

Tank Waste Residuals, Perspectives from WASHINGTON STATE DEPARTMENT OF ECOLOGY

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Keeping it Simple

- Quick overview
- The State's experience on reclassification
- What we see

Hanford Waste Big Hitters

- *The State considers all Hanford tank waste as High Level Waste*
- *This site has historical use by Yakamas, Nez Perce and the Confederated Tribes of the Umatilla Nations*
- *The site has deep groundwater and is adjacent to the Columbia River*
- *Hanford is operating under the Hanford Federal Facility Agreement and Consent Order, the Tri-Party Agreement (TPA)*

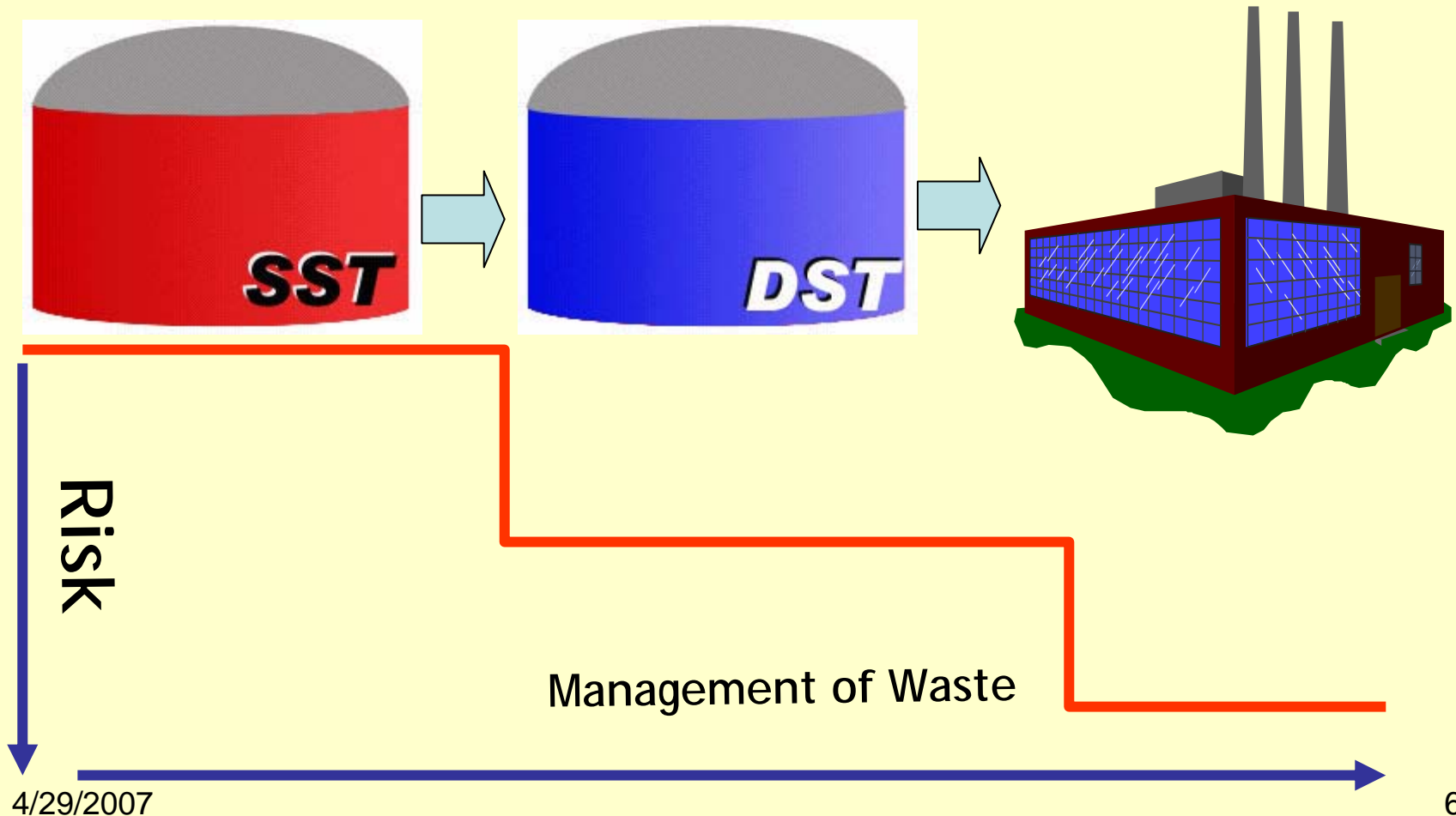
Washington State Tank Waste Major Concerns

