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## **Submitted Comments on Proposed Amended Radiation Exposure Standards for the Proposed Yucca Mt. Nuclear Waste Repository**

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When I first became engaged with the EPA's efforts to provide standards for radiological contamination exposure from the proposed Yucca Mt. Nuclear Waste Repository, EPA was defending its proposed limit of 15 millirem per year against the higher proposed standard of the NRC, 25 millirem per year. How the agency has leapt from that well-defended position to a proposed standard of 350 millirem per year in year 10,001 was something EPA staff could not explain at all when asked at the Amargosa Valley, NV, Hearing on October 3<sup>rd</sup>.

If it is not feasible to safely predict the behavior of the planet over that period of time, let alone a huge tightly packed body of the deadliest toxins known to man, let us acknowledge that to each other, and proceed responsibly.

First 10,000 Years: AS an affected resident, I found many of the arguments for the original 15 millirem standard to be flawed and misleading. If a site-specific standard was being created, site-specific needs of those other than the DOE should have been addressed. Also, other life forms must be protected from human-generated toxins, not just human beings.

- Drinking water standards are based on people not drinking water (for one half of their daily liquid intake). How insane is that? Do the cows and pistachio trees, the jackrabbits and creosote brush which we use for anti-cancer medicine, all go to Safeway for Coca-Cola to drink every afternoon?
- Calculations of the 15 picocuries/liter limit for drinking water actually result in 713 millirem per year exposure, if 2 liters of drinking water at maximum "safe" levels are consumed per day.
- Calculations for a 30 year exposure are very inappropriate. Local immigrant resident families are multi-generational, and Timbisha Tribal members are also likely to remain at their one homeland location in Death Valley.
- 2 liters of water per day is absurd in this climate. Day-time temperatures can be over 125 degrees for a month or more. The most conservative estimates for daily water consumption are one gallon per person for an indoor sedentary lifestyle. A ranch worker in Death Valley drinking 12 liters a day for 70 years has an annual exposure of 4.278 rem at maximum permitted plutonium levels, and a lifetime exposure of about 300 rem.

From Year 10,001 to 1,000,000:

- While EPA claims that “Phase II” of their standard, 350 millirem per year from years 10,001 to 1,000,000, is consistent with other nations, I do not find compatible evidence. This limit is more than 10 times higher than France’s goal for long-term high-level waste, and 35 times higher than Canada’s, next door.
- While the concept of matching “background” radiation seems benign, it should be noted that the 350 millirem limit is for a maximum exposure nationwide. Even at Yucca Mt., next to the Nuclear Weapons Test Site, annual background exposure is about 110. Furthermore, background radiation causes serious cancers each year, skin cancers, melanomas and more, especially in this sunny desert region.
- Although repeatedly asked for clarification, EPA staff did not directly respond to the allegation that this standard would actually double the worst-case U.S. exposure, because allowable exposure from Yucca Mt. is “in addition to” routine background.
- Neither portion of the “double-standard” addresses the multiple-pathway cumulative exposure problem at the Yucca Mt. site, which is bracketed by the Beatty toxic waste dump, already in possession of a plutonium plume, and the Nevada Nuclear Test Site, home of over 1,000 nuclear bomb detonations.
- Given that the reason EPA has to re-formulate this standard, a directive to comply with National Academy of Science guidance, I strongly recommend that the final standard take into consideration the BEIR VII observations that 70 year lifetime annual exposure to 350 millirem will lead to cancer in 1 in 40 men, 1 in 30 women, and even more in children. Of these incidents, half would be fatal.
- This is a horrible precedent for the EPA, and could lead to complete loss of public confidence, credibility, and a lowering of the public protection bar agency-wide.
- According to the DOE’s own estimates, the maximum dose from the Yucca Mountain site would be between 200 to 300 millirem per year several hundred thousand years from now. With this rule, the EPA appears to be pandering to current political interests that wish to see Yucca Mt. stuffed full of radionuclides no matter what the environmental cost, at the expense of future generations.
- The most egregious claim set forth by the EPA is their assertion that this proposed standard has no “tribal implications.” Executive Order 13175 forces the agency to develop a process to receive input from tribal governments on any potential impact this standard may have. I have personally participated in annual Renewal Ceremonies on Yucca Mt.’s western flank for many many years. Native people continue to use medicinal plants from the region, to hunt and gather as they have for thousands of years. The EPA ignores Order 13175 by declaring the proposed rule will have no “substantial effects on one or more tribal governments, or on the relationship between the Federal Government and Indian tribes.” This is absolutely unacceptable.

I look forward to your inclusion of these and other public concerns in your final Yucca Mt. standard. I appreciate the time it has taken you to read my comments.

Sincerely,



Jennifer Olaranna Viereck, Director