

**STATEMENT OF
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ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT PROGRAM
YAKAMA NATION**

**BEFORE THE
BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE
OF THE UNITED STATES DEPARTMENT OF ENERGY**

JUNE 15, 2010

On behalf of the Confederated Tribes and Bands of the Yakama Nation, I wish to thank you for the opportunity to present our comments regarding the fate of the high-level radioactive wastes and other wastes requiring geologic disposal.

As outlined by Tribal Councilman Spencer yesterday, the Hanford site is located on land to which the Yakama Nation has perpetual rights under the Treaty of June 9, 1855. As such, the Federal government maintains a special trust relationship with Indian tribes pursuant to treaties, statutes, Executive Orders, judicial decisions and other legal instruments. Inherent in this relationship is an enforceable fiduciary responsibility to the Yakama Nation to protect its lands and resources. As you know, I brought this to your attention in comments submitted at your first meeting on March 23rd.

The Treaty of 1855 and the Nuclear Waste Policy Act

As mentioned by Councilman Spencer yesterday, the Yakama Nation has requested the establishment of formal consultation with the United States Government regarding the decision by President Obama to cancel the U.S. Department of Energy's Yucca Mountain high-level radioactive waste repository in Nevada. The Yakama Nation is deeply concerned about being left stranded with one of the largest and most dangerous waste inventories of the nuclear age on our ancestral homeland.

Long term storage, much less permanent disposal, of such waste at Hanford would undermine rights guaranteed in the Treaty of 1855 with the United States. In the early 1940's, Manhattan Project officials told our people that this land was needed temporarily to support the war effort, and that they would be able to return when the war ended -- that return has yet to happen.

When Yakama leaders signed the Treaty of 1855 not far from here, they knew that the Yakama Reservation land would not provide adequate resources to support our people. For that reason, they insisted that resources on the ceded land at Hanford and fish in the Columbia and regional rivers be guaranteed in the Treaty. Use of traditional foods and medicines is of increasing importance today with widespread environmental contamination, as the relation between the unique genes of the Yakama, our native foods, and our health is being demonstrated.

Because the Treaty did not contemplate the specific impacts of nuclear waste, the Yakama Nation was at the forefront in contributing to the parent legislation which became the Nuclear Waste Policy Act (NWPA). It was of vital importance to the Yakama that the Department of Energy consult with our government on every aspect of siting a repository or monitored retrievable storage facility (MRS). Government to government consultation is a requirement of the enforceable Federal trust responsibility. The Administration's cancellation of the Yucca Mountain Project has the practical effect of creating an MRS at Hanford absent the safeguards required by the NWPA.

As you know, the MRS provisions in the NWPA involve long term storage of spent nuclear fuel and high level waste in a secure facility prior to disposal. Unfortunately, the de facto Hanford MRS also includes areas where high level radioactive waste and transuranic waste has been discharged into the soil and is moving into groundwater towards the Columbia River -- in some cases with no plans for retrieval. It is this concern, military waste which remains toxic for thousands or hundreds of thousands of years, which is now in our environment and which remains ill-defined by current law and policy, which I ask you to consider in your deliberations.

Termination of the Yucca Mountain Project has nullified this country's plan for geologic disposal of spent fuel and high level waste -- at least at Yucca Mountain. What we need now is a clear assessment of the risks posed by storage of commercial reactor spent fuel, weighed against the risks of defense waste already discharged into the environment, with concrete policy recommendations to address this situation.

The Magnitude of the Problem at Hanford

As Cold War memories fade, the sobering aftermath of the nuclear arms race is no more apparent than at Hanford, where the nation's most hazardous byproducts of nuclear weapons production are stored. With nearly 60 percent of the nation's defense high-level radioactive waste, Hanford's legacy is in a league unto itself in terms of magnitude and risk.

Hanford high-level wastes currently contain approximately 194 million curies of radioactivity in 54 million gallons (204,000 cubic meters) stored in large underground tanks. (See Table 1.)

