

August 28, 2001

Mr. Russell Jim, Director  
Yakama Nation Environmental Restoration Program  
Confederated Tribes & Bands of the Yakama Indian Nation  
2808 Main Street  
Union Gap, WA 98903

Dear Mr. Jim:

On June 26-27, 2001, representatives from the U.S. Nuclear Regulatory Commission (NRC) attended a meeting of the National Congress of American Indians (NCAI), National Indian Nuclear Waste Policy Committee at the Prairie Island Indian Community in Welch, Minnesota. The NRC staff appreciated the opportunity to participate in this meeting and hopes that the information that we provided about NRC oversight of the proposed Yucca Mountain Project and about the NRC's role in regulating the transportation of spent nuclear fuel was useful to your committee members. During that meeting, you raised a number of questions which you provided to our staff in hard copy. NRC staff has reviewed your questions. I have enclosed responses to them.

If you have any additional questions or concerns about the information that we have provided to you, please feel free to contact Spiros Droggitis at 301-415-2367.

Sincerely,

***/RA By Frederick C. Combs Acting for/***

Paul Lohaus, Director  
Office of State and Tribal Programs

Enclosure:  
As stated

Russell Jim

August 28, 2001

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1. In 1988, NRC was involved in discussions and correspondence with DOE, the State of Washington, and the Yakama Nation concerning whether high-level radioactive tank waste could be chemically separated, and one stream then classified as "incidental waste." Upon petition, NRC made certain determinations on this issue. Can NRC once again be asked to make technical and legal determinations on the process being proposed for the Hanford Waste Treatment Plant, which involves the same separation and waste classification issues?

Answer:

As noted in the response to Question 2, NRC does not have regulatory responsibility for safety of DOE high-level waste (HLW) storage at Hanford. However, for issues that are within NRC's jurisdiction, such as the subject of the previous petition, another petition for rulemaking could be submitted. It should be noted that without any new information, it is unclear whether NRC would make any new determination on incidental waste issues at Hanford, given that these were addressed, as noted in the question. Any such request to NRC should consider what changes may have occurred since our original determination that would cause us to revise our positions.

2. NRC is moving towards utilizing risk assessment as part of its licensing process. Is it possible that NRC could conduct a risk assessment of DOE high-level waste storage and disposal, so those risks could be compared to commercial spent fuel storage and disposal?

Answer:

NRC does not have regulatory responsibility for safety of DOE high-level waste (HLW) storage, and thus has no plans for conducting any risk assessments of their storage of HLW. Only if DOE requested and supported a risk assessment by NRC for DOE HLW storage could the NRC conduct such a study. Under the Nuclear Waste Policy Act, DOE's has the option for disposal of HLW in a geologic repository licensed by NRC. Current proposed regulations for disposal of HLW in a geologic repository adopt a risk-informed performance-based approach and require a risk assessment of the disposal proposal. DOE would be required to assess risks both during the operational period of the repository and after operations had ceased.

3. In what ways may NRC provide technical assistance to the Yakama Nation under its trust responsibility, outside of the formal regulatory framework? Is it possible to arrange a meeting to follow up on the May 10 telephone conversation with yourself, Janet Kotra, Rosetta Virgilio, and other NRC staff?

Answer:

It is not clear to us what types of technical assistance NRC may be able to provide to the Yakama Nation "outside of the formal regulatory framework" or what type of activity might be encompassed by the term "technical assistance." The NRC staff follows Commission guidance to ensure that the rights of Tribal governments are fully respected and to operate within a government-to-government relationship with Federally-recognized Native American Tribes. The Office of State and Tribal Programs serves as the initial point of contact and can assist in responding to general questions or requests for information. To better understand your request, the NRC staff is prepared to work with the Yakama Nation to follow up on the May 10, 2001 telephone call to discuss issues you may have in more detail.

4. What are the implications of policy statements by Democratic leadership that Yucca Mountain will not open under their watch, given the possibility that DOE will recommend to the President that the site be considered for licensing next year? Would rejection of the site necessitate further amendments to the Nuclear Waste Policy Act?

