



NATURAL RESOURCES DEFENSE COUNCIL

**Testimony by Geoffrey H. Fettus, Senior Project Attorney
Natural Resources Defense Council
Before the Senate Committee on Energy and Natural Resources
On S. 2589, Nuclear Fuel Management and Disposal Act
Washington, D.C.**

August 3, 2006

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Good morning. My name is Geoffrey Fettus and I am a senior attorney with the Natural Resources Defense Council (NRDC). I have been the lead attorney on nuclear matters at NRDC for five years, but I have worked on nuclear waste and fuel cycle issues for nearly a decade. Before my current job I was an Assistant Attorney General for the State of New Mexico and subsequently practiced for the New Mexico Environmental Law Center. I thank the Committee for inviting me to testify on S. 2589, Nuclear Fuel Management and Disposal Act.

S.2589 was submitted to the Committee by Department of Energy (DOE) Secretary Bodman and introduced by Senator Domenici at the Administration's request. The bill is designed to "facilitate the licensing, construction and operation" of the repository. The bill would perform a broad array of what DOE envisions as necessary tasks from land withdrawal to changes in the regulatory structure governing the proposed repository.

Unfortunately, S. 2589 is yet another effort to relax or remove appropriate environmental oversight and standards that must apply if the proposed repository is to meet the twin goals of protecting human health for the length of time the waste is dangerous and public acceptance of the federal solution to the nuclear waste problem. This is a project of monumental importance and unprecedented complexity. The nuclear waste to be permanently buried in a federal geologic repository will be lethal for hundreds of thousands of years. If this waste is inadvertently accessed or leaks uncontrolled into the environment, incalculable damage could result. Rather than grappling carefully with those issues, this bill would undercut external regulatory oversight and protective environmental laws.

Respectfully, this bill overreaches and should be withdrawn. If it is not withdrawn, it should be defeated. For the entire 35 year history of NRDC, we have supported deep geologic disposal for nuclear waste as long as any repository relies primarily on geologic isolation and meets protective environmental and public health standards. Our litigation on this matter has been to ensure that the government agencies charged with developing and regulating a geologic repository set strict standards protect public health and complied with the original intentions of the Nuclear Waste Policy Act (NWPA), 42 U.S.C. § 10101 *et seq.* and other applicable laws.

In contrast with the provisions of S. 2589, our national focus should be on promulgating adequate environmental standards and then testing whether Yucca Mountain meets those standards through a fair, thorough and transparent licensing process. That process is

required by existing law. The environmental community and the public will not have confidence in the safety of the repository if the law has to be changed in order to make the site licensable.

To understand the many objectionable components of S. 2589 and its proposals to weaken regulatory oversight over the proposed Yucca project, what follows is a short summary of federal action on geologic repositories and the many previous efforts to weaken regulatory standards applicable to the project. Then I turn to some of the specific objectionable sections of the bill.

Background On Geologic Repositories

Efforts to geologically isolate high-level nuclear waste began more than 40 years ago. The National Academy of Sciences in 1957 reported that a number of geologic disposal alternatives were possible, but indicated a preference for disposal in salt. In 1967 the Atomic Energy Commission (AEC) proposed Project Salt Vault, a plan to develop a geologic repository in the Carey salt mine at Lyons, Kansas. This plan was abandoned by the AEC in the early-1970s after the Kansas Geological Survey mounted a strong campaign against the site, pointing out that the area had been subjected to extensive exploratory drilling for oil and gas deposits, and noting that an adjacent salt mine could not account for the loss of a large volume of water used during solution mining of the salt.

In 1974 the Energy Research and Development Agency (ERDA), formed out of the AEC and the predecessor to the DOE, retreated from geological disposal by proposing a Retrievable Surface Storage Facility (RSSF) for interim storage of high-level waste while pursuing geologic disposal at a more leisurely pace. This idea was rejected by environmentalists and the Environmental Protection Agency (EPA) on the grounds that it would delay permanent disposal.

In the mid-1970s it also became 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. This gave a new urgency to finding a site suitable for geologic disposal of both spent fuel and high-level nuclear waste. In the late 1970s President Carter initiated an Interagency Review Group (IRG) process 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 site 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 site would be judged.

