



March 26, 2013

Secretary Steven Chu  
Office of the Secretary  
Department of Energy  
1000 Independence Ave SW  
Washington DC 20585  
The.Secretary@hq.doe.gov

RE: Proposal to Ship Hanford High-Level Radioactive Waste to New Mexico

Dear Secretary Chu,

We write to you regarding the Department of Energy's (DOE) News Release and subsequent publication in the Federal Register on March 11, 2013 of DOE's "preferred alternative" to retrieve, treat, package, characterize and certify certain Hanford tank wastes for disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico.<sup>1</sup> As detailed below, DOE's proposed course of action would fail to resolve or meaningfully address potential threats to the Columbia River from leaking high-level radioactive waste (HLW) tanks at Hanford. The waste proposed for treatment and transfer to WIPP is too small a fraction of the total inventory of Hanford tank waste to make the investment worthwhile and the proposal does not prioritize the leaking single-shell tanks. Further, DOE's "preferred alternative" would likely have a disastrous impact on both efforts to arrive at a national nuclear waste strategy and associated progress at the WIPP facility from legal, technical and institutional perspectives.

With such caution in mind, we urge you to ensure DOE complies with the law and retracts the preferred alternative of attempting to ship high-level radioactive waste to New Mexico. It is costly, unwise and illegal to ship Hanford tank waste to WIPP. DOE should move as quickly as practicable to build new tanks to empty the actively leaking high-level radioactive waste tanks and have tank capacity for eventual feed to the Waste Treatment Plant. We would be happy to meet with your successor in the coming weeks to discuss these and other matters. We further detail these matters below.

## **Background**

As national and regional groups that have worked on the nuclear weapons complex cleanup for decades, we share DOE's concerns about protecting human health, the environment, and of course, the Columbia River and its central role as the lifeblood of the Pacific Northwest. We also share concerns about achieving an effective high-level waste program inclusive of state, tribal and public

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<sup>1</sup> EIS-0391: Notice of Preferred Alternative, 78 Fed. Reg. 15358, (March 11, 2013). Notice available at: <http://energy.gov/nepa/downloads/eis-0391-notice-preferred-alternative>.

interests that ultimately arrives at long-term geologic disposal solution for defense-generated HLW and commercial spent nuclear fuel.

As you know, Hanford's tanks are leaking HLW with an underground flow pathway toward the Columbia River. An estimated one million gallons of contamination have already leaked from the tanks, and an undetermined quantity has entered the groundwater adjacent to the river. The Washington State Department of Ecology has declared, "out of these 149 SSTs, 67 have been declared as known or assumed leakers that have released more than one million gallons of waste to the soil and groundwater. The released tank waste is now moving toward, but has not reached, the Columbia River."<sup>2</sup> Six single-shell tanks and one double-shell tank are now confirmed to be actively leaking, and 14 others may be leaking, according to DOE.<sup>3</sup> Such leaks will only serve to drive existing contamination closer to the Columbia River. This is an urgent problem, and we applaud the State of Washington and the Department of Energy for their renewed commitment to address this crisis.

While we share concerns for a meaningful and effective high-level waste disposal program, the position of the NRDC, Hanford Challenge and Southwest Research and Development Center is that DOE's "preferred alternative" to retrieve, treat, package, characterize and certify certain Hanford tank wastes for disposal at WIPP in New Mexico is both unlawful and fraught with several technical problems that make it evident any such plan does not meaningfully solve the urgent situation in Washington.

### **The Hanford EIS and the subject of shipping HLW to New Mexico**

Prior to the close of the public comment period on the Draft Tank Closure & Waste Management EIS (TC & WM EIS), DOE issued a statement in the Federal Register (74 FR 67189) that indicated it was no longer considering sending Hanford tank waste to WIPP, declaring the intention that these wastes would be retrieved and treated at the Waste Treatment Plant (WTP) being constructed at Hanford.<sup>4</sup> For this reason, the State of Washington Department of Ecology (Ecology) and many members of the public did not comment on sending tank waste to WIPP during the public comment period, and no public meeting was held in New Mexico. However DOE changed its position in the Final TC & WM EIS and included the preferred alternative of sending portions of tank waste to WIPP.

