

Statement of

**Geoffrey H. Fettus
Senior Attorney
Natural Resources Defense Council, Inc.**

**“Update on the Current Status of Nuclear Waste
Management Policy.”**

Before the

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**Natural Resources Defense Council, Inc.
1152 15th St. NW, Suite 300
Washington, D.C. 20005
Tele: 202-289-6868
gfettus@nrdc.org**

Introduction

Mr. Chairman and members of the Subcommittee, thank you for providing the Natural Resources Defense Council, Inc. (NRDC) this opportunity to present our views at this hearing to update the current state of nuclear waste management policy.

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, Bozeman, Montana, and Beijing. We have worked on nuclear waste issues since our founding, and we will continue to do so.

After nearly 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 U.S. Nuclear Regulatory Commission (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, the reasons are multiple and some are detailed in the Final Report of President Obama's Blue Ribbon Commission for America's Nuclear Future (BRC).¹

In brief, several agencies (including the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy (DOE), the NRC, and the U.S. Department of Justice (DOJ)) and Congress repeatedly distorted the process for developing licensing criteria for a proposed repository. In each instance, detailed later in this testimony, such action was done so as to weaken environmental standards rather than strengthen them, and always to ensure the site would be licensed, no matter the end result. Rather than learn from this past, we fear Congress could now plow ahead with revanchist attempts wasting millions of dollars to reopen the now-defunct Yucca project, or create an interim spent nuclear fuel storage facility, policies that ensure failure. The BRC

¹ President Obama's "*Blue Ribbon Commission on America's Nuclear Future - Report to the Secretary of Energy, January 31, 2012*" (hereafter "*BRC Report*" or "*Final Report*").

recommendations, though only partially adequate to the task, point a way forward with adherence to: the need for geologic repositories; a science driven process for setting standards; and, most importantly, a focus on consent-based agreements between federal and state partners.

In NRDC's view, it is the partnership between federal and state partners that is key to arriving at state consent to host any amount of permanent nuclear waste disposal. To avoid continuing the contentious stalemate over nuclear waste management, we will conclude our testimony by offering five recommendations for how to finally move forward and get out of the present malaise.

Nuclear Waste Status Update

The Barriers to Restarting the Failed Yucca Mountain Process

As a first matter of business, we are aware that the Nuclear Waste Policy Act (NWPA) remains the law governing the disposition of spent nuclear fuel and high-level radioactive waste in the United States and, currently, the NWPA directs that Yucca Mountain be the sole repository for commercial spent nuclear fuel and defense high-level radioactive waste. But the record created by this hearing should fully reflect the story of how multiple actions by EPA, DOE, NRC, DOJ, and the U.S. House and Senate corrupted the process for developing and implementing licensing criteria for the Yucca Mountain repository and ensured the process was unworkable from a technical and institutional perspective. Failure to understand this history dooms any new effort to move forward on nuclear waste.

The Failure of the Repository Program

The history of the nuclear waste repository program is replete with failures and any suggestion that the failed Yucca project can be quickly and easily restarted and brought to a successful conclusion should be dispensed with as folly.

1. The first failed efforts.

In 1957-1958, the U.S. Atomic Energy Commission (AEC) conducted the first site specific study of the disposal of high-level radioactive waste in geologic salt formations at Hutchinson, Kansas. Between 1961 and 1963, the AEC conducted experiments at the Carey salt mine at Lyons, Kansas. In 1970 the AEC, along with the Kansas governor, announced tentative selection of the Carey salt

mine for a demonstration high-level waste repository. Opposition, primarily by the Kansas Geological Survey, 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 abandoned the site by 1972.