The Nuclear Waste Policy Act

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 U.S. Government enjoyed fairly widespread support from within the Congress, the environmental community and state governments for the site selection and development process proposed by the IRG. Now, twenty years later 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 Yucca Mountain project.

What Went Wrong?

A whole host of things, but suffice to say that over the last twenty years, a substantial segment of the environmental community believes the process of developing, licensing, and setting environmental and oversight standards for the proposed repository have been, and continue to be rigged or dramatically weakened to ensure the licensability of the site rather than provide safety for the length of time the waste is dangerous. This bill, S. 2589, is yet another example of that continuing effort. The site selection process and the radiation standards are examples that illuminate this perspective.

Site Selection

First, DOE and then the Congress corrupted the site selection process. 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 then picking a preferred site for the first of two repositories. 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.

Radiation Standards

The second track of the 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 has 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).¹

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 Appendix A to this testimony for a map of EPA's compliance boundary (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, retains the 15 millirem/year and groundwater standards for the first 10,000 years, but then establishes 350 millirem/year standard for the period after 10,000 years and does away with the groundwater standard entirely. This two-tiered standard fails to comply with the law and fails to protect public health, especially if the repository's engineered barriers were to fail earlier than DOE predicts. But fundamentally, NRDC's objection to EPA's proposed is *not* a dispute about

¹ In August 1995, the National Research Council of the NAS published the study referenced under section 801 of the Energy Policy Act of 1992, entitled *Technical Bases for Yucca Mountain Standards* ("NAS Report"). Among other findings, the NAS Report found that it would be scientifically unsupportable for the EPA to limit the period of performance for its Yucca Mountain site standards to the 10,000-year period used in its generic standards under 40 C.F.R. Part 191. Concluding that peak radiation risks at the Yucca Mountain site were likely to exceed that time limitation, the NAS panel recommended that the standards for individual risk apply at the time of peak doses. *Id.* at 55. Drawing on its own prior research, the NAS Report instructed EPA that adopting the 10,000-year limitation "might be inconsistent with protection of public health." *Ibid.*

what happens between the years 10,000 and 10,001 after the repository is opened for business. Rather, EPA has once again proposed a rule that allows for faulty geologic isolation rather than setting a protective standard that will ensure the waste is isolated for the length of time it is dangerous.

Specific Comments On S. 2859

Turning to the bill before the Committee, we comment on three primary areas: the severe dilution of NRC licensing procedures, the blanket preemption of state environmental regulation, and the codification of the “waste confidence” rule.

#1) Dilution and Limiting NRC Licensing Authority

The licensing process for the repository, though not without its flaws, still retains portions of the original, coherent vision of the NWPA in licensing an unprecedented project that must last for tens of thousands of years. There is opportunity for a careful, deliberative adjudicatory process in licensing the project.

For example, under current law, the NRC will use formal adjudicatory rulemaking procedures to (1) license DOE to construct the repository; and (2) license DOE to receive and possess nuclear waste at the repository. Under the construction license, the NRC must grant a permit for the entirety of the proposed facility, *i.e.* “both surface and subsurface areas at which high-level radioactive waste and spent nuclear fuel handling activities are conducted.” Along with this, the NRC has strict licensing authority over the entirety of the complex. Statutory limits are placed on the repository, such as a 70,000 metric ton cap on the amount of waste. And under the NRC’s current rules, “DOE may not begin construction of a geological repository operations area at the Yucca Mountain site unless it has filed an application with the Commission and has obtained construction authorization.” If DOE fails to comply with this requirement, the NRC may deny DOE a license. And finally, the National Environmental Policy Act (NEPA) remains fully applicable to federal actions related to the site. If followed carefully and deliberately, this current legal framework could lead to a decision on the site the public could accept.