Radionuclides in the tanks pose potentially significant risks to health and natural resources for 300 to more than 200,000 years. Hanford's wastes also have substantial amounts of long-lived fission products and transuranics, including more than a ton of plutonium. The amount of technetium-99 produced at Hanford (211,000 year half-life) is nearly nine times more than that released from all world-wide atmospheric nuclear weapons tests.

More than a third of Hanford's tanks have failed, leaking approximately one million gallons of nuclear waste and contaminating groundwater that eventually enters the Columbia River.

High Level Waste

By the early 1990's, after the Yakama Nation and State of Washington petitioned the Nuclear Regulatory Commission to clarify high level waste classification, DOE announced its goal to process and dispose of the high level waste in all of Hanford's 177 tanks. Processing this waste was expected to generate about 14,500 high level glass canisters (15,700 cubic meters) and more than 100,000 low activity glass packages (271,000 cubic meters.)

By 1995, the Department of Energy by administrative action allocated disposal capacity in the Yucca Mountain repository, setting aside 90 percent of capacity for commercial reactor spent fuel, leaving 10 percent for DOE waste. By 2002, years before cancellation of the Yucca Mountain Project, DOE had issued a Record of Decision in the Yucca Mountain Final Environmental Impact Statement that effectively curtailed geologic disposal of defense high level waste at DOE sites by 64 percent. The rationale for this decision was to make more room for commercial reactor waste, and this decision is embodied in the license application submitted to the NRC in June, 2008. Through this action, DOE sites would be stranded with nearly two thirds of their inventory of defense high level waste even with successful operation of the Yucca Mountain Project.

The Yakama Nation's position is that all Hanford spent fuel and high level waste must be disposed of in a geologic repository, consistent with decades of scientific recommendations and as embodied in the Nuclear Waste Policy Act. We urge the Commission to support this goal. With regard to spent fuel, the practice of dry cask storage in hardened facilities appears to provide decades of 'breathing room' to develop plans for ultimate disposal. The same does not apply to high level waste already released into the environment.

It would be inconceivable to propose plans for disposal of even a small fraction of spent nuclear fuel in the near surface. However, near surface disposal of high level waste outside the tanks is still planned for Hanford, waste containing the same extremely toxic components as spent fuel.

The basic technical and legal requirements for high level waste disposal set forth in the Nuclear Waste Policy Act are being undermined at Hanford, putting the future of this region at risk.

First, in Section 3116 of the 2005 National Defense Authorization Act, Congress granted authority to the Secretary of Energy to reclassify high level waste in tanks, following consultation, in South Carolina and Idaho. This authority was explicitly excluded for the State of Washington, at the insistence of Washington State and the Yakama Nation. However, DOE has stated that it plans to reclassify high level tank waste at Hanford through a 'Section 3116-like' process, in contravention of the NWPA and previous court rulings. DOE efforts to classify away

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this problem raise the specter of huge sacrifice zones at Hanford and invite legal challenges after hundreds of millions of dollars are spent on indefensible plans.

Reclassification of waste is a legal artifice that does nothing to change the dangers that this waste poses to health, to the environment, to the culture and way of life of our people, and to future generations. I urge the Blue Ribbon Commission, convened under an Energy Secretary who is a Nobel Prize winner in Physics to make an explicit statement against such manipulations.

At a minimum, the Commission should be explicit that the definition of high-level waste should include liquid wastes arising directly from reprocessing (part of the definition in the 1982 Nuclear Waste Policy Act) and that as a result, all the waste in the 177 Hanford high-level waste tanks is high-level waste.

However, I believe the Commission should go farther and bring greater environmental and scientific coherence the issue of what wastes should be sent to repositories and, most important, what wastes shall not on any account be disposed of in shallow land burial

Creation of sacrifice zones and irretrievable contamination of groundwater by disposal of reclassified waste is hardly the result to be desired after tens of billions of dollars are spent on tank closure and other remediation. The Commission should provide clear guidance about cleanup, if only because cleanup and related waste management policies will significantly impact future repository programs. Our analysis of Hanford contamination and of DOE's Tank Closure and Waste Management Draft EIS will be submitted to the Commission in our extended comments.