Following the demise of the Lyons repository effort, the AEC announced in 1972 that it intended to develop a 100-year Retrievable Surface Storage Facility (RSSF). This proposal was opposed by the EPA and others because in their view it would divert attention and resources from efforts to find a permanent means of geologic disposal. As a consequence of this opposition, the Energy Research and Development Agency (ERDA) gave up its plans for a RSSF in 1975. Between 1975 and 1982, ERDA and the DOE continued to search for potential repository sites in various rock types in the states of Michigan, Ohio, New York, Utah, Texas, Louisiana, Mississippi, Washington, and Nevada. Various degrees of resistance from state and local representatives, combined with geological and technical problems, stalled these efforts to find a repository site. In 1976 President Gerald Ford halted the reprocessing of commercial nuclear fuel. In the following year President Jimmy Carter reinforced the government's ban on commercial reprocessing, and tried to halt the development of commercial breeder reactor development. These actions reinforced the need for prompt development of a geologic repository. While in 1977 ERDA also announced that it would accept custody of commercial spent fuel and store it at Away From Reactor (AFR) storage facilities, this never happened.

2. The IRG Process

By the mid-1970s it had become clear that commercial spent fuel reprocessing was uneconomical, environmentally unsound, and represented a serious proliferation risk. President Gerald Ford refused to subsidize the completion of the Barnwell reprocessing plant, and then President Jimmy Carter pulled the plug on reprocessing. These actions by Presidents Ford and Carter gave a new urgency to finding a site suitable for geologic disposal of both spent fuel and high-level radioactive waste. In the late 1970s President Carter initiated an Interagency Review Group (IRG) process to try to solve once and for all the nuclear waste problem in the United States. The IRG process involved numerous scientists, extensive public involvement, and a consultation and concurrence role for the states. The outcome of the IRG effort was a two-track program. The DOE was tasked

with the responsibility for identifying the best repository sites in the country, and the EPA and the NRC were tasked with developing nuclear waste disposal criteria against which the selection and development of the final repository sites would be judged.

3. The Nuclear Waste Policy Act (NWPA)

In 1982, Congress enacted the NWPA, which embodied in law the principal recommendations that grew out of the IRG process, including a commitment to geologic disposal, two repositories, and characterization of three sites before final selection of the first repository. The NWPA established a comprehensive program for the disposal of spent nuclear fuel and high-level radioactive waste (HLW) from the nation's commercial reactors and nuclear weapons complex. At the time the NWPA was passed nearly 25 years ago, the site selection and development process proposed by the IRG enjoyed fairly widespread support from within the Congress, the environmental community and state governments. By contrast, at this time the U.S. Government has little, if any, support from the State of Nevada, and virtually no public support from the environment and public health community for the proposed Yucca Mountain project.

4. What else went wrong?

Over the last twenty years, a substantial segment of the environmental community has arrived at the judgment that the process of developing, licensing, and setting environmental and oversight standards for the proposed repository has been, and continues to be, rigged or dramatically weakened to ensure that the site can be licensed, rather than provide for safety over the length of time that the waste remains dangerous to public health and the environment. How the Yucca Mountain site was selected and how the environmental standards were set are examples that illustrate this perspective.

a. Site Selection

First, DOE and then the Congress corrupted the site selection process within the NWPA. The original strategy contemplated DOE choosing the best four or five geologic media, then selecting a best candidate site in each media alternative, then narrowing the choices to the best three alternatives, and finally picking a preferred site for the first of two repositories. However site selection guidelines were strongly criticized as DOE was accused of selecting sites that they had

previously planned to pick. In May of 1986 DOE announced that it was abandoning a search for a second repository, and it had narrowed the candidate sites from nine to three, leaving in the mix the Hanford Reservation in Washington (in basalt), Deaf Smith Co., Texas (in bedded salt), and Yucca Mountain in Nevada (in unsaturated volcanic tuff). All equity in the site selection process was lost in 1987, when the Congress, confronted with a potentially huge cost of characterizing three sites, amended the NWPA of 1982, directing DOE to abandon the two-repository strategy and to develop only the Yucca Mountain site. At the time, Yucca Mountain was DOE's preferred site. The abandonment of the NWPA site selection process led directly to the loss of support from the State of Nevada, diminished Congressional support (except to ensure that the proposed Yucca site remains the sole site), and less meaningful public support for the Yucca Mountain project. The situation has only deteriorated since that time.

