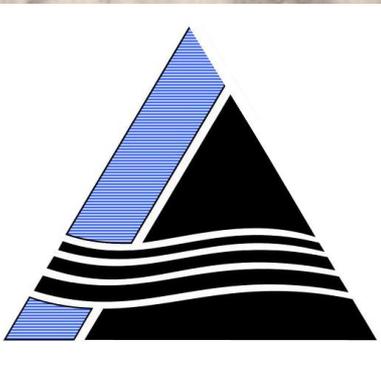


Proposed Tri-Party Agreement Changes to Central Plateau Cleanup Work

Matt McCormick, DOE-RL
*Hanford Advisory Board
Committee of the Whole Meeting
May 12, 2010*



Purpose



- Provide overview of the proposed TPA change packages
 - Central Plateau cleanup
 - Mixed low-level and transuranic mixed waste milestones (M-091 Series)

Proposed Central Plateau Cleanup Milestones

Proposed TPA Changes for Comprehensive Central Plateau Cleanup Approach

Prepare for Geographic Central Plateau Cleanup

- Realign operable units to support a geographic approach
- Add milestones to coordinate and complete cleanup of canyons and adjacent waste sites as well as other Central Plateau facilities

Enhance Focus on Deep Vadose Zone

- Add milestones for deep vadose zone technology development
- Establish deep vadose zone operable unit
- Add milestones for completing cleanup process for deep vadose zone

Implement Central Plateau's First Major Facility (Canyon) Record of Decision

- Add milestones to carry out the U Plant Record of Decision

Improve Document Processes

- Support the comprehensive geographic approach by improved coordination between CERCLA and RCRA Corrective Action Documents
- Clarify timing and assign initial ROD preparation responsibility to DOE

Highlights of Proposed Changes

Geographic Central Plateau Cleanup

- New M-85 milestone series for Remedial Investigation/Feasibility Study (RI/FS) process for canyon facilities, associated waste sites, and other Central Plateau facilities
- Retained completion date (2024) for remediation of non-tank farm/non-canyon soil waste site Operable Units (OUs)
- Added major milestone to complete disposition of all Central Plateau facilities that were not previously included in the TPA
 - Delayed completion of RI/FS documents for non-tank farm waste site OUs from 2011 to 2016

Highlights of Proposed Changes (continued)

Deep Vadose Zone

- Increased emphasis on deep vadose zone contamination by establishing a deep vadose zone OU
- RI/FS work plan for deep vadose zone to include technology screening and recommendations for additional pilot and field testing; feasibility study and proposed plan to follow
- New M-15 series milestones added to continue uranium and technetium-99 remedy development

Highlights of Proposed Changes (continued)

Facility Cleanup

- Established operable units and path forward to make cleanup decisions for PUREX, B Plant, and REDOX canyon buildings
- Milestones added to M-16 series to implement the first canyon Record of Decision – by demolishing U Plant canyon and constructing barrier
- Added major milestone to complete cleanup of all Central Plateau facilities

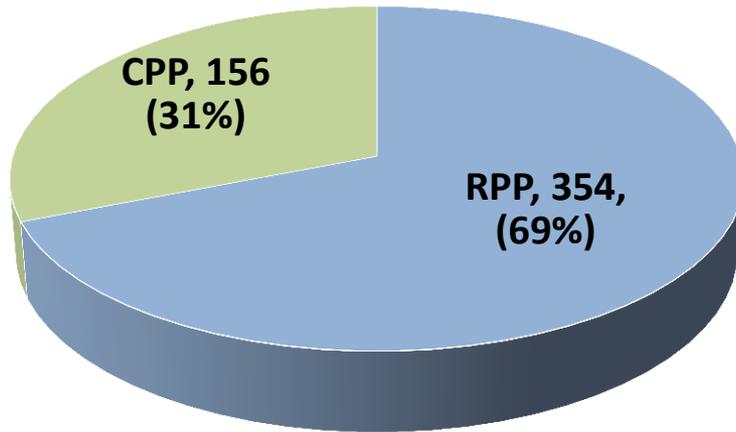
Highlights of Proposed Changes (continued)

Cleanup Decision Document Processes

- Revise Legal Agreement and Action Plan (TPA) to better coordinate RCRA Corrective Action and CERCLA decisions for some past practice waste sites
 - Revise TPA Action Plan to clarify roles for preparing draft Records of Decision
-
- Propose a RCRA permit modification to support the proposed TPA Corrective Action Decisions-Record of Decision (CAD-ROD) process changes (Ecology public comment period May 3-June 18, 2010)

