



High Level Waste Strategic Planning Initiative

High Level Waste Corporate Board

July 24, 2008

Dr. Steve Krahn



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

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High Level Waste Strategic Planning Initiative Charter

- Goal - Develop new approaches for completing the High Level Waste mission within constant overall Environmental Management funding levels.
- Focus
 - Lifecycle project cost
 - Expenditures over the next four to eight years
 - Progress during the next four to eight years
- Constraints
 - Complete the construction of Waste Treatment Plant (Hanford), Salt Waste Processing Facility (Savannah River), and Integrated Waste Treatment Unit (Idaho)
- End Product – Analysis of options for High Level Waste Program



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Development of Cases

- Cases are put together using a “Building Block” approach
- Building Block areas:
 - Basic (Min-Safe) Operations & Construction
 - Retrieval Options
 - Processing Options
 - Closure Options
 - Policy Options



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Building Blocks: “Bare Bones”

- Min-Safe: Tank Farm Surveillance & Maintenance
- Continue Construction:
 - Hanford - Waste Treatment Plant,
 - Savannah River - Salt Waste Processing Facility
 - Idaho - Integrated Wasted Treatment Unit



Building Blocks: Retrieval

- None
- Delayed
- Calcine Retrieval
- Bulk Tank Retrieval
- Risk-Based
 - may use sluicing
 - may forgo retrieval
 - may use one additional heel technology
- Baseline: Extent required to support Regulatory Commitments



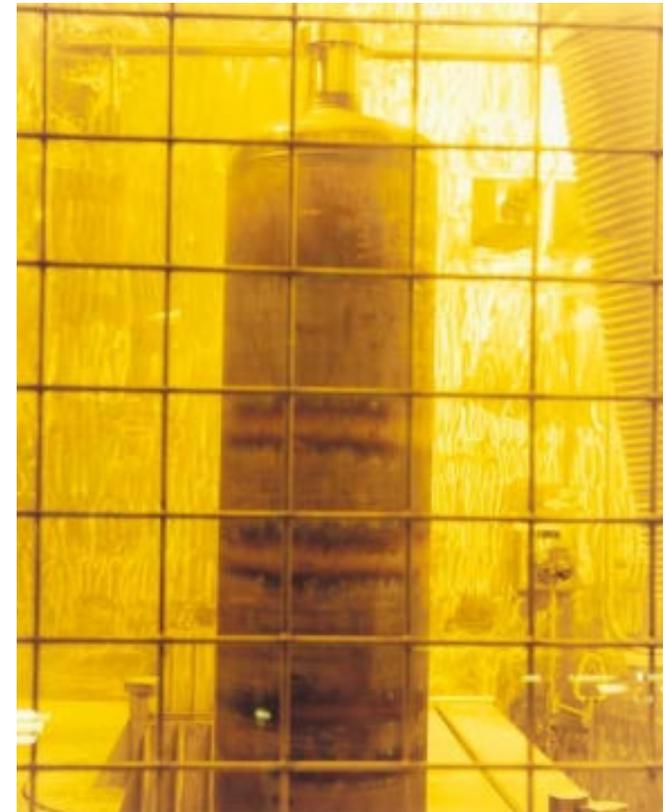
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Building Blocks: Processing

- Defense Waste Processing Facility-Delayed, Intermittent, and 100%
- Waste Treatment Plant at 50% and 100%
- Hanford Supplemental Treatment (Bulk Vitrification, etc.)
- Optimized (waste loading, melt rate, 2nd Generation Melter options)
- Hanford 3rd Low Activity Waste melter
- Calcine Packaged/Dispositioned
- Integrated Waste Treatment Unit Processing



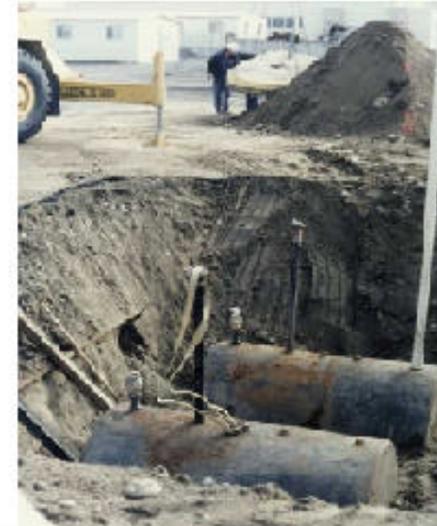
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Building Blocks: Closure

