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EPA Docket Center (EPA/DC)
Air and Radiation Docket
U.S. Environmental Protection Agency
EPA West, Mail Code 6102T
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Attention: Docket ID No. OAR-2005-0083

To Whom It May Concern:

In response to EPA' Federal Register Notice of August 22, 2005 (Federal Register/ Vol. 70, No. 161/ Monday, August 22, 2005/ Proposed Rule), enclosed please find a Supplemental Comment from the State of Nevada on EPA's "Public Health and Environmental Radiation Protection Standards for Yucca Mountain, Nevada: Proposed Rule" (40 CFR Part 197).

We recommend this Supplemental Comment for you consideration because it contains new and relevant scientific information not previously considered in this rulemaking.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert R. Loux".

Robert R. Loux
Executive Director

RRL/cs
Enclosure

cc Nevada Congressional Delegation
U.S. Nuclear Waste Technical Review Board
U.S. Advisory Committee on Nuclear Waste

Samuel Bodman, Secretary of Energy
David R. Hill, General Counsel, U.S. Department of Energy
Dr. Ralph J. Cicerone, President, National Academy of Sciences
Dr. Lars-Erik Holm, Chairman, International Commission on
Radiation Protection
National Conference of Radiation Control Directors
National Council on Radiation Protection and Measurements

**STATE OF NEVADA SUPPLEMENTAL COMMENT TO THE
U.S. ENVIRONMENTAL PROTECTION AGENCY
PROPOSED RULE
“PUBLIC HEALTH AND ENVIRONMENTAL RADIATION PROTECTION
STANDARDS FOR YUCCA MOUNTAIN, NEVADA” 40 CFR PART 197**

The State of Nevada submits the following supplemental comments in response to EPA’s Notice of Proposed Rulemaking “Public Health and Environmental Radiation Protection Standards for Yucca Mountain, Nevada,” 70 Fed. Reg. 49014, August, 22, 2005. Consideration of these brief past-deadline supplemental comments is practicable given EPA’s projected schedule for publication of a final rule in mid to late next year.

In our earlier comments we criticized EPA’s proposal to set a Yucca Mountain health standard based on comparing radiation doses in Amargosa Valley, Nevada with doses in Colorado. EPA did not, and cannot, explain cogently why it chose this particular comparison, as opposed to comparing differences in risk associated with crime, automobile traffic, fatal cancer in general, or other natural hazards. However, at the least, there is new scientific information that EPA must consider if it persists in making these kinds of comparisons.

As reported by Dr. Dade Moeller in a presentation to the NRC Advisory Committee on Nuclear Waste, EPA chose a key conversion rate from radon concentration (actually, the concentration of radon daughter products) to lung irradiation that is substantially different from the one chosen by an NCRP expert committee.¹ Dr. Moeller is a recognized authority on the subject and he reported that the NCRP committee dealing with these standards had changed that key factor by a factor of two, and that EPA had relied on the older figure. Using the correct conversion factor generally reduces radon dose estimates by a factor of two. Moreover, Dr. Moeller points out that it had been widely known for some time that the previous number was not used by the standard international reference; EPA gave no recognition of this in its key background report and in using that report to concoct its dose standard for Amargosa Valley. That EPA made such a skewed choice for the key conversion factor when it knew or should have known better undermines the credibility of its technical backup generally.

Even with a corrected conversion factor there is no way to rescue the Amargosa Valley-Colorado comparison as a basis for a health standard where EPA’s dose estimate for Colorado is dominated by the indoor radon dose. The dependence of the indoor radon numbers on the details of living style and house construction and maintenance means that one can get almost any number depending on assumptions. For example, Amargosa Valley residents now mostly live in mobile homes. As a consequence they have low indoor radon doses. Colorado residents have better insulated houses and so have higher indoor radon doses. This makes for a higher Amargosa Valley-Colorado difference, and therefore under EPA’s theory a higher Yucca mountain dose standard than might

¹ See Transcript, NRC Advisory Committee on Nuclear Waste, November 14, 2005, at page 70 *et seq.* The transcript only became available after the close of the EPA rule comment period.

otherwise be the case. Are future Amargosa Valley residents to be punished simply because current residents cannot afford well-insulated houses? Should we assume the status of Amargosa Valley residents will improve in the near future and their indoor radon doses will increase? Similarly, EPA is encouraging indoor radon abatement in Colorado. Congress has set a national goal to reduce indoor radon levels to those outdoors. Should we assume some of this will have been successful? Both assumptions together could reduce the Amargosa Valley-Colorado difference to a small number, even to zero. In pursuing the Amargosa Valley-Colorado radiation dose comparison, EPA is not basing its health standard on sound science but on quicksand.

As a separate matter, we wish to call EPA's attention to a possible drafting problem. Proposed 40 C.F.R. § 197.36 (c) (1) (ii) states that the "igneous event may be limited to that causing damage to the waste packages directly...." This might (but need not) be read to preclude consideration of any igneous events that are projected to occur after waste package failure. We assume no such interpretation was intended since the preamble has no discussion that could serve to justify the exclusion of such a large category of potentially significant events.