Section 4 of S.2859 Undercuts Protective Standards and Applicable Environmental Law

If enacted into law, Section 4 of S. 2859 would dramatically undercut the current legal framework by removing meaningful NRC oversight and compliance with NEPA. First, Section 4(b)(2) of the bill does away with transparent, deliberative proceedings and requires the NRC to use “expedited, informal” procedures (which limit discovery and NRC’s ability to ensure safety) with respect to the authorization to receive and possess nuclear waste at the repository or “to undertake any other action concerning the repository.” It also requires the NRC to act on any application within one year after the application has been filed. In a June 30, 2006 letter from NRC Commissioner Diaz to Congressman Porter of the U.S. House of Representatives, Committee on Government Reform, the NRC stated that it believes such a standard to be “unachievable.” We believe the standard is not only “unachievable,” but limiting discovery and weakening the oversight process is unwise as it further degrades the transparency and rigor needed for licensing a one-of-a-kind nuclear waste repository that will be dangerous for hundreds of

thousands of years. And if, as is quite likely, the DOE license application is inadequate and incomplete and the NRC must respond within one year, do the authors of this bill really mean to say that the NRC can only reject the application and rule that Yucca Mountain cannot be used?

Undercutting NRC authority continues. Section 4 of the bill eliminates the need for DOE to include in its license application any “information regarding any surface facility other than surface facilities necessary for initial operation of the repository.” Such a rewrite removes the NRC from any meaningful regulation of surface facilities, including any proposed facilities built for the interim storage of nuclear waste – an act that could essentially make the use of the repository *a fait accompli*, regardless of the outcome of the construction license. Section 4 also authorizes DOE to “undertake infrastructure activities,” on its own, without NRC approval and even *before* the NRC authorizes construction of the repository, if DOE finds the activity “necessary or appropriate.” This provision sets the stage for creating an interim storage facility at Yucca Mountain and allows DOE to commence huge transportation projects without meaningful NRC oversight.

Ignoring the years and millions of dollars spent on modeling the facility for a proscribed amount of waste, Section 4(b)(2) eliminates the 70,000 metric ton repository limit. Ostensibly, this is to (1) allow for all of the waste from the current generation of nuclear power plants (and perhaps some relatively larger but still inadequate portion of the repository for defense HLW) and (2) “postpone indefinitely the need to initiate a second repository program.” In reality, this section takes no notice of the years of modeling that have demonstrated that the proposed repository may not be able to adequately isolate 70,000 metric tons of waste, much less two or three times that amount.

The bill undercuts the application of NEPA to the site as well. Section 4(b)(2) commences with the appropriate statement that DOE must “comply with all applicable requirements under the National Environmental Policy Act of 1969 ... with respect to an infrastructure activity,” but then waives the requirement that DOE “consider the need for the action, alternative actions, or a no-action alternative.” The discussion and presentation of alternatives and options to mitigate environmental harm is the heart of the NEPA process and to waive those obligations is to do violence to the law.

Section 4(c) requires other federal agencies to adopt DOE’s EIS “to the maximum extent practicable”; which will have the effect of halting other federal entities from complying with NEPA with respect to Yucca Mountain. This runs counter to well-established federal law as NEPA’s implementing regulations encourage agencies to adopt EISs authored by sister agencies, but only if the reviewing agency finds, after an “independent review of the statement,” that the EIS in question “meets the standards for an adequate statement.” 40 C.F.R. §1506. NRDC can point to numerous examples where federal agencies have responsibly disagreed with one another over the environmental impacts of a major federal action, and it is wrong to relieve federal agencies of their NEPA obligations in order to increase the likelihood of licensing Yucca Mountain.

And finally, Section 4(c) relieves the NRC of the obligation to consider under NEPA any “action connected or otherwise relating to the repository, to the extent the action is undertaken outside the geologic repository operations area and does not require a license from the Commission.” Broadly read, such an exemption would allow NRC to avoid any NEPA review of DOE transportation projects and even facilities that may be used to transition the site toward an interim storage facility were DOE to argue such work is outside geologic repository operations areas or related to infrastructure activities that do not require NRC license.

#2) Preempting State Environmental Regulation

Under current law, the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 *et seq.*, prohibits the treatment, storage, or disposal of hazardous waste at DOE facilities (and at all other private or federal facilities) without an EPA or State permit. Certain radioactive materials are excluded from the definition of hazardous waste under RCRA, but EPA or a delegated state may regulate the hazardous constituents in the waste that contains both hazardous and radioactive constituents (*i.e.*, mixed waste). *See L.E.A.F. v. Hodel*, 586 F.Supp. 1163 (D.Tenn. 1984). This issue of mixed waste has broad and important application to DOE facilities. State regulation of mixed waste has been one of the key drivers in ensuring that the DOE cleans up the radioactive and toxic legacy of the nuclear weapons complex.