- None
- After Processing Completed
- After Retrieval by Tank Farm Area (Footprint Reduction)
- Complete Tank Removal



Small Tank Removal: Hanford (1992) & Idaho (1991)



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Policy Options

- National Policies: Waste Definitions, Waste Form Performance
- New Double Shell Tanks
- Cesium/Strontium Capsule Disposition
- Technology Development Activities
- Grout for Hanford Supplemental Treatment
- West Valley Canisters
- Transport of Waste to Existing Process Facilities (Multi-Site Problem-Solving)
 - Calcine to Defense Waste Processing Facility
 - Tank 48 waste to Integrated Waste Treatment Unit
 - Cesium/Strontium to Defense Waste Processing Facility



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Case Listing

- Case 0 - Baseline
- Case 1a - Minimum Safe Surveillance and Maintenance
- Case 1b - High Level Waste Facility Construction
- Case 1c - 50% Waste Treatment Plant Capacity
- Case 2a - Limited Bulk Retrieval & 100% Waste Treatment Plant Operations
- Case 2b - Supplemental Treatment
- Case 3a - 80-90% Bulk Retrieval
- Case 3b - Bulk Retrieval & New Double Shell Tanks
- Case 3c - Saltcake Storage in Double Shell Tanks



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Case Listing (Continued)

- Case 4a - Optimized Processing - Increased Waste Loading
- Case 4b - Optimized Processing - Reduced Metal Oxide Processing
- Case 4c - Optimized Processing - Increased Melt Rate
- Case 4d - Optimized Processing - Cesium/Strontium Dry Storage
- Case 5a - Risk-Based Retrieval & Tank Closure
- Case 5b - Risk-Based Retrieval & Tank Closure with Calcine Packaging
- Case 6 - Hybrid with new National Policies
- Case 7 - Footprint Reduction
- Case 8a - Grout Tanks and Leave in place
- Case 8b - Grout Tanks and Remove
- Case 9 - One Technology for Supplemental Treatment
- Case 10 - Third Waste Treatment Plant Melter



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Case: Baseline

- Min-Safe tank farm operations
- Complete construction of High Level Waste treatment facilities
- Waste retrievals and Closures that meet Regulatory commitments
- Defense Waste Processing Facility at 100%
- Waste Treatment Plant at 100%
- Evaluation, Selection and use of Supplemental Low Activity Waste Treatment at Hanford



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Case 3B: Bulk Retrieval & New Double Shell Tanks

- Min-Safe tank farm operations
- Complete construction of treatment facilities
- Bulk Retrieval (80-90%) to support processing
- Includes 31 new Double Shell Tanks at Hanford
- Waste Treatment Plant and Defense Waste Processing Facility at 100%
- No bulk vitrification at Hanford
- No tank closures
- Barriers to Implementation:
 - Does not meet Regulatory commitments
 - Extends mission
 - Construction of new Hanford tanks



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Case 4A: Optimized Processing

- Min-Safe tank farm operations
- Complete construction of treatment facilities
- Bulk Retrieval (80-90%) to support processing
- Waste Treatment Plant and Defense Waste Processing Facility at 100%
- Optimized processing (waste load increase, higher temperature melters)
- Includes Supplemental Treatment
- No tank closures
- Barriers to Implementation:
 - Does not meet Regulatory commitments
 - Requires change to Yucca Mountain waste acceptance criteria



Case 7: Footprint Reduction

- Min-Safe tank farm operations
- Complete construction of treatment facilities
- Risk-based closure by area
- 90% - 99% Bulk Retrieval
- Waste Treatment Plant and Defense Waste Processing Facility at 100%
- Includes Supplemental Treatment
- Optimized Waste processing
- West Valley waste shipped to another site
- Barriers to Implementation:
 - Does not meet Regulatory commitments



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Initial Results of High Level Waste Strategic Initiative