b. Radiation Standards

Radiation standards, the second track of the NWPA process has, if possible, fared worse. Section 121 of the NWPA of 1982 directs EPA to establish generally applicable standards to protect the general environment from offsite releases from radioactive materials in repositories, and directs the NRC to issue technical requirements and criteria. Unfortunately, it has been clear for years that the projected failures of the geologic isolation at Yucca Mountain are the determining factor in EPA's standards. EPA repeatedly issued standards that are concerned more with licensing the site than establishing protective standards. EPA's original 1985 standards were vacated in part because the EPA had failed to fulfill its separate duty under the Safe Drinking Water Act, 42 U.S.C. §300h, to assure that underground sources of water will not be "endangered" by any underground injection. *Natural Resources Defense Council v. Environmental Protection Agency* (NRDC v. EPA), 824 F.2d 1258 (1st Cir. 1987).

EPA's second attempt to at setting standards that allow for a projected failure of geological isolation was again vacated, this time by the United States Court of Appeals for the D.C. Circuit. The D.C. Circuit found that EPA's Yucca Mountain rule (and the corresponding NRC standard), which ended its period required compliance with the terms of those rules at 10,000 years was not "based upon or consistent with" the recommendations of the National Academy of Sciences ("NAS") as required by the 1992 Energy Policy Act and therefore must be vacated. *Nuclear*

Energy Institute, Inc. v. EPA, 373 F.3d 1251 (2004). Giving significant deference to the agency, the D.C. Circuit did not vacate EPA's strangely configured compliance boundary for the Yucca Mountain site. See this map of EPA's compliance boundary, <https://www.nrdc.org/media/docs/020506b.pdf>, (inside the oddly drawn line, the repository need not protect water quality and radiation can leak in any amount). The dramatically irregular line that represents the point of compliance has little precedent in the realm of environmental protection, and its shape is perhaps more reminiscent of gerrymandered political districts. Rather than promulgate protective groundwater standards, EPA pieced together a "controlled area" that both anticipates and allows for a plume of radioactive contamination that will spread several miles from the repository toward existing farming communities that depend solely on groundwater and perhaps through future communities closer to the site.

EPA's next proposed and revised rule, issued in 2005, retained the 15 millirem/year and groundwater standards for the first 10,000 years, but then establishes a 350 millirem/year standard for the period after 10,000 years and does away with the groundwater standard entirely. This two-tiered standard failed to comply with the law and fails to protect public health, especially if the repository's engineered barriers were compromised earlier than DOE predicts. On October 15, 2008, EPA published the final version of its revised Yucca Mountain rule in the Federal Register ("2008 Yucca Mountain rule," 73 Fed. Reg. 61255-61289). The 2008 Yucca Mountain rule's two-tiered individual protection annual dose standard establishes an initial 15 millirem first-tier limit, but weakens that limit to 100 millirem in the period after 10,000 years, when EPA projects peak dose to occur. Again, peak dose could occur significantly earlier if engineered barriers fail earlier than DOE and EPA have projected.

In any event, the final status of EPA's most recent two-tiered rule remains fundamentally uncertain. In an action pending in the District of Columbia Circuit (*State of Nevada v. Environmental Protection Agency*, No. 08-1327, consolidated with No. 08-1345), Nevada has challenged EPA's 2008 Yucca Mountain rule as once again failing to honor EPA's statutory duty to protect public health and safety, and to proceed consistently with the National Academy of Science's recommendations.

The Current Status of Nuclear Waste Management & Disposal

Despite lots of press about the NRC staff's issuance of the latest volume of its Safety Evaluation Report (SER) and its favorable conclusion that the Yucca Mountain repository could proceed to a licensing hearing (not that it would necessarily license the repository, as that would be making a mockery of its hearing process), there are dozens of issues likely to be litigated at great length. One in particular is premised entirely on DOE's design for titanium drip shields that are supposed to sit over each of the thousands of waste canisters in Yucca Mountain's underground tunnels to keep out corroding water. Although DOE included the drip shields as part of the repository design, and NRC has accepted them for license-review purposes, there is no plan to design, license, pay for, and much less install the shields until at least 100 years after the waste goes in. This unacceptable state of affairs is detailed by former NRC Commissioner Victor Gilinsky at <http://thebulletin.org/yucca-mountain-redux7800>. Quite simply, Yucca's likely repository configuration doesn't come close to meeting NRC requirements.