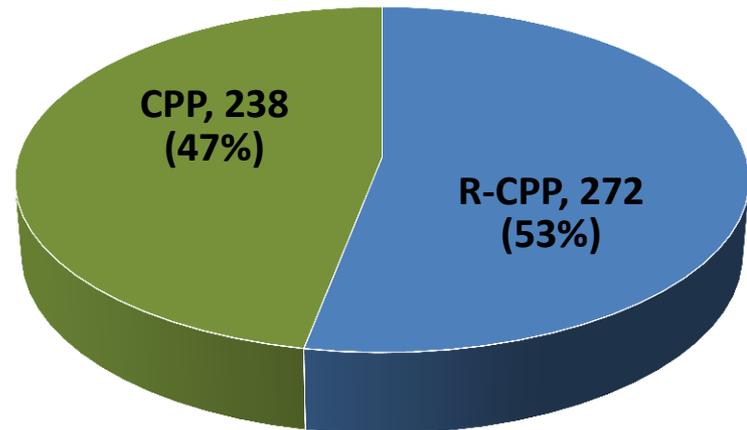
Waste Site Distribution Reclassification -- RCRA/CERCLA

Inner Area - Original Unit type



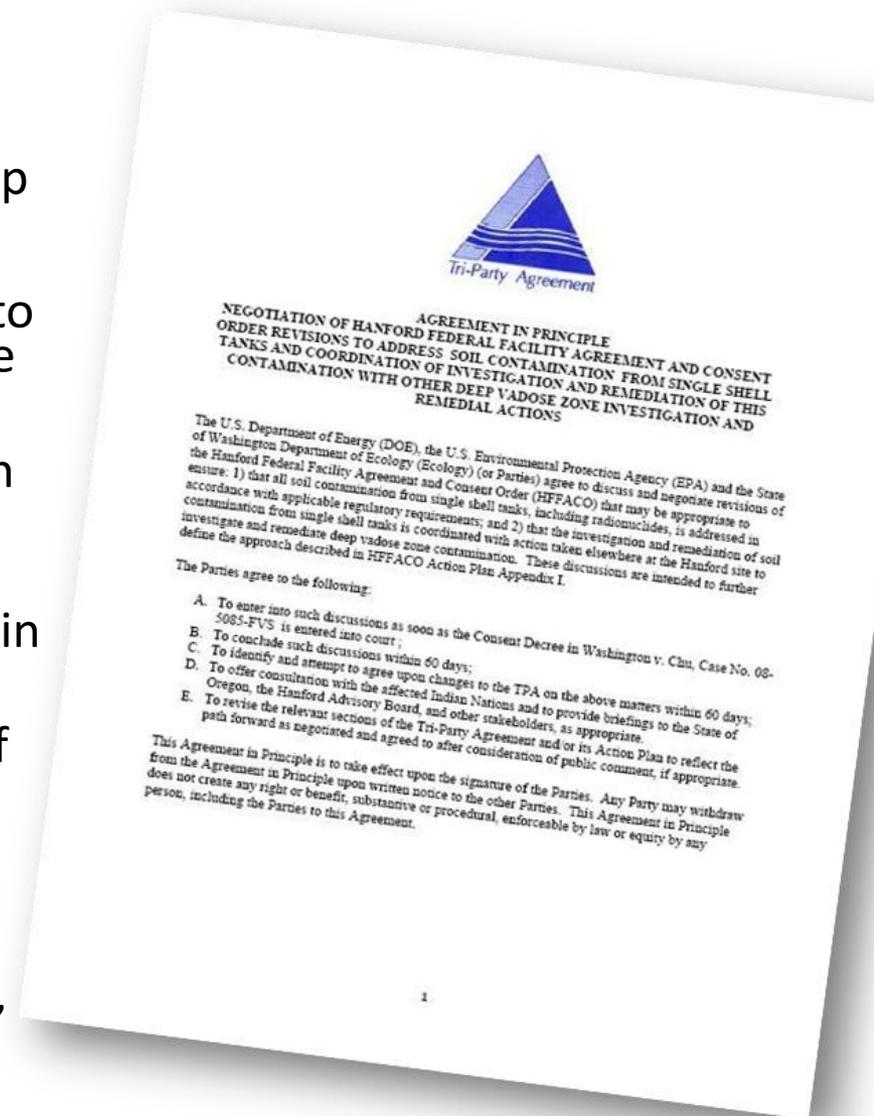
CPP = CERCLA past practice
RPP = RCRA past practice
R-CPP = RCRA/CERCLA practice