- “No silver bullet”
- Many options exist for High Level Waste program
- Cases are consistent with baseline building blocks
- Most options considered here are not in the baseline
- Many options have barriers
- Preliminary assessment: significant savings over baseline cost may be made
- Some options worth noting:
 - Risk-Based Retrieval
 - Area Closure
 - Optimized Processing



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Options Worth Noting

- Risk-Based Retrieval
 - Bulk retrieval eliminates most risk (80-90% waste)
 - Time and resources on 90% versus 10%
 - Avoid cost for multiple heel attempts & technology development
 - Some tanks need no retrieval
- Area Closure
 - Retrieval by tank farm
 - Reduces Surveillance & Maintenance Cost
 - Optimization study may be needed
- Optimized Processing
 - Waste loading & melt rate improvements
 - Not credited in the baseline
 - “Super case” was not built in this phase



Next Steps

Team Actions

- Evaluate case costs
- Complete case descriptions
- Prioritize cases to be evaluated in detail

Briefings

- Leadership, Mar. 24, 2008
- Corporate Board, Jul. 24, 2008
- EM-1/2/3, Aug./Sept. 2008
- Corporate Board, Nov. 6, 2008

High Level Waste Corporate Board:

- Provide feedback to the planning team on options, cases, and how they can be used.



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BACKUP



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Case Attributes

Case	Baseline	1a	1b	1c	2a	2b	3a	3b	3c	4a	4b	4c	4d	5a	5b	6	7	8a	8b	9	10	
Tank Retrieval (99%) & Closure for Regulators & Processing	v																					
Third Melter at WTP																					v	
Use Grout technology for all supplemental treatment																					v	
Remove Grouted Tanks																					v	
Grout Tanks																		v			v	
Risk-Based Area Tank Closure (90-99% Retrieval), incl. WV																		v				
Adopt CERCLA approach & Euro waste definitions																		v				
Slow Down Retrievals & DWPF Processing																		v				
Cs/Sr Processing in DWPF																		v				
Package Calcine																		v			v	
Risk-Based Tank Closure (90-99% Retrieval)																		v			v	
Cs/Sr Dry Storage																					v	
Increased Melt Rate/Reduced Schedule																					v	
Reduced Metal Oxide Processing																					v	
Optimized Processing (Waste Loading/High Temp Melter)										v								v		v	v	
Saltcake Storage in DSTs																					v	
New DSTs																					v	
WTP LAW Processing	v							v	v	v	v	v	v	v	v	v	v	v			v	v
80-90% Bulk Retrieval								v	v	v	v	v	v								v	v
Supplemental Treatment	v					v	v			v	v	v	v	v	v	v	v	v			v	v
100% WTP Operating Capacity	v					v	v	v	v	v	v	v	v	v	v	v	v	v			v	v
Limited Bulk Retrieval						v	v	v														
50% WTP Operating Capacity/Extended Schedule						v																
Construction - WTP, SWPF, IWTU	v		v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v
Min Safe	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v



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- Case 2a - Limited Bulk Retrieval & 100% Waste Treatment Plant Operations
- Case 2b - Supplemental Treatment
- Case 3a - 80-90% Bulk Retrieval
- Case 3b - Bulk Retrieval & New Double Shell Tanks
- Case 3c - Saltcake Storage in Double Shell Tanks
- Case 4a - Optimized Processing - Increased Waste Loading
- Case 4b - Optimized Processing - Reduced Metal Oxide Processing
- Case 4c - Optimized Processing - Increased Melt Rate
- Case 4d - Optimized Processing - Cesium/Strontium Dry Storage
- Case 5a - Risk-Based Retrieval & Tank Closure
- Case 5b - Risk-Based Retrieval & Tank Closure with Calcine Packaging
- Case 6 - Hybrid with new National Policies
- Case 7 - Footprint Reduction
- Case 8a - Grout Tanks and Leave in place
- Case 8b - Grout Tanks and Remove
- Case 9 - One Technology for Supplemental Treatment
- Case 10 - Third Waste Treatment Plant Melter



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Attributes of Case 1A, Minimum Safe Surveillance & Maintenance

○ Construction

Completed: WTP SWPF IWTU
Start Operation: WTP SWPF IWTU
New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
SR/Hanford: Optimized
Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
Area Based Closure: Hanford SRS Idaho

Benefits

- Safe state of tanks is maintained.