This and other issues are anticipated to be vigorously litigated by the State of Nevada, which has filed more than 200 contentions challenging DOE's license application for Yucca Mountain. To put the hearing process in perspective, NRDC is now entering the fifth year of a NRC licensing proceeding where not one party – not industry seeking the license, not NRC Staff, nor the environmental intervenors – have had any interest or taken any steps to functionally prolong or delay the proceeding beyond the rare extension of a short period of time for filing a pleading (something all parties found appropriate and necessary at various points).² And in the more than four years of this proceeding, *only three contentions* have been litigated on their merits, not the more than 200 likely to be litigated for the Yucca license if the process were commenced. Any suggestion the Yucca licensing proceeding could easily restart and quickly move to a successful conclusion for permanent disposal is simply a fallacy. And when that inevitable litigation rightly waylays yet another effort at nuclear waste disposal, the damage to the nation's prospects to ever developing a repository may be permanent.

² *In the Matter of Strata Energy, Inc.*, (Ross In Situ Recovery Uranium Project), Docket No. 40-9091-MLA, ASLBP No. 12-915-01-MLA.

Also ahead is the looming debate over consolidated storage. Just to focus on one of the potential sites, the Waste Control Specialists (WCS) corporation has announced that it will seek to establish “interim” storage site for the nation’s commercial spent nuclear fuel at its existing “low-level” radioactive and hazardous waste site in Andrews County, Texas, just across the border from New Mexico’s defense waste transuranic repository, the Waste Isolation Pilot Plant (WIPP) and even closer to Urenco’s uranium enrichment plant, officially in Eunice, NM. As we understand it, WCS will submit a license application to the NRC sometime in the next two years. In essence, the WCS proposal is to site a dry storage facility containing transport casks (that have also not been licensed yet) containing high-level radioactive waste from reactors across the country. WCS suggests this “interim” site would exist for 60 years, after which the waste could then be moved again to some permanent repository that not only doesn’t yet exist, but there isn’t even a plan to get there.

There are several problems with this proposal. First, and most obviously from NRDC’s perspective, immediately going forward with a consolidated storage proposal before working out the details of a comprehensive legislative path for nuclear waste storage and disposal (and connecting the licensing of storage to the licensing of a permanent repository) entirely severs the link between storage and disposal, and creates an overwhelming risk that a storage site will function as de facto final resting place for nuclear waste. Or, in the alternative and also just as damning, it sets up yet another attempt to ship the waste to Yucca Mountain or even open up New Mexico’s WIPP facility for spent nuclear fuel disposal— a site designed and intended for nuclear waste with trace levels of plutonium, not spent fuel (that has already blown plutonium throughout the underground and into the environment, contaminating 22 workers, and is functionally inoperable for years).³ All of this runs precisely counter to the BRC’s admonition that “consent” come first – a potentially ironic turn after decades of promises were delivered to New Mexico that it would never be asked to turn WIPP into a commercial nuclear waste repository.

³ On February 5, 2014 there was an underground fire at the WIPP facility, precipitating the evacuation of 86 workers underground at the time of the fire, with 13 workers treated for smoke inhalation (seven at the WIPP site and six at the Carlsbad Medical Center). Next, on the night of Friday, February 14, 2014 there was a significant release of radiation to the environment from the facility that has substantially contaminated the underground and affected the health of a number of WIPP employees. *See*, February 5, 2014, Fire - <http://www.wipp.energy.gov/Special/AIB%20Report.pdf>; *see also*, February 14, 2014 Radiological Release (Phase 1), [-http://www.wipp.energy.gov/Special/AIB_Final_WIPP_Rad_Release_Phase1_04_22_2014.pdf](http://www.wipp.energy.gov/Special/AIB_Final_WIPP_Rad_Release_Phase1_04_22_2014.pdf).