The Nuclear Waste Policy Act is being undermined in another way at Hanford, not from attempts at reclassification, but from a complete lack of classification. A tremendous inventory of high level radioactive waste was discharged or accidentally released into the vadose zone at Hanford over decades. The first step in solving this problem requires proper characterization of the waste and proper classification. In last year's Draft Tank Closure and Waste Management EIS, DOE constructs one cleanup alternative based on classification of the discharged waste as high level, and examines scenarios for removal.

I ask that the Blue Ribbon Commission make recommendations to address this classification problem directly, to assist DOE in addressing this severe threat to the region.

Transuranic Waste

The Commission's charter also includes addressing nuclear materials that are likely to pose a comparable risk to high-level wastes, such as transuranic wastes. A recent paper by Robert Alvarez, a consultant to the Yakama Nation, has reported that the Hanford site is responsible for nearly a third of DOE's plutonium wastes (4 metric tons) – more than any site in the U.S. nuclear weapons complex. Despite evidence of significant deep subsurface migration, DOE currently plans to leave about 0.7 metric tons of plutonium disposed before 1970. The State of Washington is also moving to cap the U.S. Ecology landfill in the Hanford 200 East area – effectively leaving about 100 kg of plutonium in the ground. DOE, Washington State and NRC should take steps to remove as much buried plutonium as possible at Hanford for geologic disposal, as it is doing at the Idaho National Laboratory. According to Mr. Alvarez:

*“DOE officials view long-term stewardship efforts, which are likely to rely heavily on land control, site surveillance, monitoring, maintenance, record keeping, and related activities, as inherently low cost. Federal institutional controls, however, require that disposal of radioactive wastes at DOE sites must pose less than a 1 in 10,000 chance of exceeding EPA drinking water standards over a 10,000 year time frame.¹ In 2000, the National Academy of Science challenged the DOE’s approach and concluded that: **“Institutional controls will fail [emphasis added].** Past experience with such measures suggests, however, that failures are likely to occur, possibly in the near term, and that humans and environmental resources will be put at risk as a result. A recent estimate by the DOE underscores the Academy’s concern and finds that plutonium in groundwater from dump sites at Hanford could reach the near shore of the Columbia River in less than 1,000 years at concentrations 283 times greater than the federal drinking water standard”*

We are in agreement with the U.S. Environmental Protection Agency and the Washington Department of Ecology in its December 2007 White Paper regarding cleanup of the central plateau, where the most serious contamination exists at Hanford.

“Transuranic materials (both pre and post 1970) should be treated the same when they pose similar risks and should be removed for burial in a deep geologic repository... There are pre-1970 TRU waste sites that contain concentrations that are significantly higher than TRU waste being sent to WIPP from remediation of post-1970 waste sites. TRU waste should be treated the same based on risk as a CERCLA hazardous substance, regardless of the date of disposal.”

I ask that the Blue Ribbon Commission help ensure that transuranic wastes, which require geologic disposal, are not left to threaten the human environment for centuries to come at Hanford. We understand that pre-1970 transuranic waste is now stranded as an artifact of legislative history. For the Commission to provide a clear direction for the Administration and Congress, this pre-1970 waste, which is every bit as lethal as that generated after 1970, must be addressed squarely.

Conclusion

How these two problems are addressed – high level waste and transuranic waste now stranded by outdated law and policy -- will have perhaps the most far reaching consequences for the long term health of this region. I ask that the Commission to provide clear recommendations on how we may recognize the seriousness of this problem and begin developing a solution for it.