- 53 Million Gallons of High Level Mixed Waste
- Stored in Aging tanks
 - ✓ 149 Single Shell Tanks that past their design life and non compliant with Dangerous Waste requirements
 - ✓ 67 Single Shell Tanks (SST) have leaked or are suspected leakers
 - ✓ 28 Double Shell Tanks (DST) are nearly full

Tank Waste Disposal Plan

- Safe storage and eventual shipment of Immobilized High Level Waste (IHLW)
 - ✓ key radionuclides are concentrated
- Safe disposal of Immobilized Low Activity Waste (ILAW)
 - ✓ pretreated for separation of key radionuclides and immobilized
 - ✓ NRC Letter June 9, 1997 - meets the incidental waste classification criteria for on-site disposal
 - ✓ If waste is significantly higher or of a different character, re-evaluation by NRC required

Protecting the Columbia River



Washington State Assumptions

- Waste Treatment Plant completed
- Additional treatment capacity for LAW:
 - Optimize performance
 - Minimize mission duration
- TPA will provide framework for all cleanup activities

TPA- Retrieval and Closure of Tanks

- Provides the basis for decisions
 - ✓ Retrieve - as much as technically possible and less than 1" in the bottom of a 75" diameter tank
- If residual tank waste remains at Hanford
 - ✓ A process is defined and will need to be finished to reclassify remaining residual waste for on-site disposal
 - ✓ landfill tank closure is approved by State through Permit after the EIS evaluates impacts of alternatives
 - ✓ Performance Assessment will address State regulations and detailed risks

Context of Retrieval and Closure

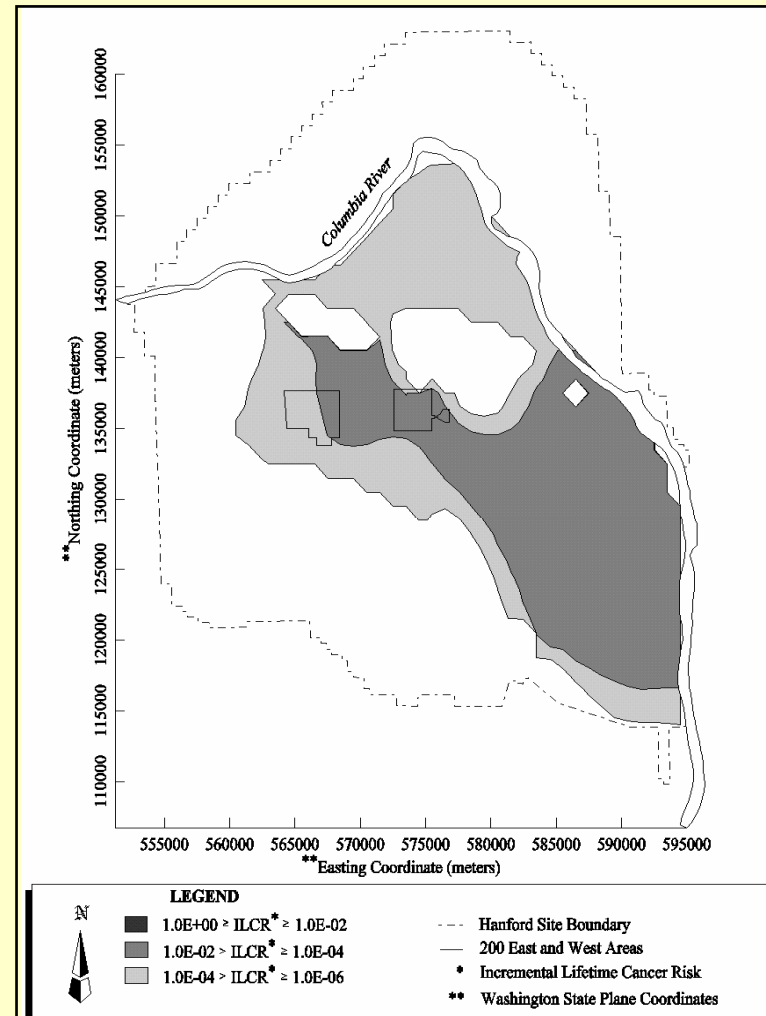
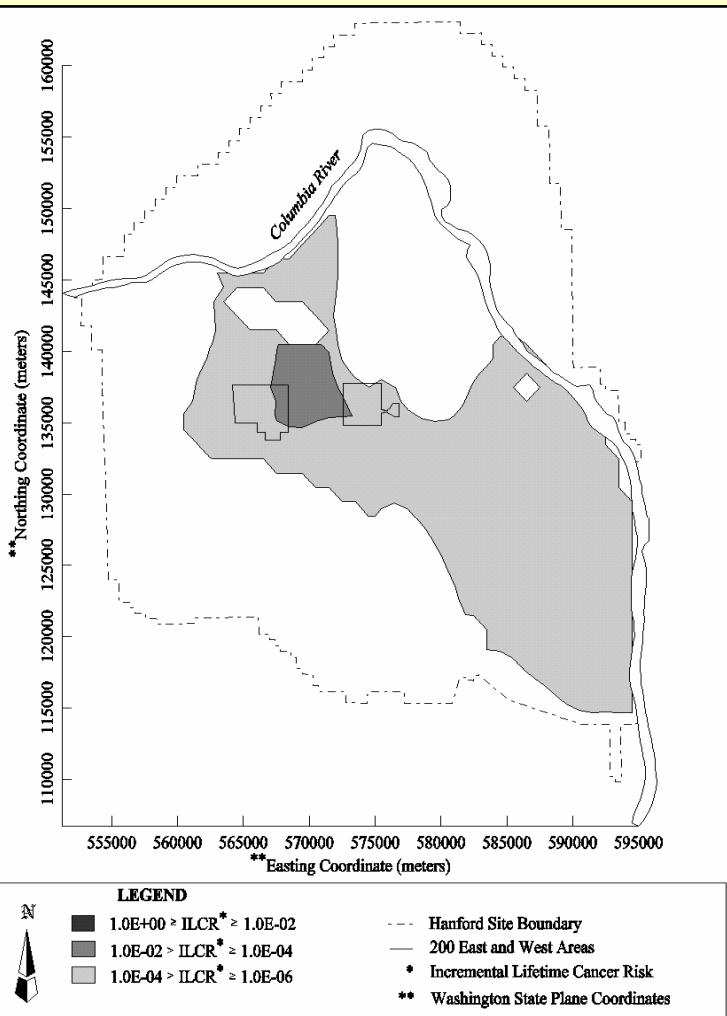
- The TWRS EIS evaluated leaving waste in tanks
 - ✓ Result in massive plumes in the groundwater
 - ✓ Contaminate the Columbia River.