Section 6 of S. 2589 nullifies the application of hazardous waste laws at Yucca Mountain, and if the provision is read broadly, it could nullify state oversight of a great deal of mixed waste at DOE generator sites. Specifically, Section 6(a), in pertinent part, bars the application of any part of RCRA §6001(a) from “applying to any material owned by the Secretary if the material is transported or stored in a package, cask, or other container that the Commission has certified for transportation or storage of that type of material; or any material located at the Yucca Mountain site for disposal if the management and disposal of the material is subject to a license issued by the Commission.”

This is a dramatic exemption. RCRA 6001(a) states in pertinent part:

Each department, agency and instrumentality of the executive, legislative, and judicial branches of the Federal government ... engaged in any activity resulting, or which may result, *in the disposal or management of solid waste or hazardous waste shall be subject to, and comply with, all Federal, State, interstate and local requirements, both substantive and procedural* (including any requirements for permits or reporting or any provisions for injunctive relief) respecting control or abatement of solid waste or hazardous waste disposal in the same manner, and to the same extent, as any person is subject to such requirements ... *Neither the United States, nor any agent, employee, or officer thereof, shall be immune to or exempt from any process or sanction of any State or Federal Court with respect to the enforcement of any such injunctive relief.*

42 USC § 6961 (emphasis added).

Thus, under S. 2589, any waste “owned” by DOE that is “transported or stored in a package, cask, or other container that the Commission has certified for transportation or storage of that type of material” is exempt from “all Federal, State, interstate and local requirements, both substantive and procedural (including any requirements for permits or reporting or any provisions for injunctive relief) respecting control or abatement of solid waste or hazardous waste disposal.” Such an exemption could include not just waste DOE plans to send to Yucca Mountain (and thus ending Nevada’s RCRA authority over the mixed portion of the waste), but even mixed waste at DOE generator sites where DOE manages that waste in containers that the NRC has certified for storage or transportation. Properly used, DOE could game the system and obtain a complete cradle-to-grave exemption for some undefined portion of mixed waste and highly contaminated DOE sites around the country.

In short, any application of state law to DOE mixed waste could be potentially be preempted, ignoring decades of established state prerogatives to protect public health and the environment.

Section 6(b) in essence amends the Clean Air Act, 42 U.S.C. § 7401 *et seq* in a discriminatory manner, only applicable to Nevada by taking away state and local government air permitting authority. NRDC also strongly opposes that provision.

And finally, Section 7 of S.2589 would abolish state, local and tribal government transportation authority over the shipment of spent nuclear fuel by highway and rail from around the country to Yucca Mountain, and gives this authority to DOE. Specifically, this provision would eliminate any decision or appeal by non-federal (and mostly non-DOE) jurisdictions on highway transport. The provision does this in two ways. First, it puts issues that are regulated now by the Hazardous Materials Transportation Authorization Act of 1994, such as the ability of states to designate alternative highway routes, under the jurisdiction of DOE as regulated by the Atomic Energy Act. Second, it gives the Secretary of Energy the ability to ask the Secretary of Transportation to preempt any state, local or tribal requirements, for example time of day restrictions.

This provision directly contradicts the February 2006 National Academy of Sciences (NAS) report on nuclear waste transportation that advocated a central role for state and tribal governments. According to DOE, shipments to Yucca Mountain will affect 45 states, 700 counties, and 50 Native American tribes. As many as 120 million people live in the counties that would be crossed by rail and truck routes and between 8 million and 11 million people live within half a mile of a potential truck or rail route to the site. The NAS study concluded that a successful transportation program requires the active involvement of other federal agencies, including the NRC, the Department of Homeland Security, and the Department of Transportation, “in strict adherence to regulations.” The NAS found that states and tribal governments must also play a central role in any waste transportation program. In particular, the report found that “state- and tribal-supplied information on local transport conditions is an essential element in route selection

decisions.” Relieving states, tribes and local government’s of their transportation authority is unwise and will further diminish public acceptance of the project.

#3) Codifying the Potential Fiction of the Waste Confidence Rule

The issue of whether or not the availability of permanent geologic disposal should factor into the NRC licensing of commercial nuclear power plants has been with us for decades. As I explain below, a compromise on how the issue would be addressed in a scientific and publicly acceptable manner was reached over twenty years ago. Section 9 of S. 2589 would undo that compromise and seeks to codify what very well may be a fiction. This is an inappropriate exercise of legislative power over a matter that should be left up to the licensing body, the NRC, and the continued advancement of science as we learn more about how to dispose of nuclear waste in a manner that does not leave the risk to future generations.