Answer:

The process for Site Recommendation of the potential Yucca Mountain repository is stipulated in the Nuclear Waste Policy Act (NWPA). The steps of the Site Recommendation include a decision by the Secretary of Energy on whether to recommend the site. If the Secretary does decide to recommend the site to the President, then the Site Recommendation package of information is provided to the President. If the President recommends the site to Congress, the State of Nevada can submit a notice of disapproval of the site designation. If the State of Nevada does not submit a notice of disapproval, Congress has no role in the approval of the site recommendation. (The NWPA stipulates that the designation of the site as suitable for submission of a license application is effective after 60 days from when the President recommends the site, unless a notice of disapproval is filed.) If the State of Nevada does submit a notice of disapproval, Congress can over-ride the disapproval.

The NWPA also stipulates actions DOE must take if DOE determines the Yucca Mountain site is unsuitable. DOE would be required to report to Congress, not later than 6 months after determining the site unsuitable, the Secretary's recommendations for further action to assure safe, permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislative authority.

5. What are the likely trends in regulating radiation exposure to the public? (BEIR V estimated an additional lifetime risk of fatal cancer of about  $3.8 \times 10^{-4}$  for constant exposure to a dose level of 25 mrem/year over a period of thirty years. NRC's general decommissioning standard is 25 mrem/year. This exposure level translates to a fatal risk of 1 per 2,500, which is much higher than the general chemical standard of 1 per 1,000,000.) Is it possible that NRC will develop standards which account for Native American lifestyle and diet patterns, as a separate critical population?

Answer:

The scientific community is continually evaluating data and information regarding health effects from exposure to ionizing radiation. One of the major efforts in this respect is that of the National Research Council's Board on Radiation Effects Research, which is conducting a review and evaluation of the scientific literature on the biologic and health effects of low-level ionizing radiation. This study is known as BEIR VII. The Board will use the information and data available to conduct an assessment of the health risk to humans of exposure to low levels of ionizing radiation. The study is to be completed in October 2003. It is premature to speculate about what their findings might be.

With respect to chemical risks vs. those from radiation exposure, the comparison between the two in the question is not accurate. A White Paper jointly prepared by the U.S. Environmental Protection Agency (EPA) and NRC in September 1995 better describes the differences in approaches for regulating these two types of materials (EPA's radiation protection approaches, e.g., the risk goals, are often derived from its regulation of non-radioactive pollutants). The paper states,

“ . . . EPA and NRC programs often achieve similar levels of protection. The apparent difference between the lifetime risk ( $3.5 \times 10^{-3}$ ) implied by NRC's annual dose limit and EPA's lifetime risk objective ( $10^{-4}$  to  $10^{-6}$ ) can be misleading, because the application of ALARA [as low as is reasonably achievable] for NRC licensees almost always results in significant reductions in actual risk levels. On the other hand, many EPA standards allow risks greater than  $10^{-6}$  and a few permit risks greater than  $10^{-4}$ , when justified based on feasibility considerations.”

Similarly, the National Research Council's 1999 report, “Evaluation of Guidelines for Exposures to Technologically Enhanced Naturally Occurring Radioactive Materials” notes that:

“Negotiated cleanup levels at different sites [under the Superfund program] . . . have varied considerably and usually have corresponded to lifetime cancer risks of about  $10^{-4}$  to  $10^{-2}$ , that is, substantially above the goal of  $10^{-4}$ .”

It should also be noted that EPA frequently relies on institutional controls in site remediations for achieving whatever risk levels are prescribed (i.e., above or below  $10^{-4}$ ) at particular sites. Although NRC's license termination regulation in 10 CFR Part 20 allows for the use of institutional controls to limit radiation exposures, it also requires that sites be cleaned up to protective levels of exposure, even when the institutional controls fail.

Finally, with respect to consideration of Native American lifestyle and diet, NRC bases its radiation standards for members of the public on guidance from the International Commission on Radiological Protection, the National Council on Radiation Protection and Measurements, the EPA, and others. Such standards apply to the entire human population, without regard to age, gender, or race, although such factors are generally considered when establishing the standard. Specific attributes of an exposed population (e.g., age and dietary and living habits) are considered when an exposure assessment is performed. Such exposure assessments are performed as part of NRC's Safety Evaluation Reports and Environmental Impact Statements (EISs) for certain NRC regulatory actions. In the EIS process, the public Scoping Meeting is used as a mechanism to gather information from potentially affected groups (such as Native Americans) regarding specific or unusual dietary or living habits which should be included in NRC's radiation exposure assessment.