Barriers

- Significant impacts to stakeholder and regulator agreements
- Significant extension of the time period to complete closure of the tank farms
- The probability of unsafe events increases with the age of the tanks and waste stored therein



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Attributes of Case 1B, High Level Waste Facility Construction

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Safe state of tanks is maintained.
- Construction of major facilities completed

Barriers

- Significant impacts to stakeholder and regulator agreements
- Significant extension of the time period to complete closure of the tank farms
- The probability of unsafe events increases with the age of the tanks and waste stored therein.



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Attributes of Case 1C, 50% Waste Treatment Plant Capacity

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF 4 yr. delay

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Safe state of tanks is maintained.
- Construction of major facilities completed
- WTP and DWPF operate

Barriers

- Significant impacts to stakeholder and regulator agreements
- Significant extension of the time period to operate WTP and complete closure of the tank farms
- The probability of unsafe events increases with the age of the tanks and waste stored therein.



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Attributes of Case 2A, Limited Bulk Retrieval & 100% WTP Operations

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- WTP, SWPF, IWTU and DWPF operate
- Limited additional infrastructure improvements required in next 4-8 years for Hanford

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- The probability of unsafe events increases with the age of the tanks



Attributes of Case 2B, Supplemental Treatment

○ Construction

Completed: WTP SWPF IWTU
Start Operation: WTP SWPF IWTU
New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
SR/Hanford: Optimized
Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
Area Based Closure: Hanford SRS Idaho

Benefits

- WTP, SWPF, IWTU and DWPF operate
- Performs immobilization and environmental risk reduction

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- The probability of unsafe events increases with the age of the tanks



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Attributes of Case 3B, Bulk Retrieval & New Double Shell Tanks

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs: (Hanford 31 DSTs)

○ Retrieval

None 80% - 90% Bulk
 Limited Bulk 90% - 99% Bulk
 Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Additional tank storage at Hanford
- Based on technologies that are technically ready

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- Results in long term monitoring of mostly empty tanks.
- Construction of new Hanford DSTs



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Attributes of Case 3C, Saltcake Storage in Double Shell Tanks

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs: (Hanford 21 DSTs)

○ Retrieval

None 80% - 90% Bulk
 Limited Bulk 90% - 99% Bulk
 Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Additional tank storage at Hanford
- Based on technologies that are technically ready

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- Results in long term monitoring of mostly empty tanks.
- DSA change to allow saltcake creation in Hanford DSTs



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Attributes of Case 4A, Optimized Processing - Increased Waste Loading

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Improves confidence in schedule to process waste

Barriers

- Changes in environmental agreements with states
- Change SR Salt Waste Determination
- Extends the lifecycle
- Change in Yucca Mountain WAC
- RCRA Part B for Idaho calcine retrieval and packaging



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Attributes of Case 4B, Optimized Processing - Reduced Metal Oxide Processing

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Improves confidence in schedule to process waste

Barriers

- Changes in environmental agreements
- Change SR Salt Waste Determination
- Extends the lifecycle
- Change in Yucca Mountain WAC
- RCRA Part B for Idaho calcine retrieval and packaging
- Additional development at Hanford for caustic management or at tank



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Attributes of Case 4C, Optimized Processing - Increased Melt Rate

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Reduces HLW glass production by 20%

Barriers

- Changes in environmental agreements
- Change SR Salt Waste Determination
- Extends the lifecycle
- Change in Yucca Mountain WAC
- RCRA Part B for Idaho calcine retrieval and packaging
- Additional development for alternative melter designs



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Attributes of Case 4D, Optimized Processing - Cesium/Strontium Dry Storage

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Reduces HLW glass production by 20%

Barriers

- Changes in environmental agreements
- Change SR Salt Waste Determination
- Extends the lifecycle
- Change in Yucca Mountain WAC
- RCRA Part B for Idaho
- High content curie material stays at Hanford



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Attributes of Case 5A, Risk-Based Retrieval & Tank Closure

○ Construction

Completed: WTP SWPF IWTU
Start Operation: WTP SWPF IWTU
New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
SR/Hanford: Optimized
Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
Area Based Closure: Hanford SRS Idaho

Benefits

- Closes tanks
- Reduces solids sent to WTP
- Reduces number of cleaning technologies to be used

Barriers

- Changes in environmental agreements with states
- Change in Maximum Extent Practical
- Resistance from states on additional material left at sites, and lack of progress on calcine.