In June of 1977, the NRC denied NRDC’s petition for (1) a rulemaking proceeding to determine whether high-level radioactive wastes generated in nuclear power reactors can be permanently disposed of without undue risk to public health and safety; and (2) withholding of action on pending and future applications for operating licenses for nuclear power reactors until such time as an affirmative determination has been made. We then petitioned the United States Court of Appeals for the Second Circuit to review the NRC decision. The 2nd Circuit found in part:

it is neither necessary nor reasonable for the Commission to insist on proof that a means of permanent waste disposal is on hand at the time reactor operation begins, so long as the Commission can be reasonably confident that permanent disposal (as distinguished from continued storage under surveillance) can be accomplished safely when it is likely to become necessary. Reasonable progress towards the development of permanent disposal facilities is presently being accomplished. Under these circumstances a halt in licensing of nuclear power plants is not required to protect public health and safety.

582 F.2d 166, 169 (2nd Cir. 1978). And so it was in 1978.

In a parallel action only one year later, the State of Minnesota challenged an NRC decision granting two operators of nuclear plants amendments to licenses to expand on-site spent fuel storage without first determining whether the federal government could permanently dispose of the nuclear waste. The United States Court of Appeals for the D.C. Circuit held that NRC could properly consider the complex issue of nuclear waste disposal in generic proceeding such as a rulemaking and then apply its determinations in subsequent adjudicatory proceedings, noting the NRC’s “reasonable assurance” a permanent solution would be found. *Minnesota v. NRC*, 602 F.2d 412, 416 (D.C. Cir. 1979). However, the D.C. Circuit remanded the matter before the particular parties to the NRC for further proceedings to determine whether those reasonable assurances existed. *Id.* at 419.

These cases gave rise to the NRC's "waste confidence" rulemaking. In 1984, after varying rounds of development, the NRC made the five following findings that constituted the waste confidence rule:

(1) *The Commission finds reasonable assurance that safe disposal of high level radioactive waste and spent fuel in a mined geologic repository is technically feasible.*

(2) The Commission finds reasonable assurance that one or more *mined geologic repositories* for commercial high-level radioactive waste and spent fuel will be available *by the years 2007-09*, and that sufficient repository capacity will be available within 30 years beyond expiration of any reactor operating license to dispose of existing commercial high level radioactive waste and spent fuel originating in such reactor and generated up to that time.

(3) The Commission finds reasonable assurance that high-level radioactive waste and spent fuel will be managed in a safe manner until sufficient repository capacity is available to assure the safe disposal of all high-level radioactive waste and spent fuel.

(4) The Commission finds reasonable assurance that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the expiration of that reactor's operating licenses at that reactor's spent fuel storage basin, or at either onsite or offsite independent spent fuel storage installations.

(5) The Commission finds reasonable assurance that safe independent onsite or offset spent fuel storage will be made available if such storage capacity is needed.

49 Fed. Reg. 34659 (Aug. 31, 1984) (emphasis added). The NRC last revised the waste confidence rule in 1990, when it amended the second and fourth findings as follows:

Finding 2: The Commission finds reasonable assurance that at least one mined geologic repository will be available *within the first quarter of the twenty-first century*, and that sufficient repository capacity will be available within 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of any reactor to dispose of the commercial high-level radioactive waste and spent fuel originating in such reactor and generated up to that time.

Finding 4: The Commission finds reasonable assurance that, if

necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin, or at either onsite or offsite independent spent fuel storage installations.

55 Fed. Reg. 38474 (Sept. 18, 1990) (emphasis added).

It is now 2006 and the Yucca Mountain process has been fraught with problems – among them massive cost overruns, a finding of moderate to weak technical support from the Nuclear Waste Technical Review Board, falsification of quality assurance data, and continuing litigation over weakening the applicable human health and environmental standards. Section 9 of S. 2589, would require the NRC “deem, without further consideration, that sufficient capacity will be available in a timely manner to dispose of spent nuclear fuel and high-level radioactive waste resulting from the operation of the reactor and related facilities.”

