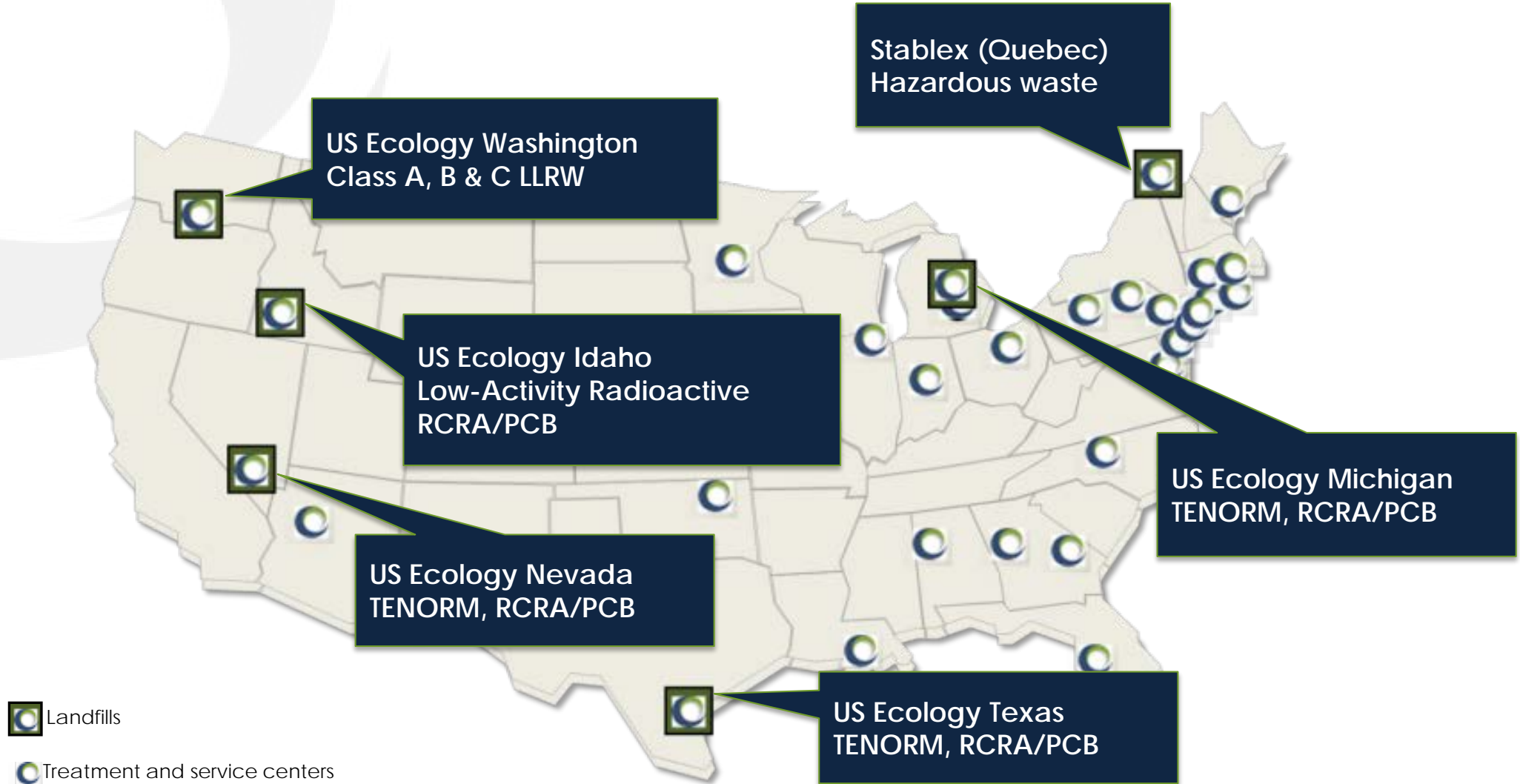




Waste Management Symposium  
Session 60 – Disposal Site Update

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March 7, 2017