And that's the beginning of the problems of moving forward with consolidated storage before Congress sets out a comprehensive plan. Others are more practical in nature. In contrast to the defunct Private Fuel Storage (PFS) site proposed in Utah, which actually obtained a NRC license even though nearly every single major Republican office-holder in the state objected to it, the WCS proposal isn't designed as a private site where WCS would negotiate with each nuclear utility to accept its waste. The PFS scheme failed in part because such a private site transfers no liability for the nuclear waste, thus no utility was interested in the retention of the liability—especially as the waste would have to be transported hundreds or thousands of miles. In this instance, as we understand it, WCS will be requesting DOE accept title to the waste and all liability for transportation to Andrews County, Texas. And while WCS states that Andrews County supports the idea, it's not at all clear over the long term whether consensus will include more than the statement of a local governing body. Indeed, Texas and New Mexico will both need to be involved and already there are high-ranking objections from New Mexico.

http://www.tomudall.senate.gov/?p=press_release&id=1947.

In contrast to all of this, NRDC suggests a better way forward that includes a pilot program for consolidated storage that does not include severing the link between storage and disposal. *See supra* at 14, 15.

The Trajectory of Senate Nuclear Waste Legislation

On September 12, 2012, NRDC testified before the Senate Energy & Natural Resources Committee on S. 3469, the template for S. 1240, and its current iteration, S. 854.⁴ We commended S. 3469's adherence to three principles that, in our view, must be complied with if America is ever to develop an adequate, safe solution for 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, in which the waste will be permanently isolated from the human

⁴ NRDC's testimonies, delivered in 2012 and 2013 to the Senate E&NR Committee, can be found online at http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?Id=228fe2e8-8c9e-4440-b266-1d3885c3fa93&Statement_id=68e04fd7-ad48-4d91-b67f-e3e7c789471b; and <http://www.nrdc.org/nuclear/gfettus-13073001.asp>.

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.

Unfortunately, the trajectory of legislation in the Senate has been negative, and we opposed last year’s S. 1240 (and thus, this year’s S. 854) 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 repositories sites commences; 4) fails to provide states with adequate regulatory authority over radiation-related health and safety issues associated with nuclear waste facilities in their respective states; and 5) fails to prohibit the Administrator (or Board) of a new federal entity overseeing nuclear waste management from using funds to engage in, or support spent fuel reprocessing (chemical or metallurgical).

In short, and regrettably, it appears that the authors of S. 1240/S. 854 have rejected several key recommendations of the BRC. Instead, the bill wrongly prioritizes the narrow aim of getting a government-run interim spent fuel storage facility up and running as soon as possible – a priority with potential financial benefits for business interests. However, as NRDC noted to the Senate in our testimony in 2013, we do believe the legislative process on nuclear waste management is salvageable, and we look forward to engaging in constructive efforts to address the shortcomings based on sound prescriptions.

NRDC’s Prescriptions for Restarting and Forward Progress Towards Achieving Science-Based, Consent-Based Nuclear Waste Disposal Program

The BRC recognized that the 1987 amendments to the NWPA were “highly prescriptive” and “widely viewed as being driven too heavily by political consideration.” As detailed earlier, we believe that those observations by the BRC are insufficiently critical assessments, however they make a sound point that goes directly to the fundamental flaw in the NWPA and the current

stalemate – at no point has Nevada consented to accept a potentially endless supply of nuclear waste and indeed, after the past two decades there is a vanishing likelihood the State, no matter the party in power, would ever would consent under any circumstances. So what to do?

NRDC recommends the Energy Committee consider five straightforward steps to re-launch the U.S. nuclear waste disposal program in a manner that finally, once and for all, puts the country on a path to solve the extraordinary challenge of waste that is toxic and radioactive for millennia.

Five Recommendations to Get the Nuclear Waste Program Back on Track

NRDC urges Congress to – (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 former Senator Bingaman’s S. 3469 (introduced in 2012); and (5) exclude delaying, proliferation-driving and polarizing closed fuel cycle and reprocessing options from this effort to implement the interim storage and ultimate disposal missions.