In its Forward to the Final TC & WM EIS, Ecology elaborated on some of its concerns over DOE's current approach to the potential mixed TRU tank waste:

Ecology has legal and technical concerns with any tank waste being classified as mixed TRU waste at this time. DOE must provide peer-reviewed data and a strong, defensible, technically and legally detailed justification for the designation of any tank waste as mixed TRU waste, rather than as HLW. DOE must also complete the WIPP certification process and assure Ecology that there is a viable disposal pathway

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<sup>2</sup> [http://www.ecy.wa.gov/programs/nwp/tank\\_waste\\_storage.htm](http://www.ecy.wa.gov/programs/nwp/tank_waste_storage.htm)

<sup>3</sup> "The U.S. Department of Energy and its contractor are evaluating 14 other single-shell tanks that appeared to have lost liquid, according to state regulators and others who attended a DOE briefing in Oregon Monday." [http://www.oregonlive.com/environment/index.ssf/2013/03/more\\_tanks\\_could\\_be\\_leaking\\_at.html#incart\\_river\\_default](http://www.oregonlive.com/environment/index.ssf/2013/03/more_tanks_could_be_leaking_at.html#incart_river_default)

<sup>4</sup> "DOE is now expressing its preference that no Hanford tank wastes would be shipped to WIPP." 74 Federal Register 67189, (December 18, 2009).

(i.e., permit approval from the State of New Mexico and the U.S. Environmental Protection Agency) before Ecology will modify the Hanford Sitewide Permit to allow tank waste to be treated as mixed TRU waste. Further, Ecology is concerned with the cost benefit viability of an approach that sends a relatively minor amount of tank waste to WIPP, given the cost it would take to secure the disposal path, and to construct and operate the drying facility for the TRU tank waste.<sup>5</sup>

A treatment facility to retrieve, process and package Hanford tank waste for shipment to WIPP would be expensive, and time-consuming. Without substantially more information, we are unclear how any such plan could comply with current law. We are unaware of blueprints or plans for such a drying facility, and certainly there is no existing facility at Hanford that could accomplish that mission.

DOE named 20 tanks with high level waste that DOE would seek to reclassify as TRU in the Final TC & WM EIS,<sup>6</sup> but an earlier review by the Washington State Department of Ecology put the number of tanks that might qualify under the legal definition of TRU at only eight tanks.<sup>7</sup> DOE's current presentations further the intention to classify 11 tanks as Contact Handled TRU (CH-TRU) and send this waste, totaling around 280,000 gallons to WIPP.<sup>8</sup> However, no policy, cost or legal analysis on the topic has been completed and therefore there is no credible basis at this time for DOE's preferred alternative of sending Hanford tank waste to WIPP.

### **The Legal Bar Against Reclassifying HLW**

There is a contentious legal history on the subject of treatment and disposal of HLW, particularly with respect to "reclassifying" HLW and disposing of it in a manner not consistent with the Nuclear Waste Policy Act, 42 U.S.C. § 10101, *et seq.* DOE's efforts to reserve to itself unfettered authority to reclassify HLW over the last 15 years have precipitated litigation by NRDC and other environmental groups, and the direct objection of several states. *See, NRDC v. Abraham*, 271 F.Supp. 2d 1260 (D. Idaho 2003), *rvsd*' on ripeness grounds, *NRDC v. Abraham*, 388 F.3d 701 (9th Cir. 2004) (collectively the "HLW Decisions"). *See also*, Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 3116, 118 Stat. 1811, 2162-64 (2004). We will not review that entire history here, but make a few relevant points.

First, all the waste in the tanks is currently HLW.<sup>9</sup> However, we note that DOE is not barred from removing high-level radioactive waste (HLW) from the tanks and treating that waste for disposal. Nor do the HLW decisions bar DOE from separating some portion of that waste into a stream that meets low-level radioactive waste (LLW) standards and disposing of that portion of the waste outside

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<sup>5</sup> Washington State Department of Ecology Forward, Final TC & WM EIS, DOE/EIS-0391, December 2012.

<sup>6</sup> Final TC & WM EIS, DOE/EIS-0391, December 2012, p. 2-26 sec. 2.2.2.2.5.

<sup>7</sup> Conversation between Tom Carpenter, Hanford Challenge, and Department of Ecology staffer, March 16, 2013.

<sup>8</sup> USDOE ORP Presentation by Kevin Smith to the Oregon Hanford Cleanup Board, March 4, 2013.

<sup>9</sup> "It is undisputed that the waste stored at Hanford, INEEL, and Savannah River is highly radioactive and the result of reprocessing. No solids have yet been extracted from the liquid waste at those sites and treated to reduce fission products. Thus, the waste at issue in this case falls within NWPAs's definition of HLW." *NRDC v. Abraham*, 271 F.Supp.2d 1260, 1265 (D.Idaho 2003) (emphasis added).

of a geologic repository in a properly licensed disposal site. Such a process, however, is not what DOE has proposed.

