



OFFICE OF THE GOVERNOR  
AGENCY FOR NUCLEAR PROJECTS

1761 E. College Parkway, Suite 118

Carson City, Nevada 89706

Telephone: (775) 687-3744 • Fax: (775) 687-5277

E-mail: [nwpo@nuc.state.nv.us](mailto:nwpo@nuc.state.nv.us)

April 14, 2005

Mr. Steve Specker, President  
Electric Power Research Institute  
3412 Hillview Avenue  
Palo Alto CA 94304

**Subject:** *Yucca Mountain Licensing Options for Very Long Time Frames: Technical Bases for the Standard and Compliance Assessments*, EPRI, Palo Alto, 2005.

Dear Mr. Specker:

In your Report proposing a new Yucca Mountain safety standard to replace the Environmental Protection Agency's (EPA) standard struck down by the Court of Appeals last July, you ask for comments from interested parties. Nevada is certainly interested in your Report and its recommendation for a new EPA rule. We have submitted our own proposal to EPA, which I have attached.

At the outset, we note the apparent conflict of interest in having a group like Monitor Scientific, the principal author of the Electric Power Research Institute (EPRI) Report, working for both EPRI and the EPA at the same time on the development of the new radiation standard for Yucca Mountain. (See [www.monitorsci.com](http://www.monitorsci.com)). At a minimum, this creates the appearance that the EPRI Report is simply the industry's stalking horse for EPA's new rule. And with Monitor already in the EPA tent, there is little hope for Nevadans or any member of the public to expect an unbiased new rule. Monitor's web site also boasts of assisting EPA in development of the original EPA rule establishing a 15 millirem/yr standard for Yucca, a standard EPRI and Monitor now propose watering down substantially.

Aside from that compromising conflict, the fundamental problem with your Report is that there is a complete disconnect between the body of it and the recommended

new EPA rule. The Report purports to present a standard that meets the Court of Appeals' July 2004 ruling, but actually does nothing of the sort. Your Report assumes that so long as the standard extends beyond 10,000 years it will conform to the Court's requirements. That is a simplistic reading of the Court's opinion, one that smacks of engineers out of their depth on legal issues.

Having skipped over such obvious issues like why the 15 millirem standard cannot simply be extended out to the time of the peak dose expected from the repository, your technical authors engage in an elaborate discussion on how to treat future climates states, which seems to be what they really want to talk about. Without getting into the validity of the Report's technical conclusions on treatment of climate models, it is evident that they are irrelevant to the Report's conclusion, which simply urges adoption of a 100 millirem/yr standard after 10,000 years as the new rule. No amount of technical discussion can overcome this gap in reasoning.

The Court made clear, following the 1995 recommendations of the National Academy of Science, that the 10,000-year point had no significance in the establishment of a standard. The Court dealt specifically with the issue of terminating the standard at 10,000 years and rejected that arbitrary cutoff. But the same reasoning applies to using that date as a breakpoint for weakening the standard. When the Academy spoke of extending the standard to the time of peak dose it didn't mean extending some weaker standard to that time. It meant extending *the* standard to the peak. That is what Nevada has proposed to EPA. An attempt by EPA to adopt the sort of standard you recommend would not survive legal challenge.

Moreover, the long time scales in your Report for when the peak dose occurs assume the most optimistic estimates for how long waste packages will last. With more realistic assumptions – here I refer you to the discussions of the Nuclear Waste Technical Review Board – the peak would come much earlier, possibly within thousands of years. The essential point in the Court's July 2004 ruling is that Yucca Mountain licensing must consider the situation *after* packages fail and therefore must consider the ability of the mountain to contain the waste in that event. That is what the Department of Energy (DOE) has been resisting all these years because the Department knows the site could then not qualify.

When we set aside the irrelevant technical discussion in your Report, it becomes clear how you selected a proposed long-term radiation dose standard. Your Figure 3-3 graphs average radiation doses at the measurement point in the environment. The curve that represents your estimate for the worst case – one in which the waste packages and drip shields both fail – shows a radiation dose peak in the distant future of about 100 millirems per year. Your Report then unabashedly recommends for a post-10,000-year dose standard precisely the figure that you believe is the worst case radiation dose produced by DOE's performance model. That says it all. The whole exercise is a transparent attempt to concoct a standard that you think DOE can meet.

There are dozens of other technical and legal objections we have with your Report, including its incorrect assumption that uncertainty increases over the long term after the packages fail (in DOE's models it *decreases* markedly); its acknowledged rejection of the basic intergenerational equity principles of the Joint Convention on the Safety of Spent Fuel and Radioactive Waste Management; its notion that present-day climate states can be assumed over extremely long periods; its callous conclusion that citizens of Nevada may receive higher radiation doses than other members of the public because of some unspecified "benefits" they derive from the dump; its recommendation to ignore disruptive events such as earthquakes that might occur after 10,000 years; and its dubious thesis that "scientific confidence plays an important, but small, role in developing regulatory confidence" (p. 3-1). If EPA is unwise enough to adopt your recommendations, we will articulate all of our objections at that time.

Sincerely,



Robert R. Loux  
Executive Director

RRL:njc

Enclosure

cc: Nevada Congressional Delegation  
Environmental Protection Agency  
NRC Advisory Committee on Nuclear Waste  
U.S. Nuclear Waste Technical Review Board  
National Academy of Science  
Department of Energy