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Total of 7 pages

Letter to President George W. Bush
Re: Proposed EPA Radiation Standards for the
Proposed Yucca Mountain High-Level Nuclear Waste Repository

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President George W. Bush
The White House
1600 Pennsylvania Ave. NW
Washington, DC 20500

March 9, 2001

Dear President Bush:

We write to you today as representatives of groups directly impacted by the proposed Yucca Mountain High-Level Nuclear Waste Repository. We are calling on your administration to uphold public safety and trust, by issuing strict radiation protection standards for Yucca Mountain. We are united in our belief that every possible precaution must be taken now to protect future generations from dangers caused by current flaws in the proposed Yucca Mountain design.

The Department of Energy may recommend the Yucca Mountain site later this year for development as the only repository in the United States for 77,000 tons of high-level nuclear waste. This recommendation must show that the proposed facility will meet the U.S. Environmental Protection Agency (EPA) radiation protection standards. Strong EPA standards are vital for a credible assessment of whether the Yucca Mountain project is in the best interest of the public, present and future. Without such an assessment, the project is dangerous and a horrendous waste of American tax dollars.

The Nuclear Waste Policy Act (NWPA); Subtitle A, Section 111. (a), paragraph (7) states that "appropriate precautions must be taken to ensure that such waste and spent fuel do not adversely affect the public health and safety and the environment for this or future generations." Our children's children are the "acceptable" deaths under consideration in the proposed standards. "The environment" is the air, soil, water, and all the other living beings that support our ancient and fragile biosphere. (This includes the Death Valley National Park nearby, visited by over 1.3 million people each year.) We are calling on your administration to uphold the word and spirit of this law.

Despite significant public support for stronger standards, the most stringent limits proposed by the EPA include allowable individual exposures up to 15 millirems per year - the equivalent of approximately 1.5 chest x-rays annually. Consistent with the Safe Drinking Water Act, groundwater would receive additional protection (maximum exposure, 4 millirems a year). These standards would not be applied to the immediate secured perimeter of the repository, but beyond a proposed "buffer zone" of 18 kilometers, about a mile from residential homes. This could result in thousands of deaths during the lifetime of the proposed repository.

We support the application of the Safe Drinking Water Standard for Yucca Mountain. However, we reject any compromise of the principle that radioactive waste must be kept isolated from people and the environment. We have serious concerns about many aspects of the proposed EPA radiation exposure standards:

1. **The definition of the 15 Millirem Annual Exposure Limit** should at least protect Yucca Mountain residents as well as regulations for the rest of the United States, (codified in Title 40 Part 191 by the EPA in 1985).
2. **EPA language for the proposed Individual Protection Standard** is too vague to be enforceable, and does not offer equal protection to Native Americans in the region.
3. **The 18 kilometer "buffer zone"** between the repository and the test wells violates the intent of the NWPA for complete isolation of waste, and would serve only to document irreparable radioactive contamination once it was breached.
4. **The proposed application of standards to the arbitrary 10,000 year licensing period** does not include the

period of calculated highest radioactive release (approximately 100,000 years), resulting from decay of containment vessels and the radionuclides therein, and breached barriers of the repository.

5. **Definitions for "engineered barriers"** within Yucca Mountain in the proposed standards are too vague, and conflict with specifications for barriers set forth in the NWPA.
6. **It is clear to us that the creation of separate weaker standards for the Yucca Mountain repository is** complicit with the undermining of the Nuclear Waste Policy Act of 1982 by the nuclear industry, to force the project through, without regard to public health or sound science.

1: 15 Millirem Annual Exposure Limit

The EPA established specific exposure standards in 1985 for any long-term disposal of irradiated nuclear fuel and high-level nuclear waste in response to the NWPA of 1982. They are codified in Title 40 Part 191. Part 191 is completely applicable and current proposed standards for Yucca Mountain should be at least as strong as those applied elsewhere in the United States. We believe that we deserve equal protection from the deadly effects of radiation exposure.

This Part is also referenced in the "CRITERIA FOR THE CERTIFICATION AND RECERTIFICATION OF THE WASTE ISOLATION PILOT PLANT'S COMPLIANCE WITH THE 40 CFR PART 191 DISPOSAL REGULATIONS" [40 CFR Part 194]. If any standards are issued specific to Yucca Mountain, they must be at least as stringent as those for WIPP, for the following reasons:

- The radiotoxicity of waste to be disposed of at Yucca Mountain is much greater than that of the transuranic waste to go to WIPP.
- The U.S. government is embarking upon an unprecedented high-level waste experiment, and does not have the luxury of previous experience.
- Given the current data and site design, it appears that groundwater contamination will occur at some point in the future. This is an irreversible process requiring hundreds of thousands, if not millions of years, to decay away.
- The sheer scope of the Yucca Mountain Project, in terms of the amount of waste, the intensity of the radioactivity, and its longevity, requires very special consideration. Otherwise small and seemingly insignificant errors in design will be magnified, resulting in potentially enormous impact.
- The 50 year history of developing "safe" radiation exposure standards clearly illustrates that the more we learn about health effects, the the more stringent the allowable limits have become. For these reasons it is necessary to have an extra margin for error in the present standards, which will impact untold generations to come. Expert predictions have been wrong before: the Hanford Nuclear Reservation, the Oak Ridge Reservation and Paducah Plant, to name a few.