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

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

NRDC concurs with members of both parties in the recognition that our generation has ethical obligation to future generations regarding nuclear waste disposal. Adherence to the principle of deep geologic disposal as the solution to nuclear waste is consistent with more than 50 years of scientific consensus and the views of the BRC. No other solutions are technically, economically or morally viable over the long term, and NRDC strongly supports development of a science-based repository program that acknowledges the significant institutional challenges facing nuclear waste

storage and disposal. Thus, we urge an explicit adoption of the first purpose of the Nuclear Waste Policy Act (NWPA), 42 U.S.C. § 10131(b)(1), since the decision to isolate nuclear waste from the biosphere implicates critical issues of security, including: financial security, environmental protection, and public health.

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 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. Further, embedded in S. 3469 is 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.

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

A central finding of the BRC was the need for a “consent-based, adaptive, and phased approach” for developing geologic disposal options. We agree with the general thrust, but any such “consent-based” process will enjoy a far higher probability of success in concert with a simple, but profound, change in the law. As the BRC’s *Final Report* acknowledges, current federal law, including the Atomic Energy Act (AEA), preempts almost all forms of state regulation over a high level radioactive waste facility and, indeed, over regulation of radionuclides in general.

Congress should remove once and for all the AEA’s exemptions for radionuclides from our nation’s water and hazardous waste laws. These anachronistic nuclear exemptions from environmental law are at the heart of state and public distrust of both government and commercial nuclear facilities. Decades from now the Nation will return to the same predicament we face today (no matter how improved the architecture of any nuclear waste program) unless States are provided with meaningful regulatory authority under existing environmental laws. Therefore, Congress must amend the AEA to allow EPA and States direct authority over regulation, permitting, and operations of nuclear waste facilities.

As this 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 thereby 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 a critical, positive element in the development of the site. *Final Report* at 21.⁵ 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 high-level radioactive waste (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 we 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

⁵ The BRC Report omits discussion of the fierce effort New Mexico waged to obtain RCRA authority over the site.

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.

In short, removing the ability of the United States to unilaterally break the terms of the contract, as was suggested in the Bingaman legislation (S. 3469), could potentially give a state some measure of comfort that the agreement it had painstakingly negotiated 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.

Therefore while S. 3469 sought to address this issue, it did not go far enough. By contrast, NRDC's prescription 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.

Recommendation 4 – Address Storage In A Phased Approach Consistent With The Careful Architecture Of S. 3469.

Efforts to initiate a temporary storage facility 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, 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.

Rather than prematurely bypassing a careful process that can arrive at protective, environmentally sensible and scientifically defensible solutions, NRDC urges spent fuel storage efforts to focus on vigorous efforts by industry and by appropriate regulatory authorities to ensure 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. While NRDC can agree with the overall concept of consolidated interim storage for a measured amount of spent fuel that meets strong safety criteria (moving fuel from seismically active areas, for example) and removing the stranded fuel from decommissioned plants, we can only do so after the introduction of a phased approach, as the general architecture of S. 3469 suggests, but is unfortunately dispensed with in the current iteration of the Senate bill.

The only situation where NRDC sees merit in a pilot project(s) is to address the current total stranded spent fuel at the 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 that have already demonstrated “consent” are operating commercial reactors. 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 consent necessary for hosting nuclear facilities in the first instance.

Recommendation 5 – Exclude Unsafe, Uneconomic Closed Fuel Cycle And Reprocessing Options From This Effort.

S. 3469 wisely resisted inclusion of support for reprocessing, fast reactors, or other closed fuel cycle options. Consistent with BRC Findings, there are “no currently available or reasonably foreseeable” alternatives to deep geologic disposal. As Senator Bingaman noted, “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.”

Conclusion

There is one area where we certainly agree with every member of the Subcommittee. 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 tries to ram through unworkable solutions contentiously opposed by States, lacking a sound legal structure of science-based foundation, and devoid of public understanding and consent. The current efforts to quickly open Yucca Mountain and an interim storage facility simply will not work. Unless Congress fundamentally revamps how nuclear waste is regulated and allows for meaningful State oversight by amending the AEA to remove its express exemptions of radioactive material from environmental laws, we're doomed to repeat this dismal cycle until a future Congress gets it right.

Thank you again for this opportunity and I am happy to answer any questions.