



**Department of Energy**  
Washington, DC 20585

APR 13 1993

Mr. Robert M. Bernero  
Director  
Office of Nuclear Material Safety  
and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Bernero:

Thank you for your letter of August 19, 1992, requesting information on the Department of Energy's (DOE) disposal of radioactive liquid wastes at the Hanford Site, which is the subject of the Confederated Tribes and Bands of the Yakima Indian Nation's pending 10 CFR 2.206 petition. The Petitioners assert that these activities are subject to licensing and regulation by the Nuclear Regulatory Commission (the Commission) under 10 CFR 30 "or other applicable chapters of the CFR." The Petitioners further assert that DOE is in violation of the Part 30 licensing requirements, having received high-level waste (HLW) for long-term storage or disposal into near-surface repositories (cribs, trenches, and ditches), but meeting the 10 CFR 60 definition of a "geologic repository."

As you know, the Department is excluded (in general) from the licensing of its nuclear activities by exception from the Atomic Energy Act's definition of "person." Consequently, the Commission's licensing authority would extend only to those DOE nuclear waste activities expressly covered by law. The laws with potential applicability to the Hanford disposal facility in question here are the Energy Reorganization Act of 1974 (ERA), as amended and the Nuclear Waste Policy Act of 1982 (NWP), as amended.

The Petitioners do not raise issues concerning a Monitored Retrievable Storage Facility or the candidate site for the deep geologic repository at the Yucca Mountain, Nevada, facilities to which the NWP has application. Consequently, they are not raising matters within the NWP jurisdiction. Therefore, the NWP and 10 CFR 60, which implement the law with respect to licensing of DOE's operation of a geologic repository, will not be focused upon in the discussion below.

Section 202 of the ERA expressly extends the Commission's licensing authority to the following DOE nuclear waste facilities: those used by DOE primarily for the receipt and storage of HLW resulting from licensed activities (sec. 202(3)) and those retrievable surface-storage and other facilities authorized for long-term storage of HLW, not used for, or part of, research and

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development activities (sec. 202(4)). The Senate Report accompanying the ERA elaborates upon the meaning of these licensing authority extensions and describes the intent of Congress in their enactment:

The licensing authority is extended to cover certain...high-level radioactive waste storage facilities when their purpose will lead to commercial, as distinguished from R. & D. use. This will permit...[the Commission] earlier access to, and greater expertise in, new nuclear technology than is now possible for the AEC Regulatory Division. This should serve to speed up the eventual licensing of those facilities.

S. Rep. No. 93-980, June 27, 1974, reprinted at U.S. Code Congressional and Administrative News, 93rd Cong., 2nd Sess. (1974), Vol. 3, 5470, 5485.

The House Conference Report makes clear the types of DOE waste facilities intended to be licensed and, by implication, eliminates the Hanford Site from coverage under sec. 202:

In connection with licensing of...[DOE] facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities, the conference substitute...[deletes] that portion of the House language (subsection 202(3)) relating to facilities "in existence, under construction, or authorized or appropriated for by the Congress, on the date this Act becomes effective." The deletion is made because there are no such facilities.

The conference substitute also retains the Senate language with respect to licensing of "retrievable surface storage facilities" and other facilities for long-term storage of high-level radioactive waste. Such facilities are not now in existence but will be developed in the near future for long-term, possibly permanent, storage of high-level radioactive wastes, including wastes from the licensed sector. [Emphasis added]

H. Conf. Rep. No. 93-1445, Oct. 8, 1974, reprinted at U.S. Code Congressional and Administrative News, supra., 5538, 5547.

The liquid wastes referred to by the Petitioners were discharged, for disposal, at the Hanford Site over a period of time beginning in the 1940s and ending in the 1960s. The facility was, therefore, in existence at the time of the ERA's enactment--a fact that was well known at that time to the Congress. Further, the facility was not intended to be used in the storage of HLW. Disposal at the site was considered permanent, with no future retrieval, recovery, or removal contemplated. Nor was the demonstration of technologies or techniques with potential for

commercial use and subsequent licensing intended or involved. For these reasons, the licensing of the Hanford Site would not be included in the expanded jurisdiction of sec. 202 of the ERA.

The information below is provided to the Commission in response to the questions in your letter:

- None of the subject liquid waste effluents were classified as HLW under the standards applicable at the time of discharge. These standards were based in the 1940s and 1950s on percentage levels of allowable groundwater contamination from radionuclide concentrations and, in the 1960s, on the concentrations of the mixed fission products contained in the wastes. Further, as the dates of discharge preceded the issuance of Appendix F to 10 CFR 50, the policy relating to non-DOE fuel reprocessing plants and related waste management facilities (35 Fed. Reg. 17533, Nov. 14, 1970), it would be the Department's position that a source-based definition of HLW is not now (i.e., retroactively) applicable to these discharges. Therefore, no HLW discharges have occurred at the site.
- In 1954, approximately 2 million gallons of neutralized-waste supernatant liquid from the 242-T and 242-B Evaporators were discharged to the 216-T-25 and 216-B-37 trenches (please note that your letter incorrectly identified the latter trench as 217-B-37). This liquid resulted from evaporation of the first decontamination cycle neutralized waste supernatant of the Bismuth-Phosphate Process used to recover plutonium from the irradiated fuel. In the Bismuth-Phosphate Process, the highest activity waste stream was called Metal Waste, which contained the uranium and approximately 90 percent of the fission products. The first decontamination cycle waste contained approximately 10 percent of the fission products. This waste was then neutralized and many of the radionuclides precipitated to the bottom of the tanks as a sludge. The liquid bottoms were then returned to tanks for further settling prior to discharging the supernatant liquid to the ground. The discharged wastes, therefore, were not produced directly in reprocessing nor did they contain concentrations of radioactive materials approaching the fission-product and transuranic-element contents of the irradiated reactor fuel. Instead, by the time of discharge, uranium in the original materials had been salvaged and most of the other products and elements had been separated and stored in tanks.
- The subject liquid waste discharges were authorized by the Atomic Energy Commission in the conduct of its operations at the reprocessing facility. These actions were consistent with the Commission's mission under the Atomic Energy Act.

- As previously indicated, the Hanford Site (or parts thereof) entered into service in the 1940s and the subject discharges occurred from that time until into the 1960s, prior to the ERA (1974).

If further clarification on the above response is required, James Keenan of my staff can be contacted at (301) 903-7121.

Sincerely,



Jill E. Lytle  
Deputy Assistant Secretary  
for Waste Management  
Environmental Restoration  
and Waste Management

cc:  
P. Whitfield, EM-40