



# Heart of America Northwest

*The Public's Voice for Hanford Cleanup*

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## **BRIEFING BOOKLET**

### **FOR PUBLIC WORKSHOPS ON PROPOSED CHANGES & DELAYS TO HANFORD CLEANUP AGREEMENT**

*Portland & Seattle*

*June 23 & 24, 2010*

#### **COVERING ISSUES:**

- New! Geographic approach to Central Plateau Cleanup
- Approach to deep soil contamination in the Central Plateau
- Delays to retrieval & treatment of Plutonium and other Transuranic wastes buried at Hanford post-1970
- Failure to include requirement to retrieve Transuranic wastes buried at Hanford pre-1970
- Who should draft Records of Decision, the polluter or the regulator?

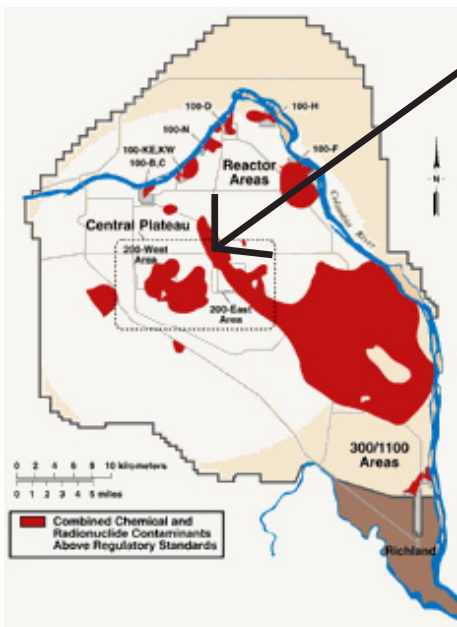


*Transuranic waste, contaminated with elements such as Plutonium that have very long half-lives, stored in unlined trenches at Hanford after 1970. Delays are proposed to retrieving these wastes, and Transuranic waste buried before 1970 is ignored.*

## NEW! GEOGRAPHIC APPROACH TO CENTRAL PLATEAU CLEANUP

The agencies listened to our concerns over USDOE's plan to have only three general decision units for all of the diverse types of cleanup required for Hanford's Central Plateau. They now propose a geographic approach to organizing the cleanup decisions, with 12 geographic-based decision units:

- 2 groundwater decision units (200 East & 200 West)
- Includes a unit for the deep soil contamination (*see next page*)
- The Hanford Advisory Board and Heart of America Northwest support developing a geographic approach



The Central Plateau Contains Hanford's Wastes in:

**UNLINED DITCHES  
TRENCHES/PONDS  
HIGH-LEVEL WASTE TANKS  
LANDFILLS**

In addition, the Central Plateau also has **FACILITIES**: large Plutonium & Uranium extraction facilities, called "canyon" buildings; divided into "200 East" & "200 West" Areas, surrounded by an "Outer Area," which includes waste discharge sites

**One major caveat in this plan:** a huge exception to the 2024 milestone to complete cleanup of all "non-tank farm" waste sites in the Central Plateau is proposed:

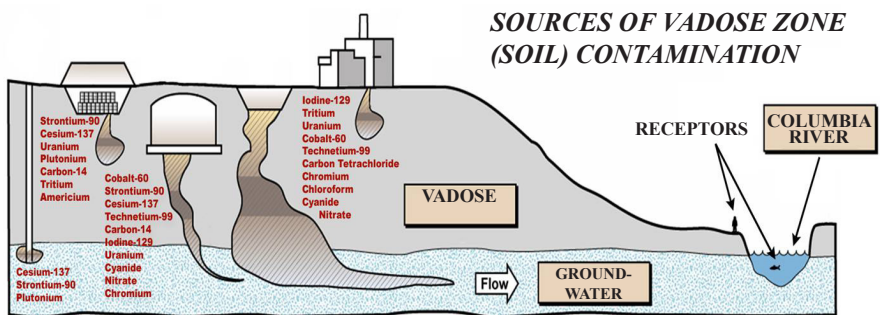
- No date for completing cleanup and demolition of the massive, contaminated "canyon" facilities (i.e. PUREX Plant, Plutonium Finishing Plant, REDOX)
- Without a date, there's no driver to complete cleanup
- The U Plant would have a 2021 deadline to put a "barrier" over the remaining portion of the building and nearby waste sites
- HOANW objects to the proposed delay of milestones to complete investigations & propose cleanup plans for soil sites by 5 years to 2016

## APPROACH TO DEEP SOIL CONTAMINATION IN THE CENTRAL PLATEAU

One of the 12 geographic based cleanup decision units is one for the “deep vadose zone” – the soil contaminated above the groundwater (see *graphic below*). Previous decisions covered just the top 15-40 feet below the surface. The soil is up to 300 feet deep in places, however, so the agencies have established a separate unit for the deep soil. It is a positive step for the agencies to formally acknowledge that the deep soil contamination needs to be addressed, however:

- The agencies have created a decision unit without any specific goals and milestone schedules for remediating the deep soil contamination (for example, will the current 2024 deadline for cleanup of soil sites be met?);
- USDOE lacks a comprehensive and integrated cleanup approach to contamination throughout the entire soil column; instead USDOE is separating out the first 15 feet of soil as one decision and the deeper soil as a separate decision (to be dealt with at a later date);
- Deep soil contamination cleanup should be addressed in concert with tank farm leaks and other contamination investigations.