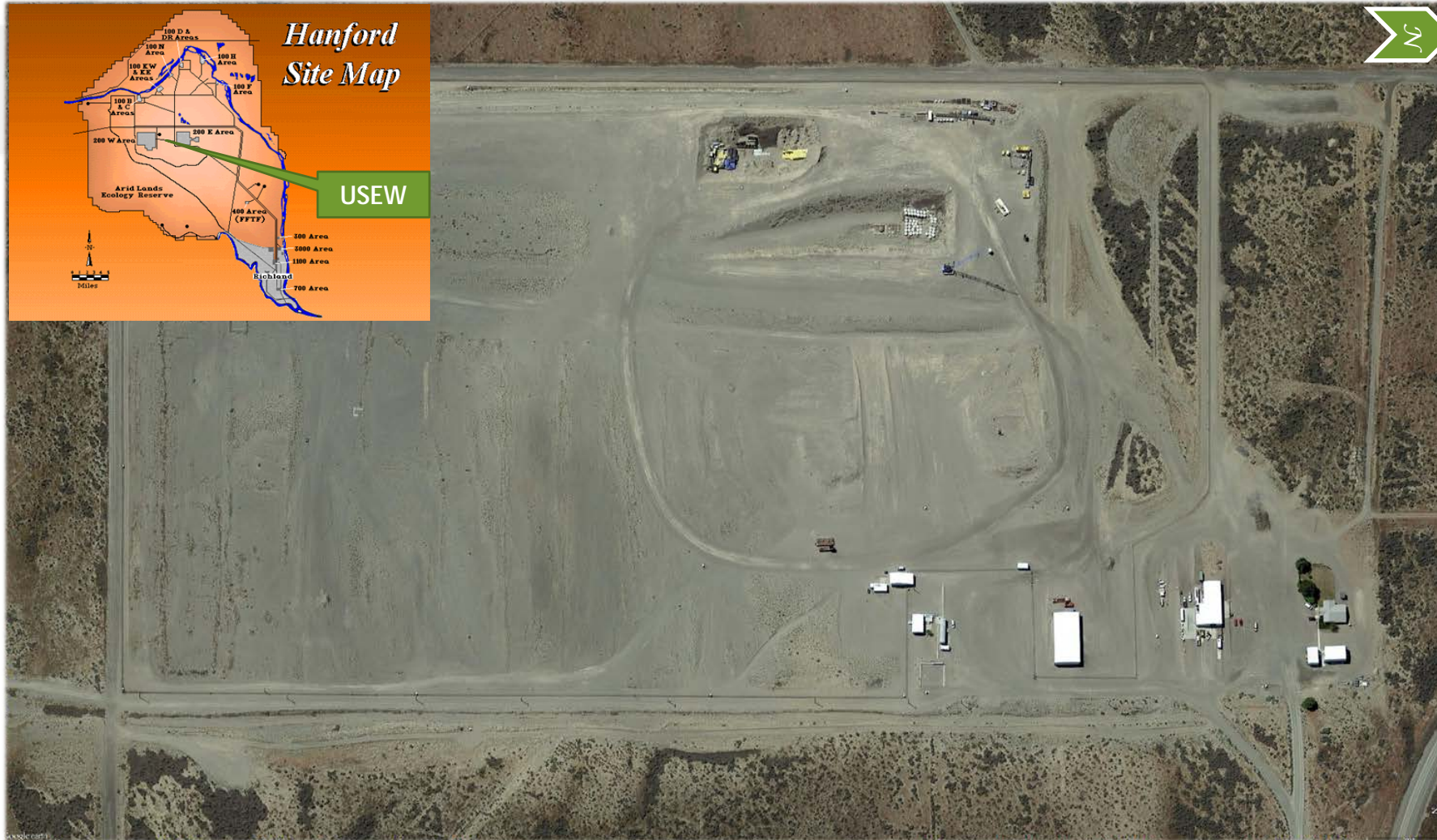


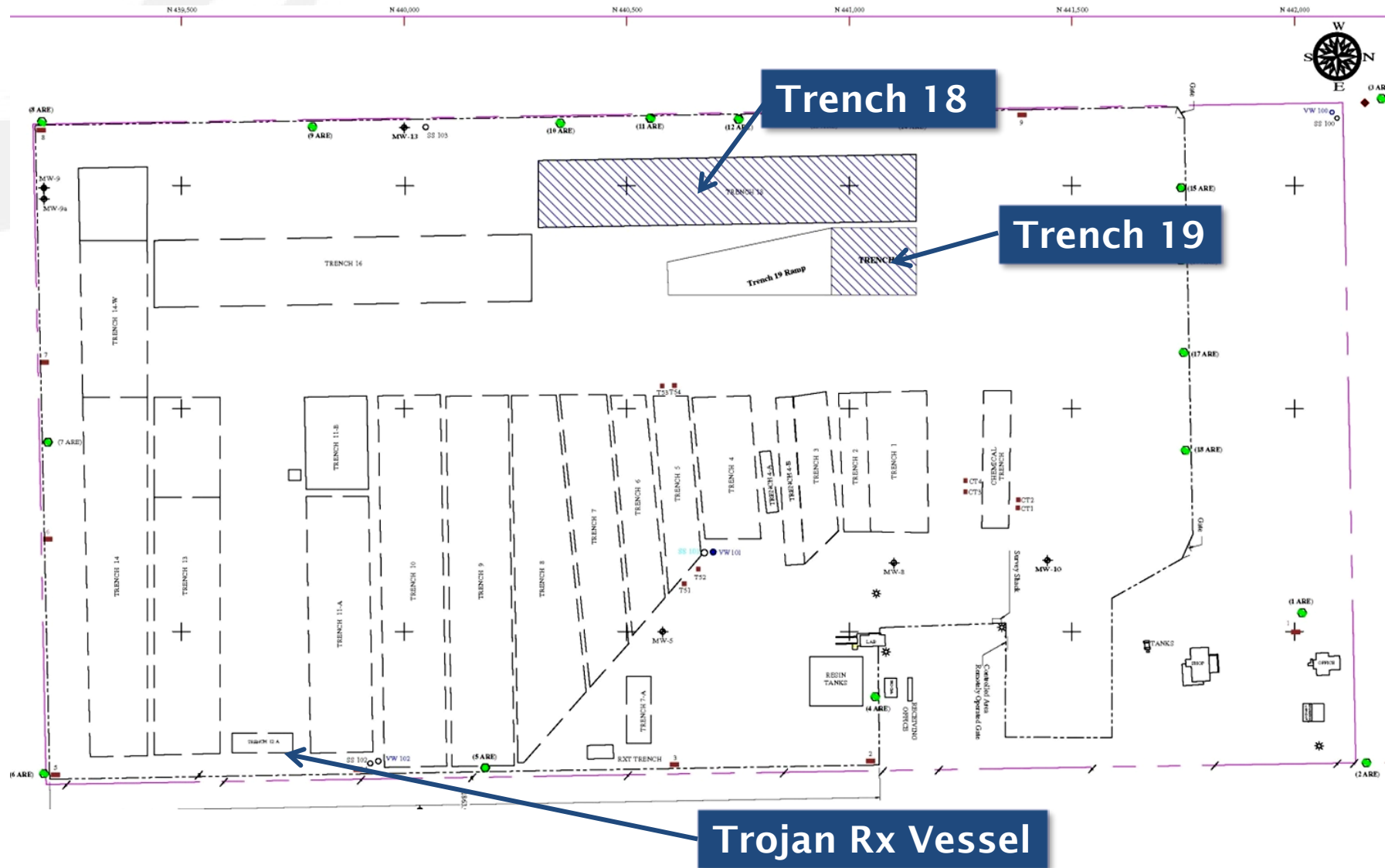
- Treatment and Disposal Services
- ✓ Industrial and hazardous wastes
  - ✓ Radioactive wastes
  - ✓ Mobile solvent recycling
  - ✓ Organic chemical recycling
  - ✓ Thermal recycling
  - ✓ Aircraft deicing fluid recycling
  - ✓ Metals recovery and recycling