Such a provision would stand the NRC’s waste confidence rule on its head and run counter to the D.C. Circuit’s careful designation of where scientific expertise should reside. Discussing the 2nd Circuit opinion in *NRDC v. NRC*, the D.C. Circuit noted:

We do not read that opinion, however, to hold as a matter of law that storage and disposal concerns are never relevant to the licensing of nuclear plants. Rather, as the NRC itself recognized, Congress has chosen to rely on the NRC's (and its predecessor's) assurances of confidence that a solution will be reached. *There is no implication that Congress intended that the NRC ignore new knowledge or analysis in its licensing decisions.* As the Supreme Court implicitly recognized by remanding for a review of the sufficiency of the S-3 evidence in *Vermont Yankee*, this court does not exceed its judicial province by inquiring into the basis of those assurances of confidence. As Commission counsel rightly notes, *it is for the Commission to decide the ultimate question of certainty implicit in health and safety judgments and to resolve technical disagreements*, but that is not to say that these matters are totally immune from judicial review.

602 F.2d at 419 (emphasis added and citations omitted).

Congress should not be deciding issues of ultimate certainty in health and safety judgments, nor should it be resolving technical disagreements with the stroke of a pen. To allow the waste confidence rule to be thus legislated into permanent existence does away with any concerns about relative amounts of nuclear waste that can be produced and disposed of, and all the concomitant matters that must be resolved. Without hearing, scientific debate, or any meaningful inquiry into a problem that will last for tens of

thousands of years, this bill proposes to codify that an adequate geologic repository to isolate nuclear waste is a certainty. If the technical and legal disputes of the last twenty years have taught us anything, it is that very little to do with Yucca Mountain is a certainty. To enact Section 9's waste confidence presumption would only serve to further validate the widely held view that federal efforts on the Yucca Mountain project have been about making sure the site is licensed, regardless of its scientific or technical merits.

Conclusion

The legislative history of the NWPA of 1982 includes the following admonition:

The Committee strongly recommends that the focus of the Federal waste management program remain, as it is today, on the development of facilities for disposal of high-level nuclear waste which do not rely on human monitoring and maintenance to keep the waste from entering the biosphere.

This wise legislative direction has been ignored over the past several years. A central problem with the process for developing a geologic repository, and especially Yucca Mountain, has been that the site conditions have driven the standard. We observed this years ago when EPA abandoned its collective dose standard when it appeared that Yucca Mountain could not meet it. We observed this in 2001 when DOE placed all its hopes on engineered barriers rather than the geology of the site. We observed this again in 2001 when EPA limited the period of compliance to 10,000 years and gerrymandered the area of site compliance to allow for a massive (and diluting) spread of radioactive contaminants, and we're observing the same dynamic now with S. 2589. It is essential that this not continue.

The bill before this Committee is just another symptom of what has been going wrong with the program for nearly two decades. From a technical stand point, the current analysis appears to show: a) well designed canisters may be able to safely sequester the waste for several hundred or a few thousand years, but not nearly the length of time the waste will be dangerous; b) there is not a great deal of water flowing through Yucca Mountain; but c) the repository leaks like a sieve. Ultimately, it is apparent that the proposed repository will not keep nuclear waste out of the biosphere.

