



April 20, 2007

NRDC's Nuclear Program Response to the Recommendations of the National Commission on Energy Policy

On April 19, 2007 the Natural Resources Defense Council (NRDC) responded to the most recent report of the National Commission on Energy Policy (NCEP). On the whole, NRDC has mixed views about the Commission's other recommendations. But NRDC has a negative review of a number of NCEP's recommendations with respect to advancing commercial nuclear power.

Specifically, NCEP's recommendations would put the public's health and safety at risk by suggesting that Congress undermine existing standards for disposal of highly toxic nuclear waste. Moreover, although NCEP condemns as ill-conceived the administration's rapid effort to ramp up the construction of commercial-size facilities to use plutonium in power plants, in this very same document NCEP unwisely encourages research into the use of these and other plutonium technologies. Fostering such energy options will make plutonium more readily available than it otherwise would be for diversion to destructive purposes by interests and states hostile to the U.S., increasing national security risks.

NRDC Comments to Specific NCEP Nuclear Recommendations

NCEP recommendation:

Take action to address the current impasse on nuclear waste disposal, while reaffirming the ultimate objective of siting and developing one or more secure geologic disposal facilities, by amending the Nuclear Waste Policy Act (NWPA) to:

- **Align its requirements with human engineering and scientific capabilities, while adequately protecting public health and safety and the environment.**

NRDC Comment:

NRDC is unclear on what this vague language is supposed to mean. 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.

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.

Setting protective radiation standards for the proposed repository 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).

NCEP would have done well to have recognized the egregious corruption of the selection and licensing process and sought reform in our government institutions rather than looking for relief by changing the NWPA.

NCEP recommendation:

- Require DOE to site and operate consolidated national or regional interim storage options.

NRDC Comment:

This recommendation is unwise and unnecessary. Nothing currently bars DOE from taking title to the spent nuclear fuel stored at the more than forty NRC licensed “Independent Spent Fuel Storage Installations” (ISFSI) already in existence at reactor sites around the country.

Essentially, spent nuclear fuel sits at reactors because the federal government placed all its eggs in the Yucca Mountain basket years ago. Most reactor operators fill their onsite spent fuel pools and remove excess spent fuel into casks stored outdoors on concrete pads. Rather than suggest something relatively inexpensive such as requiring operators to transfer the spent fuel as soon as radiologically feasible into dry casks that are protected by covered and graded embankments, NCEP subscribes to an industry-promulgated solution of “off-site” interim storage facilities. Such a prescription would result in having to ship the nation’s commercial nuclear waste around the country not once, but at least twice (from the reactor site to the “regional” site, and then to a final disposal site). Moreover, a regional interim storage site would do away with any real impetus to site and develop a strong, protective repository program.

NCEP recommendation (in the Summary of Recommendations):

- Undertake R&D to explore technological alternatives to the direct geologic disposal of waste from a once-through cycle that meet commercial requirements and non-proliferation objectives, reduce the challenge of waste disposal, ensure adequate protection of public health and safety, and extend fuel supply.

But as explained in more detail in the body of the report:

Undertaking R&D investments to explore technological alternatives to the direct geologic disposal of waste from a once-through cycle that meet commercial requirements and non-proliferation objectives, reduce the challenge of waste disposal (by reducing heat load and/or transmuting long-lived radionuclides), ensure adequate protection of public health and safety, and extend fuel supply. [The text of the NCEP Recommendation contains an associated footnote. The NCEP footnote reads: “[t]he recommended pursuit of R&D should not be interpreted as a change in NCEP policy with regard to the “long-standing U.S.

moratoria on commercial reprocessing of spent nuclear fuel and construction of commercial breeder reactors.”]

NRDC comment:

This recommendation, qualified in the body of the report, amounts to an endorsement of the Research & Development (R&D) of the Administration’s Global Nuclear Energy Partnership (GNEP) program. GNEP is an ill-conceived, unworkable vision that is doomed to failure, but whose R&D phase will making plutonium more readily available than it otherwise would be and will also train cadres of experts in non-weapon states in actinide chemistry and plutonium metallurgy, thereby increasing the national security risk to the United States and other countries. We urge the interested reader to see our assessment of GNEP, found on the web at <http://www.nrdc.org/nuclear/gnep/agnep.asp>.

NCEP recommendation:

- Codify that interim storage and federal responsibility for disposal of nuclear waste is sufficient to satisfy the Nuclear Regulatory Commission’s waste confidence requirement. [The text of the NCEP Recommendation contains an associated footnote. The NCEP footnote reads: Pursuant to 10 CFR 51.23. Generic NRC determination of 6 December 1999: 64 Fed.Reg. 68005.”].

NRDC Comment:

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, and is the matter NCEP addresses above with the phrase, “waste confidence requirement.” A compromise on how the “waste confidence” issue would be addressed in a scientific and publicly acceptable manner was reached over twenty years ago. The NCEP proposal would undo that compromise and seeks to codify what very well may be a fiction.

Under existing law, in order to continue to approve the construction and operation of new nuclear plants, the Nuclear Regulatory Commissioners must certify that there is a reasonable likelihood that there will be a licensed geologic disposal facility for the disposal of spent fuel. This is called the “waste confidence requirement,” which was last revised by the NRC in 1990, when it stated: “[T]he 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.”

It is now 2007 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. Now that the NRC's confidence in the availability of a geologic repository may be in doubt, the project is facing the possibility that the Commissioners will not continue to certify that there will (someday) be a licensed repository. Thus, unfortunately, NCEP proposes to solve yet another nuclear waste problem by relaxing (or doing away with) existing requirements rather than meeting those requirements.

NCEP Recommendation:

- **Require the Secretary of Energy to take possession of and/or remove fuel from reactor sites that have been, or are in the process of being fully decommissioned.**

NRDC Comment:

In contrast to the other recommendations, we have no objection to this proposal. We simply note that nuclear power has fundamental problems related to economics, proliferation of nuclear weapons, reactor safety, waste disposal, and the environmental impacts of uranium mining, milling and enrichment. In each case, the problems of the nuclear industry have been foisted on the Federal Government (and by extension the taxpayer) to solve—tasks that the Government has demonstrates it is ill-equipped to manage. This is but another example of the public having to assume responsibility for the end result of the nuclear process.