UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SEP 15 1988

William Don Tahkeal, Chairman
Radioactive/Hazardous Waste Committee
Yakima Tribal Council
Post Office Box 151
Toppenish, Washington 98948

Dear Chairman Tahkeal:

I am writing in response to your letter dated August 26, 1988, to Mr. Samuel Chilk, Secretary for the U. S. Nuclear Regulatory Commission (NRC). Your letter asked NRC to outline its role in the U. S. Department of Energy's (DOE) proposed grouting operations for Hanford double-shell tank wastes and whether the waste to be grouted and disposed of is high-level waste (HLW) or low-level waste (LLW).

Section 202(4) of the Energy Reorganization Act of 1974 (ERA) gives the NRC licensing authority over any facilities expressly authorized for the long term storage or disposal of defense high-level wastes (HLW). The ERA does not define HLW, but HLW was defined in the Commission's regulations (10 CFR Part 50, Appendix F) at the time the ERA was passed. The Appendix F definition is based on the source of the waste rather than the concentration of radionuclides in the waste. HLW was defined in Appendix F as "those aqueous wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuels." The rulemaking for Appendix F also recognized that incidental non-HLW is produced during reprocessing operations. Additional efforts will be necessary to determine which of the Hanford tank wastes might be classified as "incidental" wastes. Any such wastes would not be subject to NRC licensing.

At Hanford, the question of NRC licensing authority has been complicated by the mixing of wastes from various sources over the years. This mixing has changed the original characteristics of the wastes. Consequently, some double-shell tank wastes consist of reprocessing wastes commingled with wastes from other sources.

The principal issue identified by the NRC staff in its review of DOE's December 1987 Final Environmental Impact Statement (FEIS) entitled "Disposal of Hanford Defense High-Level Transuranic and Tank Wastes," DOE/EIS-0113, concerns the classification of tank wastes. NRC staff met with DOE on June 9, 1988, to discuss and clarify DOE's plans for disposal of the twenty-eight double-shell tank wastes at Hanford and NRC concerns with respect to the classification of these wastes. It was determined in this meeting that:

1. Two of the tanks contain Neutralized Current Acid waste, which is HLW, since it arises from reprocessing of spent fuel. DOE indicated that cesium would be removed from the supernate and combined with sludge

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and vitrified into glass for eventual disposal in a geologic repository. The treated supernate would then be mixed with grout and disposed of as low-level waste;

2. Two of the tanks contain Phosphate-Sulfate waste, which is clearly LLW, since it does not arise from reprocessing of spent fuel. NRC would have no licensing authority over the disposal of this waste; and

3. Additional meetings are necessary between NRC and DOE concerning the classification of the wastes contained in the remaining twenty-four double-shell tanks. The next meeting is scheduled for September 22, 1988.

A copy of a letter dated July 11, 1988 from Hugh Thompson, NRC, to Michael Lawrence, DOE Richland Operations Office, documenting the results of the June 9, 1988 meeting between NRC and DOE is enclosed for your information.

I appreciate and recognize the Yakima Indian Nation's concern surrounding the disposal of radioactive and hazardous waste at Hanford, and will keep you informed of further developments in this area.

Sincerely,

original signed by Carlton Kammerer

Carlton Kammerer, Director
State, Local and Indian Tribe Programs
Office of Governmental and Public Affairs

Enclosure:
As stated

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JUL 11 1988

Michael J. Lawrence, Manager
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Dear Mr. Lawrence:

As you are aware, NRC and DOE staffs met on June 9, 1988 to discuss DOE's plans to dispose of double-shell tank wastes and NRC concerns with respect to the classification of waste in these tanks. I have enclosed the signed meeting minutes for your information.

