban on oil and gas development between the surface and a depth of 3,000 feet, and a prohibition on any directional or horizontal wells bottomed beneath the site that Holtec believes might "disturb or conflict" with its use of the site. The State Land Office has not approved any such restriction, which would likely trigger legal challenges from businesses that already are conducting operations on the Site pursuant to their existing mineral leases.

The State Land Office's oil and gas leases on and adjacent to the Site do not impose any depth restrictions on drilling activities. Contrary to Holtec's assurances that "any future oil drilling or fracking … would occur at greater than 5,000 feet depth," the State Land Office's analysis demonstrates the existence of numerous active oil and gas wells within a three-mile radius of the Site at depths of 5,000 feet or less.

In addition, two of the State Land Office lessees on or immediately adjacent to the Site, COG Operating, LLC and EOG Resources, Inc., raise significant concerns about the proposed project and the land use restriction that Holtec requires, particularly its implications for salt water disposal wells, pipelines, and horizontal wells underneath the Site that Holtec might determine – using unknown criteria – will "disturb or conflict" with its nuclear waste storage operations. Both companies advise that they will explore all legal options if the State Land Office were to impose a restriction on oil and gas activities that are permitted under their current leases, along the lines of what Holtec seeks. For those reasons, it is difficult to take at face value Holtec's representation in its May 23, 2019 letter to the State Land Office that "Oil and Gas is not affected by the facility."

The International Atomic Energy Agency appears to share the State Land Office's and its lessees' concerns about the unknown interaction between nuclear waste storage and preexisting oil and gas development on the very same tract of land. In a 2007 publication, it explains that "[a]ny potential site will require an adequately controlled single-use land area to accommodate storage facilities," and that potential waste disposal sites should "avoid land with exploitable mineral and energy resources." International Atomic Energy Agency, Selection of Away-From-Reactor Facilities for Spent Fuel Storage: A Guidebook, IAEA-TECDOC-1558 (Sept. 2007) at 3.2.2 (pp. 23-24) (emphases added). Despite Holtec's assurances to the NRC and to New Mexicans, it does not appear that your company has undertaken a thorough and critical analysis of the possible conflicts between your nuclear waste storage proposal and the vital economic activities that are already taking place on the Site.

Finally, while I appreciate Holtec's attendance at a February 19, 2019 meeting at the State Land Office to overview the company's plans, a number of serious questions that I and my staff raised at that meeting remain unanswered. Holtec to date has not responded to our inquiry about the effects that its proposed operations will have on oil and gas lessees' present or future fracking activities. In addition, we asked Holtec to identify the worst case scenario for an accident or other adverse event at the Site, and explain how the company would respond to such a contingency. To date, we have not received any

meaningful response to this inquiry, an omission that requires the State Land Office to assume that Holtec has not sufficiently analyzed the risks posed by its planned operations or is unwilling to do so.

If Holtec's proposal moves forward, nuclear waste likely would remain in southeastern New Mexico until 2048 at the earliest, and possibly much longer since there is no designated permanent repository anywhere in the nation for high-level radioactive waste. As the Commissioner of Public Lands, I am deeply concerned about the misrepresentations Holtec made to the NRC about purported agreements and restrictions regarding mineral leasing at the Site that do not exist and may very well never ever exist. Understanding the extent of oil and gas operations and other mining activities that may be conducted at the Site is essential to accurately assessing the risks of Holtec's planned nuclear storage operations. Holtec's NRC filings are materially inaccurate in this regard. Given these safety concerns, and lack of consideration for the State Land Office's fiduciary responsibilities, I do not believe that Holtec's proposed nuclear storage project is in the best interests of the State Land Office, its lessees, and its beneficiaries.

Sincerely,

Stephanie Garcia Richard
Commissioner of Public Lands

cc: Hon. Rick Perry
Secretary, United States Department of Energy

Hon. Kristine Svinicki
Chair, United States Nuclear Regulatory Commission

Hon. Michelle Lujan Grisham
Governor of the State of New Mexico