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DEPARTMENT OF ECOLOGY

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1000 Independence Avenue SW
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Submitted via e-mail to HLWnotice@em.doe.gov

Re: State of Washington Comments on U.S. Department of Energy's Proposed Interpretation of the Term "High Level Radioactive Waste" in the Nuclear Waste Policy Act (83 FR 50909)

Dear Assistant Secretary White:

This letter constitutes the State of Washington's comments on the U.S. Department of Energy's (DOE) Interpretation of High Level Radioactive Waste (HLW), set forth in an October 10, 2018 Federal Register Notice (the "Notice"). 83 Federal Register (FR) 50909.

DOE seeks a major change to the longstanding interpretation of the Nuclear Waste Policy Act's (NWPA) definition of HLW. This change is counter to the historical interpretation of HLW relied upon by DOE, Congress, the Nuclear Regulatory Commission (NRC) and the states. This change seeks to broaden the universe of radioactive wastes that DOE determines it can manage as low level radioactive waste (LLW). Specifically, DOE proposes to interpret these NWPA terms "such that some reprocessing wastes may be classified as not HLW (non-HLW) and may be disposed of in accordance with their radiological characteristics." 83 FR, at 50909. This alternation of the definition of HLW cannot stand.

Because 60 percent of the nation's nuclear reprocessing wastes resides in the 177 single- and double-shell tanks at the Hanford Nuclear Reservation, Washington State is keenly interested in any proposal that would alter how that waste is defined, managed, and ultimately treated and disposed. To date, all of that tank waste has been appropriately managed as HLW and Hanford's current HLW management plans are reflected in legal agreements between DOE and Washington. Thus, Washington is gravely concerned with any proposal that could result in greater long-term risks to Washington residents and the environment.

Because DOE's proposed interpretation change could do just that, we formally submit the following comments.

Background

Congress defined HLW in the NWSA to mean "(A) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation."

Through the NWSA, Congress has established a national policy that, due to the highly radioactive nature of spent nuclear fuel reprocessing wastes, such wastes require permanent isolation in a deep geologic repository.

DOE's purported reason for proposing the new interpretation of HLW in the Notice is to allow DOE to treat some undetermined amount of reprocessing wastes "as not HLW" so these reprocessing wastes can be disposed of somewhere other than a deep geologic repository. 83 FR, at 50909.

However, DOE's reasoning is specious as there are two existing mechanisms that DOE can use, and has successfully used, to do just that. The two mechanisms are:

1. DOE Order 435.1.
2. Section 3116 of the National Defense Authorization Act of 2005 (NDAA).

Both of the above-listed mechanisms set out processes by which DOE can analyze specific reprocessing wastes and reclassify them according to their radiological characteristics and according to the risks they pose to the specific disposal site (once immobilized). DOE has successfully used these processes to reclassify HLW from South Carolina, Idaho, and Washington.

Even before these mechanisms existed, DOE and NRC went through an extensive process to establish a technical basis for reclassifying approximately 50 of the 56 million gallons of waste in Hanford's tanks. Between 1993 and 1997, DOE and NRC exchanged letters and proposals that resulted in NRC's provisional determination that 90 percent of Hanford tank waste could be considered "Waste Incidental to Reprocessing" (WIR) if DOE met three criteria:

- (1) remove key radionuclides to the maximum extent technologically and economically practical;
- (2) vitrify the wastes at a concentration that does not exceed applicable concentration limits for Class C LLW; and
- (3) manage the wastes to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61. (Paperiello, 1997, NRC to J. Kinzer, USDOE).

Tank wastes that are treated and managed to meet these three criteria could be disposed of in a near-surface landfill at Hanford without NRC licensing.

Based on the treatment and disposal path identified in the 1997 NRC provisional WIR determination, DOE signed onto commitments in the Hanford Federal Facility Compliance Order (HFFACO) and a subsequent consent decree¹ that require it to implement this established pathway within a certain timeframe. The HFFACO and consent decree include legally enforceable milestones for the construction of facilities to separate out key radionuclides (the Waste Treatment and Immobilization Plant (WTP) Pretreatment Facility), and facilities to vitrify both the high level and low activity fractions of the waste.

In addition, in 2002, Ecology approved a RCRA Dangerous Waste permit to facilitate construction of these facilities. Since 2002, DOE has been constructing these facilities, and as of 2017, construction of the low activity waste vitrification facility was 84 percent complete and on schedule to be operational by January 2022.