As a result of this meeting, NRC gained a better understanding of the classification of wastes in the twenty-eight double-shell tanks. First, DOE and NRC staff agreed that the phosphate-sulfate waste (PSW), presently stored in two tanks at Hanford, is clearly low-level waste since it does not arise from reprocessing of spent fuel. Second, it was established that two double-shell tanks contain neutralized current acid waste (NCAW) from reprocessing, and these wastes are high-level waste. Third, it was agreed that additional meetings would be necessary to reach a consensus on the classification of wastes in the remaining twenty-four double-shell tanks.

I think it may be difficult to proceed without NRC and DOE agreement on the definition for high-level waste. As you know, the NRC position is that the definition in 10 CFR Part 50, Appendix F is the applicable definition for determining whether or not a particular waste stream is high-level waste. I believe DOE and NRC consensus on this point is necessary to provide an adequate foundation for future discussion on this matter. Recently, I also had the opportunity to discuss my concerns with Tom Hindman, Director of DOE's Defense Programs.

I have instructed my staff to arrange for a second meeting with your staff and DOE Headquarters staff in order to resolve the outstanding issues relating to the disposal of radioactive wastes at Hanford. If you have any questions concerning this letter, please do not hesitate to contact me.

Sincerely,

Hugh L. Thompson, Jr., Director
Office of Nuclear Material Safety
and Safeguards

Enclosure:
As stated

cc: T. Hindman, DOE

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NRC - DOE MEETING

ON DISPOSAL OF HANFORD DEFENSE WASTES

Date: June 9, 1988

Time: 2:00-5:00 PM

Location: 4B11-NRC White Flint Bldg., Rockville, MD

List of Attendees: See Attachment 1

Summary: NRC and DOE staff met to discuss disposal plans for the Hanford double-shell tank wastes. The meeting objectives were as follows:

1. To provide an opportunity for DOE to present information on their plans to dispose of double-shell tank wastes within the scope of the Hanford Defense Waste-Environmental Impact Statement (HDW-EIS).

2. To provide an opportunity for the DOE to present information on their plans to dispose of Hanford phosphate-sulfate wastes (PSW) from N-Reactor decontamination.

3. To provide an opportunity for NRC to discuss their views and concerns with DOE.

4. To identify possible future interactions between NRC and DOE.

DOE's presentation (Attachment 2) identified six different waste streams that it intends to process at Hanford for disposal. These include: (1) phosphate-sulfate waste (PSW); (2) plutonium finishing plant waste; (3) cladding removal waste; (4) neutralized current acid waste; (5) double-shell slurry feed; and (6) double-shell slurry.

DOE indicated that it intends to initiate processing of the PSW in July 1988 by grouting and disposing of the grout in a shallow land burial facility at Hanford. The PSW wastes are a result of primary loop decontamination of N-Reactor and ion-exchange wastes. DOE indicated that these wastes have been segregated from other Hanford wastes and are clearly low-level wastes. NRC agrees with DOE that these wastes are low-level wastes. NRC staff indicated that it sees no reason why DOE could not proceed to dispose of these wastes as scheduled.

DOE intends to treat the neutralized current acid wastes (NCAW) as high-level waste. Cesium would be removed from the supernate and combined with sludge containing strontium and other precipitated radionuclides and then vitrified into borosilicate glass for eventual disposal in a geologic repository. DOE

indicated that the treated supernate would be mixed with grout and disposed of as low-level waste.

DOE indicated that it intends to treat the remaining four categories of wastes as non-high-level waste and to pretreat as necessary and dispose of them via the grout facility. Both NRC and DOE staff concluded that more discussions are needed to clarify the classification of wastes in the remaining four categories. DOE extended an invitation to the NRC staff to visit the Hanford site and view the project facilities that are currently in place. Additional discussions on waste classification could take place at that time.

The NRC reiterated that the source-based definition set forth in 10 CFR Part 50, Appendix F is the applicable definition for determining whether or not a particular radioactive waste stream is high-level waste.

D. M. Smith 7/5/88.

for Ronald E. Gerton
U. S. Department of Energy

Regis R. Boyle 6/28/88

Regis R. Boyle
U. S. Nuclear Regulatory Commission