Second, Section 3116 of the 2005 National Defense Authorization Act, the Bush Administration's response to the original Idaho Federal District Court HLW Decision, was a significant change to the entire structure and purpose of the NWPA, not a "clarification."<sup>10</sup> That law, which allows DOE to reclassify HLW as "Waste Incidental to Reprocessing" subject to certain criteria, has application in South Carolina and Idaho. Section 3116 does not have application in Washington or Oregon. *See*, Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005, Pub. L. No. 108-375, § 3116, 118 Stat. 1811, 2162-64 (2004). Further, the "waste incidental to reprocessing" concept codified in Section 3116 does not set cleanup standards of "99 percent," "most of the radioactivity," or an "inch and half of waste at the bottom of the tank." The Natural Resources Defense Council and Hanford Challenge voiced repeatedly in comments Hanford Draft TC & WM EIS that this concept should be dropped from consideration in final and preferred alternatives for the Hanford Draft TC & WM EIS.

In short, under the current NWPA, the Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC) regulate the geologic disposal of HLW – and decide what is (and what is not) HLW. At the Hanford Reservation, DOE may not unilaterally decide that HLW has been transformed into "waste incidental to reprocessing" or "TRU waste" for disposal at WIPP. If the concepts embodied in Section 3116 are in any way adopted or used via the Hanford Final TC & WM EIS and subsequent preferred alternatives, DOE will be in direct contravention of the NWPA.

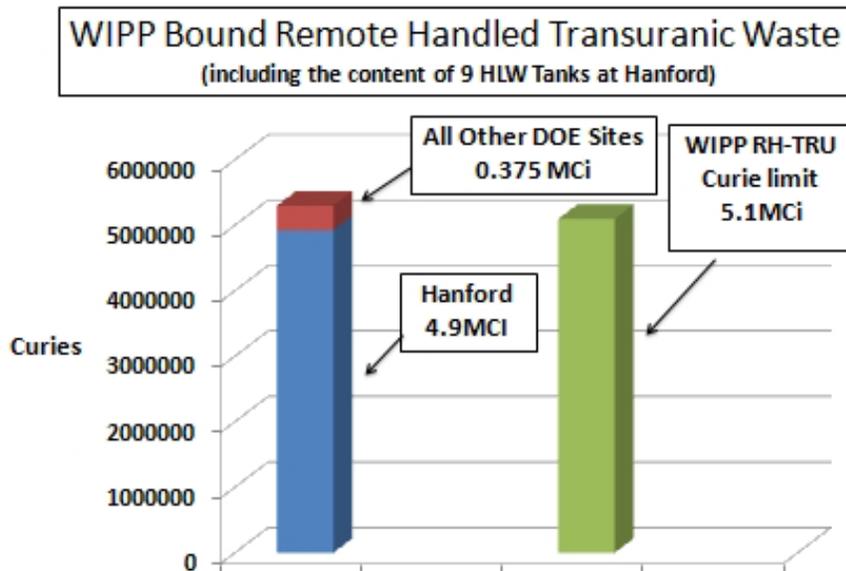
### **Further Data and Analysis of Hanford HLW Tanks Needed**

Along with ensuring you are clear on the status of HLW law, we would like you to consider the characteristics of the wastes in the 20 Hanford tanks named as candidates for disposal at WIPP. An analysis of Hanford's TWINS database reveals that the radioactivity content of these 20 Hanford tanks named in the EIS come close to almost entirely filling the radioactivity limits for the WIPP facility. Specifically, for remote-handled Transuranic Waste (RH-TRU), the curie content in the Hanford tanks is 4.9 million curies. WIPP's RH-TRU limit for such waste is 5.1 million curies.<sup>11</sup>

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<sup>10</sup> NRDC and dozens of environmental and public interest groups stood with Washington, Oregon, New York, and New Mexico and objected to the concepts embodied in Section 3116. Only the states of South Carolina and Idaho – who sided with the other states throughout the litigation until March 2004 in objecting to DOE's assertion of "waste incidental to reprocessing" authority – submitted to DOE's cleanup budget-threatening tactics and supported the legislative change. Via Section 3116, DOE obtained an exemption from the NWPA and the ability to reclassify HLW as "incidental waste" without any congressional or state oversight. No such similar path forward exists at the Hanford site.