Creating a separate decision unit for deep soil contamination is not necessarily the most effective way to address its remediation. For example, the preferred alternative in the *Tank Closure & Waste Management Environmental Impact Statement* is to cap the High-Level Nuclear Waste tanks, as opposed to clean closure, which requires all waste residues to be removed or decontaminated. HOANW is concerned because the contamination below the surface is going to violate groundwater standards, and the surface has to be cleaned up in order to access the deeper contamination for remediation. How does USDOE intend to cleanup deep soil contamination *after* capping the tank farms and trenches?



## **DELAYS TO RETRIEVAL & TREATMENT OF PLUTONIUM AND OTHER TRANSURANIC WASTES BURIED AT HANFORD POST-1970**

After 1970, USDOE was required to “retrievably store” Transuranic waste (TRU), not dispose of it in unlined trenches as it had been doing, so it can be exhumed and sent to the Waste Isolation Pilot Plant (WIPP) in New Mexico for permanent disposal. Currently, Hanford workers are retrieving waste drums from the storage ditches, preparing and shipping them to WIPP.

**The proposal allows USDOE to delay retrieval and treatment of TRU by up to four years:**

- Breaking a promise made last year, the agencies propose unenforceable “target” dates for TRU waste removal from 2012-2014, instead of legally enforceable milestones;
- USDOE has no obligation to even ask for funding to meet “target” dates;
- Storage barrels are corroding every year, waste is spreading, and retrieval risks increase as storage containers fail (*see picture of corroding barrels being retrieved*).



**USDOE would also be given until 2035 to remove TRU wastes from Hanford to WIPP:**

- **WIPP, the only repository for such wastes, is legally bound to close in 2030 under its permit from New Mexico;**
- The milestone should align with the WIPP schedule to ensure that highly radioactive Plutonium and TRU wastes are not stranded at Hanford;
- Highly dangerous wastes would be stored without treatment after they are retrieved from the soil; storage without treatment is illegal due to safety.

*Also, USDOE is planning to ship more extremely radioactive “Remote-Handled” TRU to Hanford as “Greater Than Class C” waste; this waste might never leave Hanford. Stay tuned for that Environmental Impact Statement in July 2010.*

# FAILURE TO INCLUDE REQUIREMENT TO RETRIEVE TRANSURANIC WASTES BURIED PRE-1970

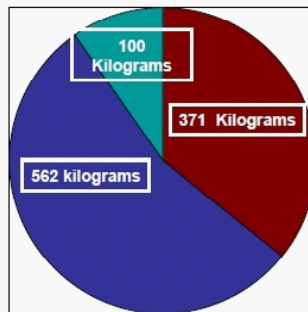
USDOE only plans on retrieving the Transuranic (TRU) wastes buried at Hanford after 1970, leaving almost 95% of the total TRU wastes in the soil. There is enough Plutonium in the soil at Hanford to make 172 Nagasaki-size atomic bombs (*see pie chart*).

- The Hanford Cleanup Agreement should included a specific commitment to retrieve pre-1970 TRU;
- The wastes, regardless of the date of burial at Hanford, are serious threats to the environment, so the same cleanup decision framework should be used for all TRU wastes.

## Buried Plutonium at the Hanford Site

• As much as 1,033 kilograms of Pu-239 -- enough to fuel 172 Nagasaki-size atomic bombs -- were dumped into soil at 55 sites from the 1940's to the early 1970's.

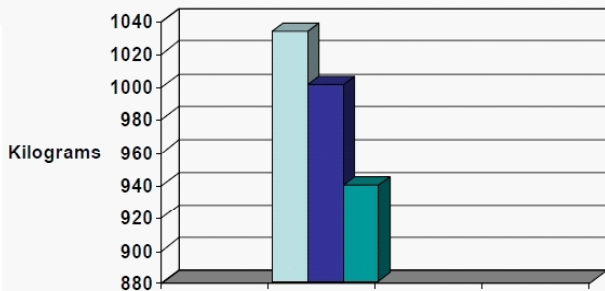
• At least 16 sites contain average concentrations of transuranics (TRU) greater than 100 nCig -- the DOE standard requiring geological disposal.



■ Solid Waste Burial Grounds 
 ■ Cribs, Ditches, Trenches 
 ■ U.S. Ecology landfill

Sources: WHC-SD-WM-EIS-325, RHO-LD-114, PNNL-11800 SIIMS 2009

## Plutonium in Wastes at Hanford



Approximately 2,970 kg – more than 4 percent of the Pu-239 produced at Hanford went into waste streams.

■ buried in soil 
 ■ in waste tanks 
 ■ post 1970

Sources: WHC-SD-WM-EIS-325, RHO-LD-114, WA-DOH 2004, DOE/TRU-2008-3379, DOE TWINS Data 09/03

## WHO SHOULD DRAFT RECORDS OF DECISION, THE POLLUTER OR THE REGULATOR?

The agencies want to allow the polluter, USDOE, to replace EPA, the regulator's, role in drafting cleanup plans under Superfund law. The Record of Decision is the standard for how well a site gets cleaned up, is supposed to weigh public input, and is a final decision:

- EPA still to “approve” plans, but USDOE’s presentation of alternatives and information almost certain to be biased, as history has shown us;
- Reviewing is not the same as preparing initial drafts;
- Especially troubling because agencies propose that many waste sites be moved from Washington Ecology’s regulatory role to EPA...then USDOE would be drafting the decisions. USDOE would also prepare “corrective action decisions” for Ecology;
- Heart of America Northwest believes this switch is illegal. When it was originally proposed in 2009, many citizens objected, and we reported that USDOE’s claim that a federal Executive Order required USDOE to prepare the plans was blatantly false;
- Will the public get to see the drafts? The new process would put a deadline on the regulators to review or accept USDOE’s drafts, but USDOE has often missed its own deadlines in preparing draft work plans!



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