¹ U.S. Department of Energy, Nuclear Regulatory Commission and Environmental Protection Agency, The Interagency Steering Committee on Radiation Standards Federal Institutional Control Requirements for Radioactive Waste and Restricted Release of Property Containing Radioactive Material,

-2-<http://www.hss.energy.gov/nuclearsafety/env/guidance/aea/radtabls.pdf>

The recent tragedy in the Gulf of Mexico is another reminder of how modern society is unable to avoid serious and unintended consequences when employing advanced technologies. It is little understood still that the Yakama also employed advanced technology, in the form of sophisticated understanding of the environment, its resources and their inter-relationships. The ultimate test of a culture and society is whether it is able to withstand the test of time. What we may contribute is based on the cultural wisdom which has allowed us to thrive in this region since time immemorial.

The law, including Yakama Nation Treaty rights, and an ethic of responsibility to future generations require that drinking water standards be met.

The implication for the Commission's work is two-fold. First, the Commission should explicitly acknowledge that leaving high-level waste, waste derived from high-level waste, or disposing of this waste in shallow land burial, is not acceptable. Second, as a direct consequence of the recognition of the technical reality of the quantity and type of waste at Hanford, all the waste in the tanks, whether it is in a high or low activity waste stream, must be treated as de facto high-level waste and disposed of in a deep geologic repository.

The same should, of course, apply to all transuranic waste, whether pre-or post-1970. We hope and expect that the Commission shares this view.

This would represent a great advance from a time not long ago when environmental destruction was considered an acceptable cost of progress. We expect that a true environmental ethic be applied to Hanford, the ancestral land of the Yakama, and that the concept of a sacrifice zone be relegated to the past.

When people say that restoring Hanford -- so Treaty rights may be fully exercised again -- may take another hundred years, we say, that is fine and we will help you get there.

This concludes my statement,

Thank you.

TABLE 1.

Table 1: Hanford high-level waste inventory.

Radionuclides (Ci)		Radionuclides (cont)		Other analytes (Kg)	
3H	1.04E+04	152Eu	1.71E+03	F	1.08E+06
90Y	4.99E+07	14C	3.01E+03	Al	8.05E+06
90Sr	4.99E+07	137Cs	4.62E+07	Fe	1.25E+06
60Co	8.08E+03	137mBa	4.37E+07	La	3.69E+04
234U	2.21E+02	129I	4.79E+01	Pb	7.84E+04
106Ru	1.02E+03	227Ac	1.30E+02	Mn	1.65E+05
134Cs	1.82E+04	243Am	1.52E+01	Hg	1.83E+03
233U	5.08E+02	239Pu	6.88E+04	Ni	1.16E+05
244Cm	2.88E+02	235U	9.14E+00	K	9.18E+05
238Pu	4.23E+03	228Ra	6.24E+01	Si	8.01E+05
63Ni	1.28E+05	242Cm	1.44E+02	Na	4.80E+07
242Pu	8.29E-01	154Eu	1.02E+05	Sr	3.96E+04
226Ra	2.38E+02	229Th	2.58E+01	Cr	6.05E+05
237Np	1.33E+02	151Sm	3.35E+06	U Total	6.02E+05
241Pu	1.25E+05	93Zr	4.42E+03	Zr	4.09E+05
240Pu	1.22E+04	243Cm	1.24E+01	Bi	5.61E+05
99Tc	2.85E+04	79Se	1.32E+02	Ca	2.55E+05
232U	4.25E+01	126Sn	6.00E+02	Cl	8.64E+05
125Sb	2.49E+04	236U	5.92E+00	TIC as	
231Pa	2.72E+02	113mCd	1.65E+04	CO3	9.80E+06
59Ni	1.37E+03	93mNb	3.86E+03	TOC	1.27E+06
155Eu	7.69E+04	232Th	8.12E+00	PO4	5.32E+06
241Am	1.43E+05	238U	2.01E+02	NO3	5.48E+07
		TOTAL	1.94E+08	NO2	1.21E+07
				SO4	3.66E+06
				TOTAL	1.51E+08

Source: Tank Waste Inventory Network System, Best Basis Inventory, September 2003.

**Figure 1. The Energy department's
Proposed Action for Disposal of Defense HLW at Yucca Mt.**

