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NWSC

Nuclear Waste Strategy Coalition

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U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C.

IN THE MATTER OF)

IMPLEMENTATION OF A DOSE STANDARD)
AFTER 10,000 YEARS.)

RIN 3150-AH68

(9)

REPLY TO COMMENTS OF THE NUCLEAR WASTE STRATEGY COALITION

ABOUT THE NWSC

The Nuclear Waste Strategy Coalition (NWSC) is an ad hoc group of state utility regulators, state attorneys general, electric utilities and associate members representing 46 member organizations in 26 states. The NWSC was formed in 1993 out of frustration at the lack of progress the Department of Energy (DOE) had made in developing a permanent repository for spent nuclear fuel and high-level radioactive waste, as well as Congress's failure to sufficiently fund the nuclear waste disposal program (Program). The mission and purpose of the NWSC is to seek on behalf of the ratepayers of the United States:

- 1) The removal of commercial spent nuclear fuel from temporary dry cask storage facilities scattered across the nation.
- 2) The authorization of a temporary, centralized commercial spent nuclear fuel storage facility.
- 3) The reclassification of the annual funds paid by the nation's ratepayers into the Nuclear Waste Fund (NWF) as offsetting collections so that the DOE fulfills its statutory and contractual obligations.
- 4) The augmentation of transportation planning and regulations to facilitate transportation systems.
- 5) The capping of the NWF payments at the present one-tenth of a cent per kilowatt-hour by the U.S. Congress.
- 6) The operation of the permanent repository as soon as feasibly possible.

DISCUSSION

Yucca Mountain (YM) is probably the most scientifically studied piece of real estate in history. The DOE's efforts to evaluate other sites over the years and the process leading to a decision supporting YM, as the desired site has been painstaking. Nine sites in six states were studied as potential repository sites: Vacherie Dome, LA; Cypress Creek Dome, MS; Richton Dome, MS; Yucca Mountain, NV; Deaf Smith County, TX; Swisher County, TX; Davis Canyon, UT; Lavender Canyon, UT; and the Hanford Site, WA. In 1986, DOE chose five sites for further study. Yucca Mountain was named as the first choice. In 1987, Congress amended the Nuclear

Template = SECY-067

SECY-02

NWSC Reply Comments to the NRC
Page Two - December 7, 2005

Waste Policy Act of 1982 (NWSA) and directed the DOE to focus on Yucca Mountain. In the Energy Policy Act of 1992 (EPAA), Congress reinforced its intent that YM remain the exclusive focus of the nation's repository program. This Act also directed the U.S. Environmental Protection Agency (EPA) to issue new public health and safety standards for the protection of the public from releases of radioactive materials stored or disposed of in a repository at the YM site. The Nuclear Regulatory Commission (NRC) was directed to modify its technical requirements to be consistent with the EPA's new standard and the National Academy of Sciences (NAS) findings and recommendations. The EPA issued radiation standards in 2001 to protect the public health from hazardous material for 10,000 years.

Responding to legal challenges by the State of Nevada, environmental and public groups, the U.S. Court of Appeals for the D.C. Circuit, ruled that the EPA's original standard did not conform to those recommendations made by the NAS as Congress mandated in the EPAA. In July 2004, the Court upheld most of the challenges to the EPA's Part 197 rules, but the Court found that the 10,000-year compliance period selected by the EPA violated Section 801 of the EPAA, because it was not "based upon and consistent with" the 1995 recommendations made by the NAS in its report, *Technical Bases for Yucca Mountain Standards*. The NAS recommended that compliance with the standard be measured at the peak risk, "within the limits imposed by the long-term stability of the geologic environment, which is on the order of one million years." The Academy also noted, calculations for YM show that "peak risks might occur tens-to-hundreds-of-thousands of years or even farther into the future." Consequently, on August 9, 2005, the EPA proposed a draft rule, 40 CFR Part 197, to amend its public health and environmental radiation protection standard for YM, Nevada, extending protection to one million-years for the permanent repository at YM. Under the new one million years standard people living close to the facility would not receive total radiation higher than natural levels people live with routinely in other areas of the country.

For the first 10,000 years, the proposed standard:

- Retain the original 15 millirem of radiation exposure per year individual protection standard.
- Ensure that people living near YM are protected to the same level as those living near the Waste Isolation Pilot Project, New Mexico, currently the only facility that stores materials that are toxic forever.
- Retains the 4-millirem ground water protection standard to be consistent with the Agency's national policy.

From 10,000 years up to one million years, the proposed standard:

- Set the individual protection standard at a dose limit of 350 millirems per year.
- Limit the maximum radiation from the permanent facility so that people living close to YM for a lifetime during the one million year time frame will not receive total radiation any higher than natural levels people currently receive in other areas of the country.

The revision of the EPA radiation standard for the permanent repository requires the DOE to conduct analyses covering one million years to assess the potential effects of natural processes or disruptive events that could affect the YM operations. Some of these include:

- Earthquake that could affect the facility tunnels and breakdown of the waste containers.
- Volcanic activity that could affect the waste containers directly or cause releases of radionuclides to the environment.

NWSC Reply Comments to the NRC
Page Three - December 7, 2005

- Climate change that could cause increased water flow through the facility.
- Corrosion process that could cause breakdown of the waste containers.

IMPACT OF FURTHER DELAY

Based on a site-suitability criteria specific to YM, in a final environmental impact statement, the Secretary of Energy concluded that the YM facility is, "likely to meet application radiation protection standards." Based on these findings, the Secretary recommended the Yucca Mountain site to the President for the development of the nation's deep geological repository. On February 15, 2002, President Bush made a recommendation to the U.S. Congress to develop the Yucca Mountain site as the nation's geologic repository for high-level radioactive waste and spent nuclear fuel. In July 2002, Congress overwhelmingly passed a joint Resolution that overrode the State of Nevada's objections and approved the YM site.

The YM permanent repository has successfully met numerous challenges in the Courts by the State of Nevada and environmental groups to delay the Program. These delays are annually costing the nation's ratepayers tens of millions of dollars in their electric bill. Since 1983, the nation's electric consumers have paid more than \$25 billion, including interest, into the NWF, that now contains an unused balance of more than \$17 billion for the DOE to license, construct, operate and monitor a repository for spent nuclear fuel and high-level nuclear waste from commercial nuclear power plants across the nation. The nation's ratepayers pay annually \$750 million into the NWF and only a portion of the annual funding is allocated to the Program. A DOE contractor has estimated that continued delays would escalate costs by approximately \$1 billion per year for the civilian and defense nuclear waste disposal programs. Consequently, the prompt establishment of a reasonable and safe radiation protection standard is extremely important to members of the NWSC.

CONCLUSION

As the EPA stated in its July proposed ruling, it is difficult to accurately predict what conditions will be like beyond 10,000 years. The geologic structure of YM, as the DOE studies have shown, provides more than adequate protection for storage of spent nuclear fuel and high-level radioactive waste. We believe more than 20 years of in-depth scientific research has covered every facet of Yucca Mountain, from hydrology to geology to seismology. The one million-year EPA proposed rule is unprecedented since other hazardous disposal facilities such as the Waste Isolation Pilot Project and other sites, are regulated to a 10,000-year radiation standard.

The NWSC believes the revised EPA radiation standard has adequately met the Court's ruling and protects the public health and safety. Therefore, we encourage the Nuclear Regulatory Commission to expeditiously amend its rule to 10 CFR Part 63 to coincide with the EPA's proposed radiation standard for doses that could occur after the 10,000 years but within the period of geologic stability.

Respectfully submitted,



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December 7, 2005