# US Ecology - Washington

- Located on 100 acres within the Hanford Reservation near Richland, WA
- Originally Licensed in 1965
- Designated NWIC Facility (Accessible to 11 states in NW & Rocky Mtn. Compacts - January 1, 1993)
- Operates through lease agreement with State of WA
- Rate-regulated by WA Utility & Transportation Commission

# Aerial Photograph





Trench 18

Trench 19

Trojan Rx Vessel



# Active Disposal Trenches

Trench 19 →  
Class A/B/C - Stable



← Trench 18  
Class A - Unstable

# Types of Waste Accepted

- Compact Class A/B/C LLRW
- NARM Waste Nationwide (includes Radium sources)
- Exempt Waste Nationwide



# Annual Disposal Volumes

- 2012: 23,233 ft<sup>3</sup>
- 2013: 24,959 ft<sup>3</sup>
- 2014: 20,466 ft<sup>3</sup>
- 2015: 27,400 ft<sup>3</sup>
- 2016: 21,218 ft<sup>3</sup>





# 2016 Disposal Volumes

|        |                              |
|--------|------------------------------|
| LLRW   | 17,730 ft <sup>3</sup>       |
| NARM   | 3,488 ft <sup>3</sup>        |
| Exempt | 0.0 ft <sup>3</sup>          |
| Total  | <hr/> 21,218 ft <sup>3</sup> |

## Disposal Capacity (As Constructed)

Trench 18 (AU) – 11,800 ft<sup>3</sup> (5.5 yrs)

Trench 19 (Stable) - 10,876 ft<sup>3</sup> (22 yrs)

Site has ample capacity to last through life of lease. (2056)

# MTCIA Investigation



Trenches pre-1985 (1964 -1985)

Liquid e.g. Scintillation vials in closed containers surrounded by absorbent.

