



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 31, 1996

Dr. Paul W. Pomeroy, Chairman
Advisory Committee on Nuclear Waste
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: RESPONSE TO ADVISORY COMMITTEE ON NUCLEAR WASTE LETTER DATED
NOVEMBER 14, 1996, WHICH PROVIDED A "ROAD MAP" TO THE COMMITTEE'S
RECOMMENDATION FOR A REGULATORY COMPLIANCE TIME SPAN FOR THE
PROPOSED YUCCA MOUNTAIN, NEVADA, HIGH-LEVEL WASTE REPOSITORY

Dear Dr. Pomeroy:

I am responding to the November 14, 1996, letter from the Advisory Committee on Nuclear Waste (the Committee) to the Chairman. In that letter, the Committee provided a "Road Map" to its recommendation for the regulatory compliance time span for the proposed Yucca Mountain, Nevada, high-level waste (HLW) repository. This was a recommendation previously provided in the Committee's June 7, 1996, letter to the Chairman.

In my response to the June 7, 1996, letter, I noted that there appeared to be general staff/Committee agreement on the principles and considerations for setting a time frame for regulatory compliance for a geologic repository. The staff currently supports a tiered approach similar to what has been recommended by the Committee. Your "Road Map" prescribes an approach for determining an appropriate regulatory compliance period in the context of a performance assessment calculation. Although the approach makes use of the scientific and technical understanding of the site and provides useful input to the determination of a compliance period, it does not address policy issues associated with setting a compliance period. The staff will need to consider the scientific and technical considerations as well as the policy implications. For example, the staff will need to consider the implementability of very long compliance periods (i.e., greater than 10,000 years) and what is appropriate for a demonstration of reasonable assurance of compliance.

The staff will consider the Committee's approach. However, the staff is concerned that the Committee's approach places too much emphasis on quantification of the exact time of release and transport of radionuclides to the critical group. The staff believes a tiered approach, using a regulatory compliance time of 10,000 years and an evaluation of peak dose to inform the regulator, is more appropriate. In this approach, regulatory compliance of the repository system is evaluated over the initial 10,000 years and a stylized calculation to the time of peak dose is performed to provide additional information to the regulator. The staff considers a regulatory compliance time of 10,000 years to be adequate for evaluating repository performance in the context of a tiered approach which also evaluates peak dose. Additionally, when the Commission's stated policy on defense-in-depth and multiple barriers is considered, the definition of time frame of compliance involves significant programmatic issues such as the contribution

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As an update on staff activities related to time frame of regulatory compliance in the HLW area, you are aware that the Nuclear Regulatory Commission's HLW Program is currently under review by the Commission as part of the Strategic Assessment and Rebaselining Initiative. This initiative recognizes the current uncertainty in the HLW program, which includes possible legislation by Congress and budget reductions. Thus, staff actions related to implementing a site-specific standard for Yucca Mountain, including any deliberations regarding time frame of regulatory compliance, are being held in abeyance pending more definitive direction in the HLW Program. The staff will keep the Committee fully informed in the HLW program through the periodic updates provided by the Director of the Division of Waste Management, and other issue-specific briefings, as necessary.

Sincerely,

**Original signed by
James M. Taylor**

James M. Taylor
Executive Director
for Operations

cc: The Chairman, Commissioner Rogers, Commissioner Dicus
Commissioner Diaz, Commissioner McGaffigan, SECY

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James M. Taylor
 Executive Director
 for Operations

cc: Chairman Jackson
 Commissioner Rogers
 Commissioner Dicus
 Commissioner Diaz
 Commissioner McGaffigan

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P. Pomeroy

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P. Pomeroy

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