State of Washington Questions the Need for the Proposed Interpretation

Given the background set forth above, Washington questions the need for DOE's proposed new interpretation. DOE has indicated one motivation behind the new interpretation is to align the definition with the science. Yet robust scientific evaluations have already been done of Hanford's reprocessing wastes, the treatment process that will be used to remove key radionuclides, and of the immobilized waste form needed to meet the disposal site performance criteria (based on the radiological and other risks posed by the treated waste). These scientific evaluations include the technical evaluations that were the basis of 1997 NRC provisional WIR determination, *Tank Waste Remediation System Environmental Impact Statement* and, most recently, *Tank Closure & Waste Management Environmental Impact Statement*.

DOE's 2012 *Final Tank Closure & Waste Management Environmental Impact Statement* (EIS) confirmed that the current treatment and disposal pathway for Hanford's tank waste is the only way to protect the groundwater, the Columbia River and surrounding communities from harmful long-lived constituents in the reprocessing wastes, including technetium, iodine, nitrate, and chromium. Indeed, risk analyses in the EIS demonstrated that the only way to protect the Columbia River and surrounding communities over the long term is for DOE to retrieve 99 percent of the waste currently stored in the tanks, vitrify the high level fraction, and vitrify the low activity fraction that will be disposed of at Hanford.

¹ The 2010 Consent Decree settlement agreement that resolved *State of Washington v. Chu*, Civil No. 2:08-cv-05085-FVS, included deadlines for WTP (including low activity waste vitrification) to be operational by 2019. In 2015, the Consent Decree was modified to extend the deadline to have the entire WTP operational to 2033, with the low activity waste vitrification facility to be operational by 2023.

This EIS and the previous EIS specifically looked at alternatives of leaving greater volumes of tank waste in the tanks or immobilizing the tank waste in solid forms other than vitrification and those options were found to be not protective of human health and the environment.

Nothing about the chemistry of Hanford's reprocessing wastes has changed, nor has the geology of the on-site disposal location. We are, therefore, at a loss to understand how science is driving DOE's desire to interpret the term HLW in a new and different way.

Washington strongly believes current waste management decisions have been based on the best scientific and technical analyses. If DOE is now taking the position that a new interpretation of HLW is needed to align with science, one must conclude that DOE believes that it and the NRC have been making technically and scientifically inadequate decisions and agreements for the past 20 years.

DOE officials have publicly explained the reasoning behind the first part² of the proposed new interpretation is it provides a way to have Class A, Class B, and Class C wastes go to facilities that are licensed to take Class A, B, and C wastes. They also explained the intent behind the second part³ of the new interpretation to "open the door" to disposing of greater than Class C wastes at disposal locations other than a deep geologic repository.

As set forth above, however, there are already mechanisms that allow DOE to accomplish both of these objectives when the above criteria are met: Order 435.1 and NDAA Section 3116. Both mechanisms have been successfully used to reclassify HLW at South Carolina, Idaho, and in Washington at the Hanford Nuclear Reservation. At Hanford, the technical criteria for reclassifying HLW as WIR have been established for over 20 years, and the current path for treatment and disposal of reprocessing wastes at Hanford already involves reclassifying 90 percent of that waste as capable of being disposed of in a near surface environment at the Hanford site.

The State of Washington believes the current treatment and disposal pathway for Hanford's tank wastes accomplishes DOE's stated goals for its new HLW interpretation: It provides for the reclassification of HLW and it allows for disposal of the wastes according to the radiological characteristics of the wastes and the risk the treated wastes poses to human health and the environment in the selected disposal site. Washington does not see that a new interpretation of HLW is needed or justifiable when it comes to Hanford's tank wastes.

² The first part of DOE's proposed interpretation is that reprocessing waste is not HLW if it "[d]oes not exceed concentration limits for Class C low-level radioactive waste as set out in section 61.55 of title 10, Code of Federal Regulations[.]" 83 FR at 50910.

³ The second part of DOE's proposed interpretation is that reprocessing waste is not HLW if it "[d]oes not require disposal in a deep geologic repository and meets the performance objectives of a disposal facility as demonstrated through a performance assessment conducted in accordance with applicable regulatory requirements." *Id.*

Washington is Concerned that the Proposed Interpretation, if Adopted, would Change the Path Forward at Hanford and Result in DOE Abrogating its Legal Obligations

Based on public comments by DOE officials, Washington is concerned that a primary motivation behind the proposed new interpretation is to reduce DOE's cleanup costs at Environmental Management sites by changing the way HLW is currently treated and managed. Therefore, Washington is concerned that DOE will want to focus their efforts on cost savings and move away from long-standing commitments for the disposition of Hanford tank wastes that are based on protecting human health and the environment.