<sup>11</sup> [http://www.wipp.energy.gov/library/seis/DOE\\_EIS-0026-SA-08.pdf](http://www.wipp.energy.gov/library/seis/DOE_EIS-0026-SA-08.pdf)



Sources: TWINS Data Base [09-2003], DOE/EIS-0391, Table E-11, DOE/TRU-12-342, Table 3.11

Apparently, DOE has no plans to remove radionuclides from these wastes, and instead relies on a plan to simply remove and dry the tank waste according to Appendix E of the Final TC & WM EIS. However, in order to stay under the curie limit for WIPP, either the current law will have to change to substantially increase the curie limits for the RH-TRU, or DOE will have to decontaminate the sludge (10-20% of the volume containing ~95% of the Sr) and the Cs in the salts (80-80% of the volume containing ~90% of the Cs.). This will likely involve the use of sludge washing. Once these contaminants are removed, we have no information where DOE intends to dispose of these toxic radionuclides.

### The Situation at the Hanford Tank Farms

We concur with DOE and the State of Washington that there is practically little if any capacity to receive more high level wastes in the current underground waste tanks at the Hanford Tank Farms. And specifically there is diminishing capacity left in the existing double-shell tanks (DST), according to Hanford's System Plan, relied upon in the 2013 Hanford Lifecycle Scope, Schedule and Costs Report. The System Plan identifies that, after the C Farm tank waste campaign is completed and waste is retrieved from the AX Farm Single-Shell-Tanks (SSTs) and from some of the A Farm SSTs by 2020, there will be only 0.9 million gallons of Double-Shell-Tank (DST) capacity left.<sup>12</sup>

However, these estimates consider neither the need to empty and take AY-102 out of commission nor the amount of waste in actively leaking tanks. The recently identified DST leaker, AY-102, has 800,000 gallons of waste that will need to be removed from that tank alone. The lack of integrity of

<sup>12</sup> River Protection Project System Plan, ORP-11242 Revision 6, p.5-10. October 2011. Available at [www.hanford.gov/files.cfm/ORP-11242\\_REV\\_6\\_-\\_1110050954.pdf](http://www.hanford.gov/files.cfm/ORP-11242_REV_6_-_1110050954.pdf).

tank AY-102 calls into question the assumption that the current DSTs will last long enough to see the waste treatment mission through.

There is at least a significant question about how many, if any, of the Hanford tanks identified as TRU-waste candidates, would actually qualify as such. Even giving DOE the benefit of the doubt that some portion of this waste could be removed, treated, and disposed of as TRU, which as we describe above is not a lawful act, assuming all 20 of the tanks qualify as TRU, it still amounts to only 3.1 million gallons, or around 5.6 percent of the total waste volume in the tanks. It is not worth the time and money to build a TRU treatment facility at Hanford for such a small amount of waste. Second, even if the waste was suitable for WIPP, the timing does not negate the need for immediate action to build new tanks, empty leaking tanks and get the Waste Treatment Plant on track. We cannot let the false solution of unlawfully shipping some insignificant fraction of HLW to WIPP distract us from real and immediate needs.

### **What We Recommend at Hanford**

The only sure way to relieve the crisis at Hanford is to build new waste tanks, as soon as possible. Indeed, this conclusion has been reached by the Governors of both Washington<sup>13</sup> and Oregon,<sup>14</sup> and by the Hanford Advisory Board,<sup>15</sup> a 32-member council of diverse Hanford stakeholder seats that operates by consensus. This has been a contentious political point for years, as investing in new tanks was feared to take attention (and funding) away from the much needed Waste Treatment Plant and would become a default “solution.” However, with the integrity of current tanks in such question and the delays at the WTP, new DSTs need to be on the table. The technology is mature, there are no questions about the legality or technical feasibility of such a plan, and given the trade-offs in costs between building a (risky) TRU-treatment facility and tanks, the choice is clear. Additionally, new double-shell tanks are needed to help staging for Waste Treatment Plant operation.

Washington law requires that any tank containing hazardous materials that is reported as starting to leak must be pumped below the point of the leak within 24 hours, or as soon as practicable.<sup>16</sup> It is of paramount importance that no new leakage be tolerated, and those tanks that are reported to be actively leaking must be remediated as soon as possible. This requires that waste in those tanks be moved to double-shell tanks that have not leaked (i.e., not AY-102) and have enough room to accommodate the waste.