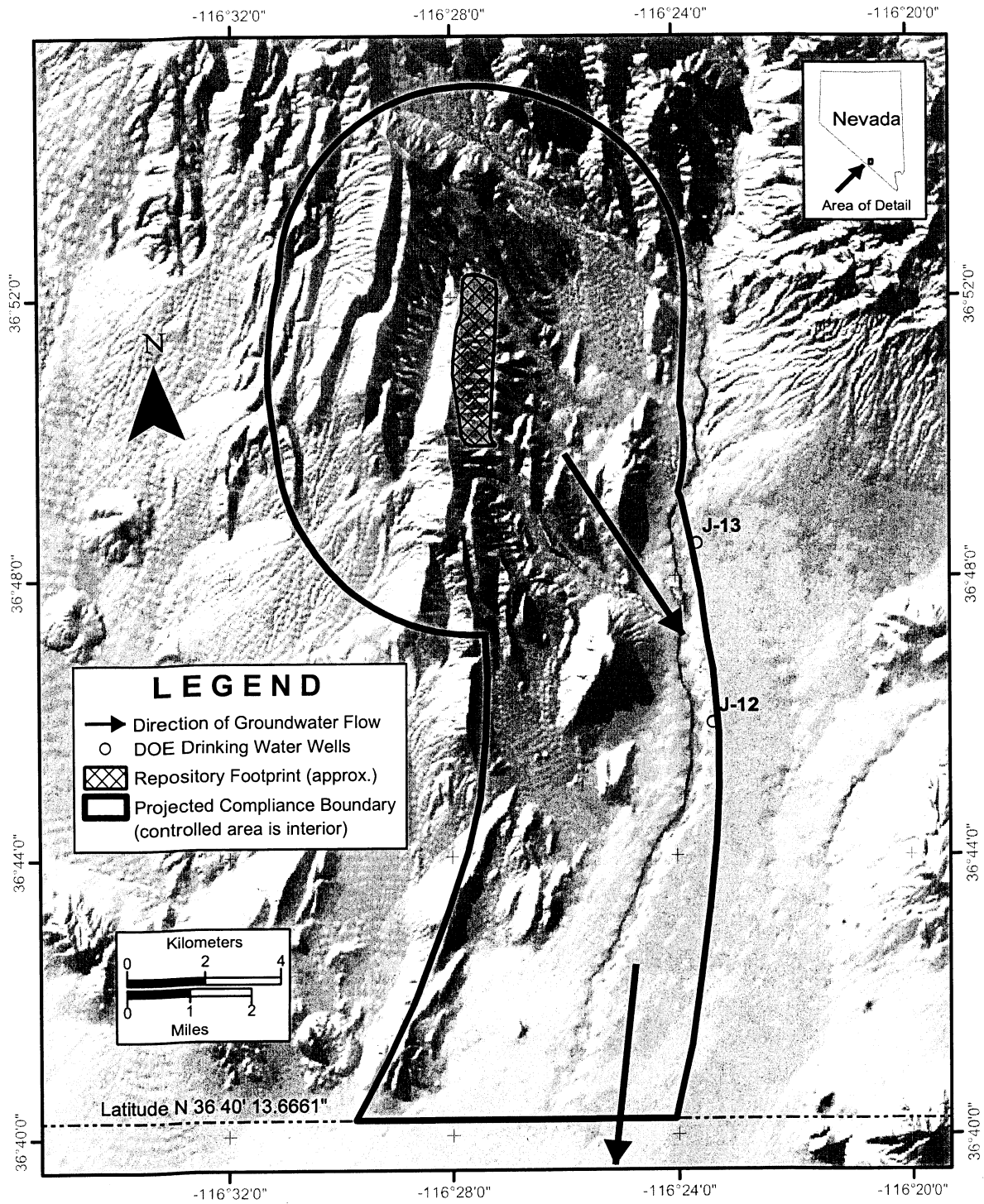
If we are ever to have a robust repository program that both follows the original intent of the NWPA and gains the trust of the American public, then the federal government, in both its executive and legislative incarnations, must cease efforts to weaken meaningful and protective health and environmental standards applicable to the program.

Thank you for allowing me to testify and I look forward to your questions.

Appendix A

Projected Groundwater Standards Compliance Boundary for Spread of Radioactive Contamination at the Yucca Mountain Project

Measurement of Radioactive Contamination Takes Place Outside of Controlled Area



NRDC produced this visual representation from the following information:

"The controlled area may extend no more than 5 km in any direction from the repository footprint, except in the direction of groundwater flow. In the direction of groundwater flow, the controlled area may extend no farther south than latitude 36°40' 13.6661" North ... [T]he size of the controlled area may not exceed 300 square km." 66 Fed Reg. at 32117 (June 13, 2001). The direction of groundwater flow is from FEIS (February 2002) at 5-21, Figure 5-3. The repository footprint is from the Yucca Mountain Science and Engineering Report, DOE/RW-0539, at 1-17, Figure 1-3, and the area is approximately 4.27 square km. The area within the projected compliance boundary, as shown in this map, is about 230 square km. The relief image was created from a 1 arc-second Digital Elevation Model from the USGS National Elevation Dataset, April 2002. This map is based on a Nevada State Plane Central projection, North American Datum 1927.