2. Definition of Exposed Individual

The International Commission on Radiological Protection explicitly states that for the purpose of defining radiation exposure, a critical group "represents an extreme" of radiation exposure "to insure that no individual doses are unacceptably high." (ICRP Publication No. 46, 1985, p.9.)

EPA language for the proposed Individual Protection Standard uses the unclear and easily mutable term "reasonably maximally exposed individual," and loosely defines him/her as having "... a diet and living style representative of the people who now reside" adjacent to the proposed buffer zone. That scenario also does not recognize the many Native Americans in the region who are additionally exposed through the harvesting of local plants and game for medicine and food. In fact, the Timbisha Shoshone tribe was recently granted joint stewardship of part of the Death Valley National Park for exactly this purpose. The Western Shoshone Nation continues to host annual intertribal ceremonies on the western slope of Yucca Mountain. It is the responsibility of the United States to give the exposure of Native Americans, as populations that are culturally, spiritually and legally bound to specific territories, serious and careful consideration.

The language in Title 40 Part 191.15 paragraph (a) provides better protection of the public than the proposed rule. It specifies maximum exposure by all pathways to "any member of the public". Even in the Part 194 WIPP regulations, the standards are to be applied to "... an individual [who] resides at the single geographic point on the surface of the accessible environment where that individual would be expected to receive the highest dose from radionuclide releases from the disposal system."

This language is also appropriate to Yucca Mountain since there is uncertainty as to where and how the greatest exposure will occur. Therefore, in the best interests of the public, the definition used in the proposed standard should be discarded in favor of the ICRP definition or the language in the original Part 191 standard.

3. 18 Kilometer Buffer Zone

The area within a 90 mile radius of Yucca Mountain currently includes the fastest growing populations per capita in the United States (Pahrump and Las Vegas, Nevada). This area has already been contaminated with fallout from the Nevada Test Site for the last 50 years. Close to Yucca Mountain is the largest dairy in Nevada and the alfalfa fields that support it, providing milk for thousands of children in the region.

Studies show that groundwater flows south to lands recently returned to the Timbisha Shoshone tribe, about 25 miles south of the proposed buffer zone. This community and all others in the region must receive adequate protection.

A series of shallow and deep aquifers lie below the Yucca Mountain site. Studies of water at Yucca Mountain, the adjacent Nevada Test Site and the nearby U.S. Ecology toxic dump clearly indicate that contaminants travel rapidly in this region. Rainfall is infrequent, but often torrential. Fluids do not respect buffer zones. Only through stringent monitoring with strong standards can the public be protected from potential disaster. We believe that monitoring wells must be placed along the perimeter of the secured zone of the repository. The point of compliance should be where the maximum exposure occurs by any pathway along that perimeter.

4. Arbitrary 10,000 Year Application Period

The Yucca Mountain repository's current design appears to be based on delaying radionuclide release to comply with standards expected to terminate after 10,000 years. The Department of Energy's (DOE) own analysis assumes that the groundwater in the accessible biosphere is likely to be contaminated. The proposed standards facilitate this flawed approach, abdicating responsibility after an arbitrary time. The period when the maximum dose will occur is not even mentioned in either the licensing or exposure-setting procedures.

The radiation exposure standard must be established independently, and based on sound science, to ensure accuracy and credibility. It should not be tailored to fit the research at Yucca Mountain. It must be applied over a period that includes "the time when the greatest risk occurs", as recommended by the National Academy of Science (Technical Bases for Yucca Mountain Standards, 1995).

Our descendants born 10,000 years from now should not be subject to a weaker standard, or none at all. At no point in the future should life in the area surrounding Yucca Mountain become expendable. We must be accountable now for how our actions will impact the future, even though it may be too distant to clearly imagine. We cannot assume that some new form of science in distant millenniums can cope with uncontained and massive radiation, when we cannot cope with contained and monitored fuel rods now.

5. Definition of Engineered Barriers

The NWPA defines an "engineered barrier" at Yucca Mountain to be a manmade component that is designed to "PREVENT the release of radionuclides" (emphasis added). However, engineered barriers defined in the proposed EPA standard only "DECREASE the mobility of radionuclides" or "substantially DELAY the movement of water or radionuclides". This undermines the intent of the NWPA. Such language appears to work in cooperation with the DOE theme of delayed release, and doesn't stand alone as a regulation.

The purpose of the standard is to protect the public. The first measure of protection is isolation of the waste from the accessible biosphere. The barrier definition in the NWPA must not be compromised.

6. Process of Setting Radiation Exposure Standards

The nuclear industry has repeatedly manipulated Congress to take action to disable the Nuclear Waste Policy Act for their benefit, regardless of the implications to public health and safety. It is transparent that separate exposure standards for Yucca Mountain, and the language used in the proposed rule, allow the DOE to meld its performance assessment calculations so as to derive admissible exposure for the 10,000 year licensing period. It is difficult to arrive at any other conclusion, given the process that has preceded the promulgation of the EPA standards, the changing of Site Suitability Guidelines by the DOE, and the Licensing Criteria of the NRC. We cannot find any other reasonable justification for setting standards specific to Yucca Mountain that are weaker than those that already exist.

This is an unprecedented moment in history that will impact a future we can barely imagine. On behalf of our combined memberships, and our supporters across the country, we urge the Bush Administration to take an ethical and uncompromising stand for the protection of the public and the environment, now and for the generations to come after us.

Sincerely,

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