



NUCLEAR ENERGY INSTITUTE

**Robert Willis Bishop**  
VICE PRESIDENT &  
GENERAL COUNSEL

July 20, 1999

The Honorable Jacob J. Lew  
Director, Office of Management and Budget  
Old Executive Office Building  
17<sup>th</sup> Street and Pennsylvania Avenue  
Washington, DC 20503

**SUBJECT: Proposed Environmental Protection Agency (EPA) rulemaking relating to the disposal of High-Level Radioactive Wastes in a geologic repository at Yucca Mountain, Nevada (40 CFR Part 197)**

The Nuclear Energy Institute (NEI),\* on behalf of the nuclear energy industry, has been following closely, for many years, the federal government's efforts to promulgate technical standards for the protection of public health and safety from potential radioactive releases for the proposed high level nuclear waste repository at Yucca Mountain, Nevada. Such a standard must also be in accord with the nation's policy, clearly articulated in the Nuclear Waste Policy Act, that a geologic repository must be established to dispose of the nations high level waste.

The Energy Policy Act of 1992 required EPA to establish a specific radiation protection standard for Yucca Mountain within one year of receiving the recommendations of the National Academy of Sciences (NAS). The NAS published its recommendations in 1995 in a report entitled "Technical Bases for Yucca Mountain Standards."

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\* NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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We understand that the long-overdue EPA standard (40 CFR Part 197) has been forwarded to your office for review and welcome this as a needed step forward in the process of establishing a nuclear waste disposal facility as mandated by the Nuclear Waste Policy Act of 1982. However, based upon the testimony of EPA's Assistant Administrator for Air and Radiation, Mr. Robert Perciasepe before the House Subcommittee on Energy and Power, February 10, 1999, we also understand that the EPA, in developing this standard, has been considering not only setting limits for the protection of public from radiation exposure but also including a separate limit for protection of groundwater.

NEI encourages the EPA to establish a radiation standard. However, if the standard received by your office contains separate groundwater limits, we strongly urge that you not allow this rulemaking to proceed. If promulgated, such a standard would be contrary to governing law. EPA's consideration of groundwater limits also represent poor public policy because it could be potentially counterproductive to the overall goal of protecting public health and safety at Yucca Mountain. The bases for these conclusions are explained in the following paragraphs:

**A groundwater protection standard conflicts with governing law**

Section 801 of the Energy Policy Act requires that the EPA establish "public health and safety standards," which are "based upon and consistent with the findings and recommendations of the National Academy of Sciences (NAS)". Such standards shall "prescribe the maximum annual effective dose equivalent to members of the public." If EPA were to promulgate a separate groundwater standard, it would violate this statutory mandate.

A separate standard for groundwater would be contrary to and inconsistent with the findings and recommendations of the NAS. As required by the Energy Policy Act, the 1995 NAS report specifically addresses the topic of groundwater protection. In discussing the provisions of EPA's standard for the Waste Isolation Pilot Plant (40 CFR Part 191), the NAS notes that the EPA had included "a provision to protect groundwater contamination with radioactive materials that is separate from the 40 CFR 191 individual-dose limits." The NAS then continues,

"These provisions have been added to 40 CFR 191 to bring it into conformity with the Safe Drinking Water Act, and have the goal of protecting groundwater as a resource. We make no such recommendation, and have based our recommendations on those requirements necessary to limit risks to individuals."

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If the EPA standard contains a separate groundwater protection requirement, it is incumbent upon OMB to act immediately to set this rulemaking back on its proper course, consistent with the Energy Policy Act and corresponding NAS recommendations. For EPA to promulgate a groundwater standard would constitute agency action which is arbitrary, capricious and contrary to law.

A groundwater protection standard is potentially counterproductive

A specific groundwater protection standard would constitute a significant subsystem requirement that could result in the following adverse consequences:

- A situation where efforts to demonstrate compliance with a groundwater standard would be unsuccessful even though the results of the Total System Performance Assessment demonstrates that public health and safety is adequately protected. In this case the nation would be needlessly denied an opportunity to responsibly dispose of nuclear waste at a geologic repository site that is completely acceptable from the perspective of adequate protection of public health and safety.
- A situation where efforts to demonstrate compliance with a groundwater standard would be successful only after significant additional design work above and beyond that necessary to protect public health and safety. In this case the nation would be forced to bear a greater cost for nuclear waste disposal than is actually warranted.
- A situation where efforts to demonstrate compliance with a groundwater standard could result in a sub-optimal repository design. The groundwater beneath Yucca Mountain is one of a number of features contributing to the proposed repository's performance. The manner in which these features work together to protect public health and safety is best evaluated by a scientific method known as "Total System Performance Assessment." An inordinate amount of focus on a single feature of the system, or subsystem, would compromise this approach. The NAS explicitly recognized this in its 1995 report in stating:

"We conclude that because it is the performance of the total system in light of the risk based standard that is crucial, imposing subsystem performance requirements might result in suboptimal repository design."

In this case, by attempting to design a repository to meet a groundwater standard, the nation could construct a repository that is actually less protective of public health and safety.

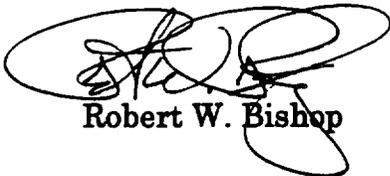
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**A groundwater protection standard is also not necessary to protect public health and safety**

An "all pathways" radiation protection standard (such as that currently proposed by the Nuclear Regulatory Commission (NRC) in 10 CFR Part 63) will adequately assure groundwater protection. It would not be possible for any analysis calculating radiation doses to the public to arrive at an acceptable result if the radiation doses from the most significant exposure pathway -- groundwater -- were not acceptable.

We welcome an opportunity to discuss our concerns with you. We would also encourage the inclusion of representatives of the EPA, NRC, and Department of Energy (DOE) in such discussions. Please contact me at (202) 739-8139 if you have any questions in the interim.

Sincerely,



Robert W. Bishop

- CC: The Honorable Greta Dicus, Chairman, NRC  
The Honorable Nils Diaz, Commissioner, NRC  
The Honorable Edward McGaffigan Jr., Commissioner, NRC  
The Honorable Jeffrey Merrifield, Commissioner, NRC  
Dr. William Travers, Executive Director for Operations, NRC  
Dr. Frank J. Miraglia, Jr., Deputy Executive Director for Operations, NRC  
Dr. Carl Papariello, Director, NMSS, NRC  
Mr. John Greeves, Division Director, Waste Management, NRC
- The Honorable Carol Browner, Administrator, EPA  
The Honorable Robert Perciasepe, Asst. Administrator for Air and Radiation, EPA
- The Honorable T.J. Glauthier, Deputy Secretary of Energy, DOE  
The Honorable Mary Ann Sullivan, General Counsel, DOE  
The Honorable David Michaels, Asst. Secretary for Environment Safety and Health, DOE  
Mr. Lake Barrett, Acting Director OCRWM, DOE
- The Honorable Neal F. Lane, Assistant to the President for Science and Technology, OSTP