Furthermore, the System Plan assumes that RH-TRU waste will be treated at the WTP together with HLW.<sup>17</sup> Regardless of what DOE may intend to someday ship to WIPP, new tanks are needed immediately at Hanford to prevent more waste from entering the ground and water systems and to

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<sup>13</sup> Governor Jay Inslee wants more tanks at Hanford, Feb. 1, 2013, *Tri-City Herald*, <http://www.tri-cityherald.com/2013/02/01/2258268/governor-jay-inslee-wants-more.html>

<sup>14</sup> John Kitzhaber calls for more tanks to hold Hanford's high-level radioactive waste, Jan. 30, 2013, *Oregonian*, [http://www.oregonlive.com/environment/index.ssf/2013/01/kitzhaber\\_calls\\_for\\_-more\\_tanks.html](http://www.oregonlive.com/environment/index.ssf/2013/01/kitzhaber_calls_for_-more_tanks.html)

<sup>15</sup> Hanford Advisory Board Advice, Nov. 2, 2012, [http://www.hanford.gov/files.cfm/HABAdv\\_263.pdf](http://www.hanford.gov/files.cfm/HABAdv_263.pdf)

<sup>16</sup> Washington Admin. Code 173-303-640.

<sup>17</sup> 2013 Hanford Lifecycle Scope, Schedule and Costs Report, DOE/RL-2012-13, Rev. O. December 2012. Available at [http://www.hanford.gov/files.cfm/DOE-RL-2012-13\\_FINAL\\_REV.0\\_.pdf](http://www.hanford.gov/files.cfm/DOE-RL-2012-13_FINAL_REV.0_.pdf).

ensure that the transfer of waste to the Waste Treatment Plant is efficient and safe once operational. Furthermore, DOE must act to put the Waste Treatment Plant on track with an independent assessment and realistic plan for how to address the cost-overruns, delays, and most importantly the design and quality assurance problems plaguing the WTP.

### **Institutional Implications of Such a “Preferred Alternative”**

The DOE’s relationship with several states, including licensing issues, and the coherency of the entire nuclear weapons complex cleanup will be called into question if DOE proceeds with this preferred alternative. Specifically, the WIPP Land Withdrawal Act (LWA, PL 102-579, Section 12, 106 Stat. 4791 (1992)) bans transportation to or disposal of HLW or commercially generated spent nuclear fuel at WIPP. *See* Section 12 of the LWA. The ban reflected the position of New Mexico officials and the congressional delegation, as well as public opinion. The legislative history illustrates Congressional recognition that Hanford tank wastes are HLW and included in the ban.

Further, DOE’s WIPP environmental impact statements have at no point included any Hanford HLW (or any other HLW from any other site, for that matter) in possible WIPP inventory. Therefore, transportation or emplacement of any Hanford tank waste at WIPP requires congressional action to amend the LWA, as well as substantial and new NEPA analyses.

Finally, such a preferred alternative contradicts the national nuclear waste strategy proposed by President Obama’s Blue Ribbon Commission on America’s Nuclear Future and DOE’s January 2013 proposal to emphasize the importance of consent in future nuclear waste storage and disposal programs.<sup>18</sup> Indeed, an effort to enact the ideas of the BRC into legislation was proposed at the end of the previous Congress by former Energy & Natural Resources Chairman Jeff Bingaman (NM). New iterations modeled on Senator Bingaman’s template are currently being developed in this Congress. In the context of WIPP, the consent given was clearly under the stipulation that no HLW or spent nuclear fuel would be transported or disposed there. Not abiding by the longstanding limitations included in the state’s consent would not only undermine DOE’s credibility and Congressional action for New Mexico, but also set an extraordinary precedent, rendering it unthinkable that any other state would rely on DOE’s assurance that the agency would abide by conditions or limitations that are integral to state consent.

And as a practical matter, WIPP is not designed for and does not have the capabilities to handle HLW. Indeed, WIPP is not succeeding in its remote-handled (RH) waste disposal mission, as it has available space for only about half of the RH waste that is allowed by the LWA and the Consultation and Cooperation Agreement. DOE’s focus regarding WIPP should be on assuring that the facility is fulfilling its mission, not on adding additional activities for which the site is not suited.

This is a matter of significant concern and, we note, some measure of complexity. Representatives from each signatory group will be in Washington, D.C. from April 15-19, 2013 and request to meet

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<sup>18</sup> Department of Energy, Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste, January 2013. Available at: <http://energy.gov/sites/prod/files/Strategy%20for%20the%20Management%20and%20Disposal%20of%20Used%20Nuclear%20Fuel%20and%20High%20Level%20Radioactive%20Waste.pdf>

with your successor and staff to discuss these matters. Thank for your consideration and we look forward to hearing from you.

Sincerely,



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