1980 - Cardboard boxes prohibited for burial

1980 - RCRA – Chemically mixed LLW disposed until 1985

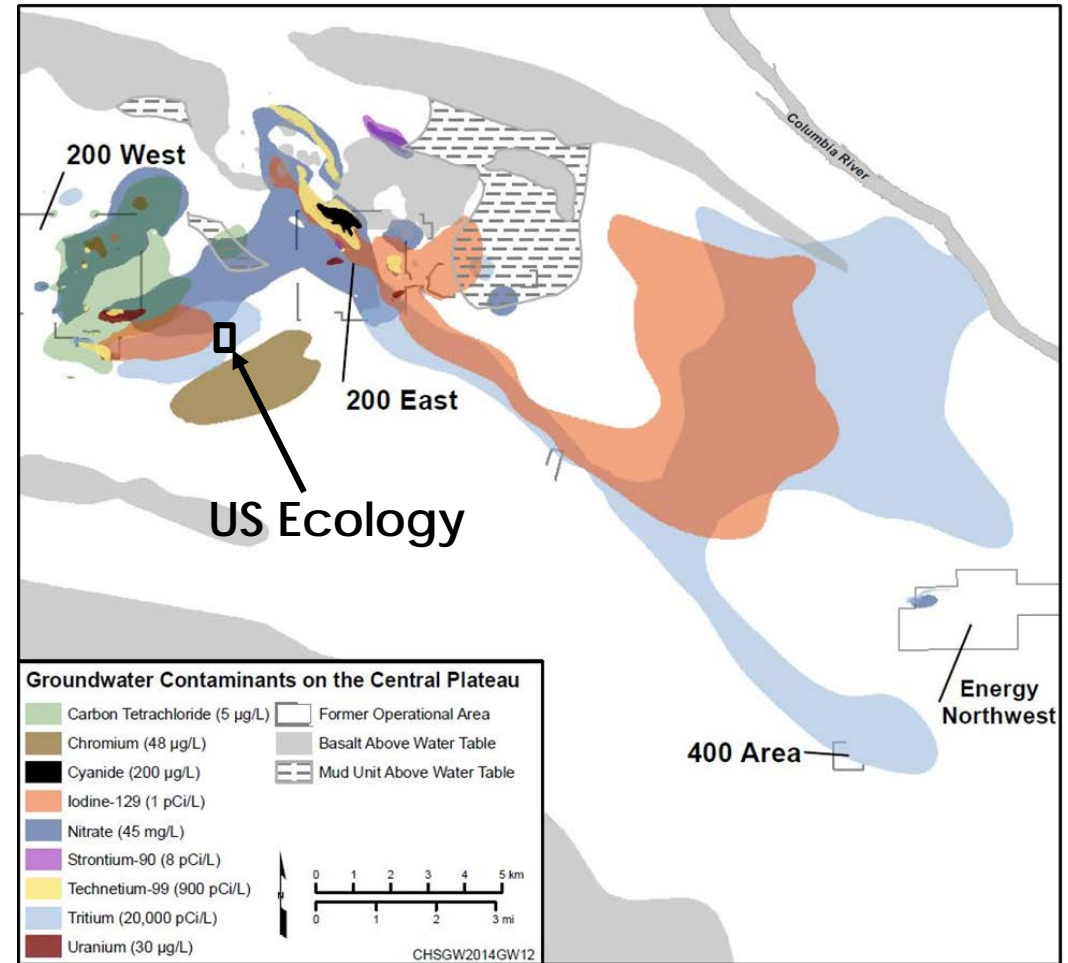
1983 – 10 CFR 61

1987 – Last use of wood boxes except by variance

1999 - Sorbed liquids banned

# MTCIA Investigation

- Investigating Potential Impacts from Past Operations (pre-1985)
- Conceptual Site Model accepted: September 4, 2013
- Washington Department of Ecology has lead
  - Final FFS is being prepared.
  - Work Scope and revised RA in discussion.
  - Interim Actions are in discussion.





# US Ecology Idaho



# Radioactive Waste Acceptance Criteria

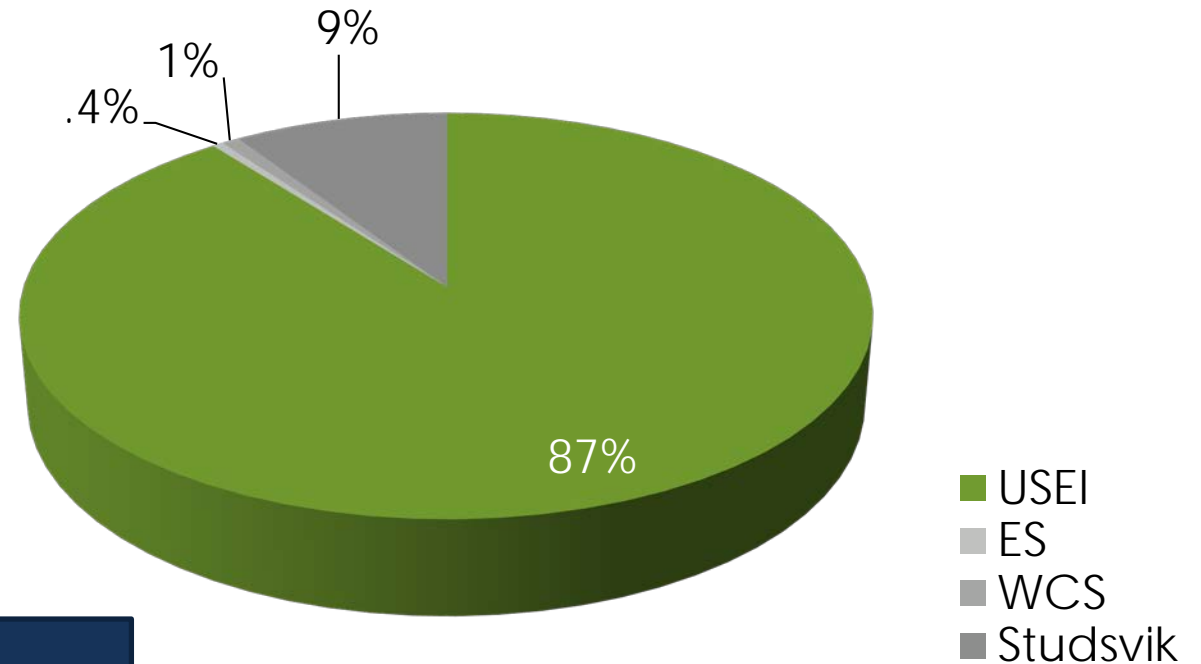
- Radium and Pb-210 up to 1,500 pCi/g
- Uranium and Thorium <500 ppm
- Accelerator material <10 mR/hr dose rate on outside of conveyance or package
- Exempt items & devices (10 CFR 30 & 40)
- Exempted Source, Byproduct & Special Nuclear Material up to 3 nCi/g
  