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Attributes of Case 5B, Risk-Based Retrieval & Tank Closure with Calcine Packaging

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Closes tanks
- Reduces solids sent to WTP
- Reduces number of cleaning technologies to be used
- Calcine packaged ready for shipment

Barriers

- Changes in environmental agreements with states
- Change in Maximum Extent Practical
- Resistance from states on additional material left at sites, and lack of progress on calcine.



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

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Attributes of Case 6, Hybrid with new National Policies

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 Limited Bulk 90% - 99% Bulk
 Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Disposition Cs/Sr through DWPF
- Adopt CERCLA approach and European waste definitions

Barriers

- Significant changes to US and State regulatory definitions of waste
- Changes in environmental agreements
- Resistance from South Carolina on additional curries (Cs/Sr) entering state
- Change in Yucca Mountain WAC



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Attributes of Case 7, Footprint Reduction

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Closes tanks
- Allows closure of West Valley
- Allows closure of areas within sites

Barriers

- Changes in environmental agreements with states
- Change in Maximum Extent Practical
- Resistance from states on additional material left at sites, and lack of progress on calcine.



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Attributes of Case 8A, Grout Tanks and Leave in Place

○ Construction

Completed: WTP SWPF IWTU
Start Operation: WTP SWPF IWTU
New DSTs:

○ Retrieval

None 80% - 90% Bulk
 Limited Bulk 90% - 99% Bulk
 Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
SR/Hanford: Optimized
Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
Area Based Closure: Hanford SRS Idaho

Benefits

- Risk to environment reduced quicker
- Reduces lifecycle

Barriers

- Changes in environmental agreements with states
- Long term monitoring of waste at sites.
- With waste in place, closure definition is challenged



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Attributes of Case 8B, Grout Tanks and Remove

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Risk to environment reduced quicker
- Reduces lifecycle
- Tank Farms closed by tank removal

Barriers

- Changes in environmental agreements with states
- Waste Package development and certification
- Tank removal is unlike any closure plan



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Attributes of Case 9, One Technology for Supplemental Treatment

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Single technology used for supplemental treatment at all sites

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- Results in long term monitoring of mostly empty tanks.



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Attributes of Case 10, Third Waste Treatment Plant Melter

○ Construction

Completed: WTP SWPF IWTU
 Start Operation: WTP SWPF IWTU
 New DSTs:

○ Retrieval

None 80% - 90% Bulk
 90% - 99% Bulk
 Limited Bulk Calcine Retrieval at Idaho

○ Processing

Hanford: Supplemental LAW
 SR/Hanford: Optimized
 Rates: WTP 100% WTP 50%
 DWPF 100% DWPF Reduced

○ Tank Closure

Risk Based Closure : Hanford SRS Idaho
 Area Based Closure: Hanford SRS Idaho

Benefits

- Major facilities operate
- Performs immobilization and environmental risk reduction
- Increases WTP LAW capacity by up to one half

Barriers

- Impacts to stakeholder and regulator agreements
- Extension of the time period to complete closure of the tank farms
- Results in long term monitoring of mostly empty tanks.
- WTP LAW footprint & infrastructure require significant changes



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Schedule

- Kickoff January 28-29, 2008
- Second Workshop – case building February 12-13, 2008
- Teleconference – Decision Process March 12, 2008
- Begin Rough Cost Analysis March 28, 2008
- Leadership Briefings March 24, 2008
- HLW Corporate Board Briefing July 24, 2008
- Complete Cost Analysis August*
- Brief EM-1/2/3 August/September 2008*
- HLW Corporate Board Briefing November 6, 2008
- Issue Final Case Studies/Options Fall 2008*

* *Note: preliminary target dates*



EM *Environmental Management*

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