TWRS EIS Results

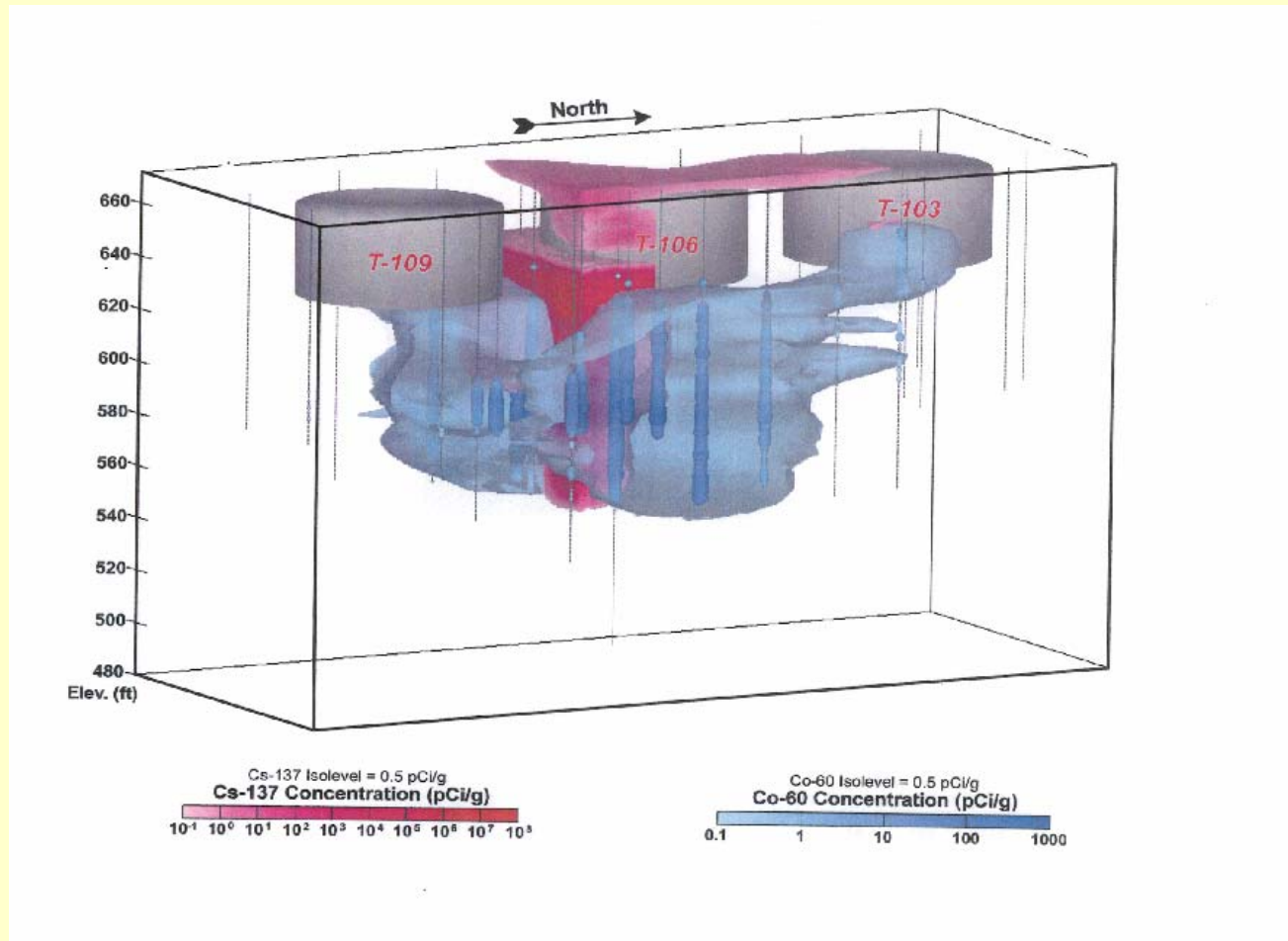
Incidental Cancer Lifetime Risk

99% Retrieval, Farmer Scenario,
ICLR from Tank Residuals at
5,000 Years

Retrieve 50% by volume; 90% of
contaminates that contribute to
long-term risk, Farmer Scenario,
ICLR from Tank Residuals at
5,000 Years



One leak Modeled



What TPA says

- Retrieve Tanks to minimum
- Appendix H of the TPA
 - ✓ Step 2
 - ✓ Demonstrate Retrieval Goal
 - ✓ Establish interface with NRC and reach formal agreement
 - ✓ Includes consideration of the soil and residuals
 - ✓ Step 5
 - ✓ Evaluate Goal and modify
 - ✓ Notify NRC as required for compliance
 - ✓ Finalize Closure Plans and obtain regulatory agencies concurrence
 - ✓ Step 9 – if residuals don't comply with Step 5
 - ✓ “Review NRC license issues” and “submit waiver”
 - ✓ If not accepted further retrieval

What TPA says

- Appendix I of the TPA
 - ✓ Defines closure pathway
 - ✓ Requires Performance Assessment (PA) to include information to address State requirements
 - ✓ Requires soil corrective measures and remediation
- Section on public input, advisory committee, and communication requirements
- Includes new milestone process

Path to Tank Waste Disposal

- ◆ Continue tank retrievals
- ◆ Close C-tank farm in the next decade
- ◆ Work through the TPA -
 - ◆ to develop reclassification process of residuals
 - ◆ RCRA Closure Permit
- ◆ Work with USDOE to complete PA criteria
- ◆ Receive NRC review and agreement on PA and USDOE decision on waste residuals

Path to Tank Waste Disposal

- ◆ Begin treating waste

- ◆ Continue to use the 1997 agreement with NRC as method to reclassify ILAW
- ◆ Treat and ship IHLW

Previous NRC review observations

- ◆ Reviews reflect technical approach
 - Protective of human health
 - Includes advice for public comment
 - NRC review and comment on PA
 - NRC agreement in principle
 - Standard review plan is beneficial
- ◆ Supports Hanford TPA

State of Washington

- What does 3116 offer that the is not provided in the TPA?
- Thanks