- Must be exempt from AEA (NRC, DOE, or DoD)

# Case Study: Hematite

- 1,600 safe and compliant rail shipments
- Last shipment in April 2016
- ~175,000 tons total (burial pits more extensive than planned)
- LEU averaged 3-5%
- 1,200 mCi of Tc-99 at 8 pCi/g (avg)



# Westinghouse Hematite - ~174,000+ tons



*"Westinghouse enjoyed an excellent working relationship with US Ecology...our team shipped 172,000 tons to US Ecology for disposal, which accounted for over 1,600 safe and compliant railcar shipments and tens of millions of dollars in cost savings to the project over other options."*

**-Joe Smetanka, Vice President, Westinghouse**

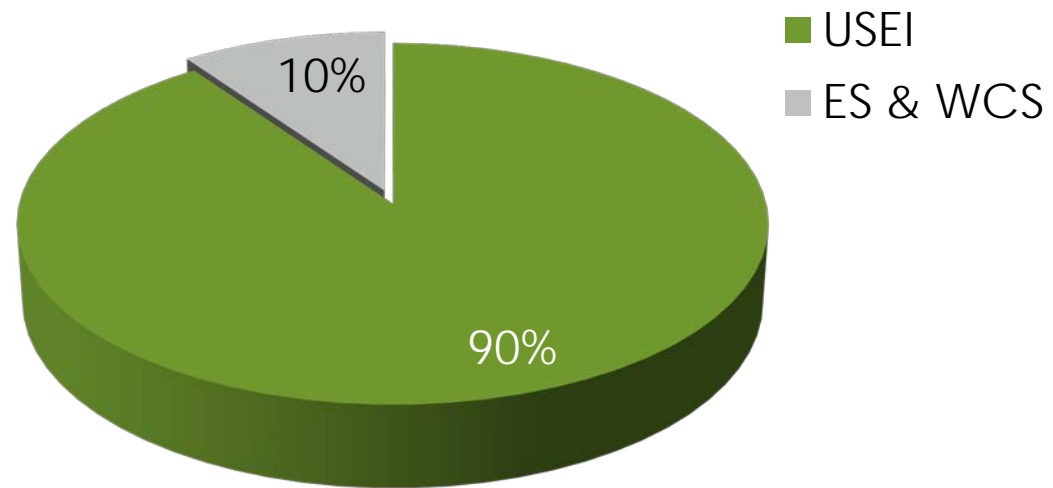


# Case Study: PG&E Humboldt Bay NPP

- Project starting 6<sup>th</sup> year of shipments to USEI
- 2,000<sup>th</sup> truck shipment last week
- Completed 150,000 gal water from SFP, canals & liquid RW
- Avg ~8 trucks/week
- Very low activity Byproduct Material, minor SNM, some RCRA & PCBs



# HBPP ~2,000 shipments



# Thank You! Questions?

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