DOE has thus far declined to engage in meaningful dialogue on how its new interpretation of HLW would apply at any given site. This is disturbing. At Hanford, it is obvious this new interpretation would allow DOE to propose alternatives to the current treatment and disposal pathway and schedule that would be unacceptable to Washington. For example, if DOE adopts the new HLW interpretation, DOE could propose that reprocessing wastes not be retrieved from the 177 tanks on site, in favor of simply grouting the waste in place in the tanks. This would ignore DOE's current legal obligations and abandon the taxpayers' multi-billion dollar investment in the treatment and vitrification facilities currently under construction, some of which are near completion.

The new interpretation could also allow DOE to ignore the contaminated soil around the tanks, rather than addressing the contamination and ensuring it does not pose a long term risk to the surrounding communities.

Any alternatives that change from the current tank waste treatment and disposal pathway are contrary to existing agreements with the NRC as described above, regulatory commitments in legally enforceable orders including the HFFACO and consent decree, as well as RCRA requirements. More importantly, any such alternatives would likely pose unacceptable long term risks to local communities, the Columbia River, and the surrounding environment.

DOE's new interpretation could amount to DOE putting grout on the most dangerous waste in the country and walking away. Washington is unwilling to allow future generations to bear this risk simply because DOE has concerns with costs.

Washington Disagrees with DOE's Conclusion that it Does Not Have to Remove Key Radionuclides or Incorporate Reprocessing Waste in a Solid Form to Reclassify HLW

The requirements to remove key radionuclides to the maximum extent technically and economically practical and incorporate the wastes in a solid form are essential criteria for reclassifying nuclear reprocessing waste as WIR. These criteria are derived from NRC's careful analysis and have been applied by NRC and DOE consistently for more than 20 years. Moreover, Congress has ratified and adopted these requirements as prerequisites for HLW reclassification in Section 3116 of NDAA.

Based on this history, Washington does not believe that DOE has the legal authority to eliminate these important criteria in reclassifying HLW. Particularly in the case of Hanford tank waste, eliminating these criteria would be contrary to NRC's 1997 provisional determination setting forth how 90% of Hanford tank waste can be reclassified as WIR.

Additionally, DOE fails to provide any scientific or technical basis for eliminating these long-standing criteria. Rather, it disingenuously claims, without support, that removal of key radionuclides "potentially presents a greater risk to human health and the environment because it prolongs the temporary storage of the waste." 83 FR, 50911.

As described above, DOE's new interpretation could result in a disposal pathway that simply leaves grouted reprocessing waste in tanks as is – effectively transforming the tanks from temporary storage into permanent disposal units, resulting in a greater and longer-term risk to human health and the environment.

Washington is Concerned That the Reclassification Process Described in the Notice Will Exclude NRC and States and Eliminate Established Performance Objectives, Presenting an Unacceptable Conflict of Interest

This proposal would allow DOE, the party primarily liable for the cleanup of nuclear reprocessing wastes, to make the decision about how dangerous the waste is, and, therefore, how (or whether) it should be cleaned up. This creates a clear conflict of interest, and a situation that is ripe for independent oversight and participation from other entities, like NRC and the states that regulate DOE facilities. Without such participation by independent entities, a clear conflict of interest would go unchecked and be open to abuse. Washington believes Congress understood this when it included NRC and state participation in reclassification decisions under NDAA Section 3116.

Through NDAA Section 3116, Congress evinced its intent to include NRC and the states in the HLW reclassification process and to ensure compliance with long-established performance objectives set out in 10 CFR Part 61. Existing DOE agreements, like the HFFACO, similarly require consultation with NRC and the states.

Under DOE's new interpretation, consultation with NRC and the states is eliminated. In addition, the performance objectives established by the NRC through rulemaking in 10 CFR Part 61 would be replaced by an as yet to be defined "performance assessment conducted in accordance with applicable regulatory requirements." 83 FR, 50910.

This process would be managed solely by DOE with no required public input or outside regulatory oversight. DOE and its contractors would develop the performance assessment based on DOE's own standards, which have not been established through formal rulemaking or with any public input. DOE would prepare risk and other assessments with no checks and balances on the calculations or the assumptions that go into such assessments. This allows DOE and its contractors to manage the data to produce a desired outcome and skirts oversight by independent entities, contrary to Congressional intent.

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Conclusion

The proposed interpretation is contrary to Congressional intent and would fundamentally change the definition of HLW that has been consistently used by DOE and NRC. The proposed change would:

- Change existing disposal pathways for nuclear reprocessing wastes that have been established as legal obligations in agreements between DOE and other governmental agencies and by court order.
- Avoid public participation in the management of waste.
- Remove oversight of the DOE's nuclear reprocessing waste management.

These outcomes are not acceptable to the State of Washington. We urge DOE to withdraw its proposed new interpretation.

Sincerely,



Maia D. Bellon
Director

