

# HANFORD ADVISORY BOARD

A Site Specific Advisory Board, Chartered under the Federal Advisory Committee Act

**Advising:**

US Dept of Energy  
US Environmental  
Protection Agency  
Washington State  
Dept of Ecology

June 3, 2011

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Dennis Faulk, Manager  
U.S. Environmental Protection Agency, Region 10  
309 Bradley Blvd, Suite 115  
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Re: PW-1/3/6 and CW-5 Operable Units

Dear Messrs. Samuelson, McCormick and Faulk,

## Background

The draft "Proposed Plan for the Remediation of the 200-CW-5, 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units" (Draft Plan) discusses the proposed remediation of 22 waste sites within the 200 Area of the Central Plateau. The 200-PW-3 Operable Unit (Cesium Sites) includes four Plutonium Uranium Extraction Plant cribs and one unplanned release, all containing primarily cesium-137 in the 200 East Area. The remaining 17 waste sites (PW-1, PW-6) are cribs, ditches, and other miscellaneous release sites associated with the plutonium recovery activities in the 200 West Area. The nature and extent of the nitrate plume and technetium-99 contamination is not understood.

The Hanford Advisory Board (Board) adopted Advice #207 outlining criteria for development of this Draft Plan. The Board's commitment to the values, considerations and criteria in that advice is unchanged.

The Draft Plan proposes to cover the cesium waste sites in 200-PW-3 with additional soil to achieve a 15-foot thick "cap" thought to be protective of human health for 300-400 years of institutional control. The Board disagrees with this solution. Use of the

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HAB Consensus Advice # 247  
Subject: PW-1/3/6 & CW-5 Operable Units  
Adopted: June 3, 2011  
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Remove/Treat/Dispose (RTD) approach for this waste is consistent with the Board's Central Plateau Remedial Action Values Flowsheet (Advice #173).

In the case of the five Cesium Sites, most of the cesium-137 appears to be accessible within the top 15 feet of the disposal site, which would make these sites a good candidate for RTD. The configuration of these waste sites provides an excellent opportunity to remove the clean top soil in order to access the concentrated layer of radionuclides.

In addition, the Draft Plan proposes to apply the RTD approach to the Z ditches in the 200 West Area by mixing clean top soil with lower layers of soil containing concentrated plutonium (blending) to qualify for disposal at the Environmental Restoration Disposal Facility (ERDF), rather than the Waste Isolation Pilot Plant (WIPP). The Board strongly disagrees with this approach.

In Advice #207, the Board specifically advised sending as much plutonium to WIPP as possible. Plutonium is "forever." The high salt waste sites typically contain high plutonium concentrations in the near surface, making them candidates for the RTD remedy. Employing RTD for shipment to WIPP is the approach that would remove the plutonium (and the risks associated with that plutonium) from Hanford forever, and would result in a cleaner remediated site with substantially less plutonium permanently disposed in ERDF.

#### **Advice**

- The Board advises the U.S. Department of Energy (DOE) to get as much plutonium out of these waste sites as possible.
- The Board advises DOE to implement a RTD policy for plutonium that emphasizes remediation of plutonium disposal sites. DOE policy should opt to ship eligible plutonium-contaminated soil to WIPP for geological disposal, permanently removing it from Hanford.
- The Board advises DOE to utilize a RTD approach when a high concentration of a radionuclide exists. This approach is consistent with established Board values.
- The Board advises basing remedial design for cleanup of technetium and nitrates upon increased characterization. Extensive sampling is needed to determine the location and extent of technetium and nitrate contamination. This characterization should coincide with remediation efforts.
- The Board advises a policy to conduct RTD concurrently with vapor extraction efforts to ensure meeting Tri-Party Agreement milestones.

- The Board advises the proximity of cesium-137 to the surface necessitates implementing an RTD approach in order to dispose of cesium into the ERDF burial ground.
- The Board advises the Tri-Party agencies to hold public meetings to discuss the draft "Proposed Plan for the Remediation of the 200-CW-5, 200-PW-1, 200-PW-3, and 200-PW-6 Operable Units.

Sincerely,



Susan Leckband, Chair  
Hanford Advisory Board

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*This advice represents Board consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.*

cc: Stacy Charboneau, Co-Deputy Designated Official, U.S. Department of Energy,  
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Document: NA (HAB)  
 Document Date: 06/03/2011  
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 Due Date: NO ACTION

Title: PW-1/3/6 and CW-5 Operable Units

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IDMS Folder: RL General Corr

Date RL CC Rec'd: 06/09/2011