Inner Area - Proposed Unit Type



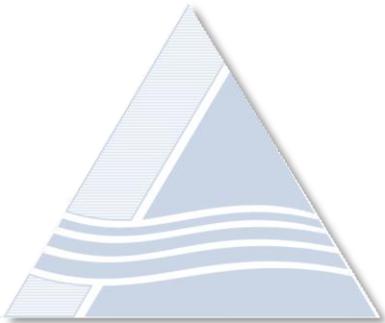
Agreement in Principle

- Goal is to conduct discussions to develop appropriate TPA revisions addressing contamination from single-shell tanks (DOE preference is to use CERCLA) and to coordinate with other deep vadose zone investigations and remedial actions
- Parties will initiate the discussions when the Hanford Tank Waste Treatment consent decree is entered in to court
- Goal is to conclude the discussions within 60 days of starting them
- Prepare revisions to relevant sections of the TPA and/or its Action Plan to reflect outcome of discussions
- Briefings/discussions with the Tribal Nations, State of Oregon, Hanford Advisory Board, and other stakeholders, as appropriate



Ecology Regulatory Role for Waste Management Units

Jane Hedges,
Washington State Department of Ecology



Ecology Regulatory Role for Waste Management Units

- “Units” that manage (Treatment, Storage, and Disposal: TSD) hazardous waste
 - Active units included in Hanford Permit
 - Units inactive after 1987 included in Permit
- TPA Past-Practice process manages operable units for cleanup regardless of the time of the release (cribs, trenches, ponds, etc.)
 - Hanford divided into operable units (OUs)
 - OUs divided into CERCLA Past Practice or RCRA*-CERCLA Past Practice with US EPA or Ecology designated as lead regulatory agency
 - To date, mostly CERCLA* interim records of decision (RODs)

*Comprehensive Environmental Response, Compensation and Liability Act

**Resource, Conservation and Recovery Act

Hanford Corrective Action Decisions Before the Proposed CAD/ROD*

- Corrective action is part of Federal RCRA and the state HWMA** permit requirements
- Only two Hanford corrective action decisions (1999)
 - 100-N past practice soil sites
 - 100-N groundwater

*Corrective Action Decision/Record of Decision (CAD/ROD)

**Hazardous Waste Management Act (HWMA)

Ecology CERCLA Roles Before the “CAD/ROD”

- EPA lead operable units
 - Ecology consults w/ DOE, EPA on state regulations that are “applicable or relevant and appropriate requirements” (ARARs)
 - DOE and EPA approve the Record of Decision (ROD)
 - Ecology concurs on the Record of Decision
- Ecology lead operable units
 - Ecology consults w/ DOE and EPA on remedy selection, writes ROD, includes state & Federal ARARs
 - DOE and EPA approve, Ecology concurs on the ROD

Ecology-lead Operable Units Where CAD/ROD Would be Used

- Deep vadose zone operable unit
- “Pre-1970” radioactive waste burials grounds
- 200-East area waste management units
- Pipelines, diversion boxes operable unit

Elsewhere

- DOE Rocky Flats Plant used a CAD/ROD

Differences in Cleanup Standards?

- “EPA continues to stress that, generally, cleanup conducted pursuant to RCRA corrective action or CERCLA will substantively satisfy the requirements of both programs.”
 - EPA OSWER Directive 9272.0-22, Improving RCRA/CERCLA coordination at Federal Facilities, Dec. 21, 2005
 - www.epa.gov/fedfac/pdf/oswerdir9272_0-22.pdf

Proposed CAD/ROD

- TPA changes allow concurrent state Corrective Action Decision, federal CERCLA ROD
 - For selected Ecology-lead operable units designated as RCRA-CERCLA Past Practice
 - Allows concurrent dispute, if necessary
- Ecology role doesn't change
 - Ecology makes corrective decision
 - DOE and EPA approve, Ecology concurs on the ROD

Proposed CAD/ROD -- Why, How

- WHY?
 - Legal changes since 1999 Corrective Action Decisions
 - Corrective Action Conditions appeal, settlement
 - Initiative 297 court opinions
 - RCRA/HWMA Permit not able to include cleanup levels for radionuclides
 - State regulations don't include cleanup standards for radionuclides
- HOW?
 - Proposed TPA changes
 - Corresponding change to Permit corrective action condition II.Y

Changes to Hanford Permit

Condition II.Y, Corrective Action,

- II.Y came out of Settlement Agreement on US DOE appeal of corrective action conditions
 - Incorporates into permit CERCLA requirements & schedules (from RODs, TPA documents) to satisfy requirement that Ecology permit corrective action
 - Depends on Ecology concurrence on final ROD
 - DOE reserved right to future appeal
- II.Y Draft modification sets similar incorporation for certain Ecology-lead operable units

CAD/ROD: Public Participation Opportunities

- Single feasibility study will include technical evaluation supporting both CAD and ROD
- Public comment will occur on combined Proposed Corrective Action Decision and CERCLA Proposed Plan
 - Public meetings would be single (joint) meeting
 - Single responsiveness summary for public comments

Overview TPA Changes Transuranic and Mixed Low-Level Waste Management

- 😊 Change from “TBD” date to treat (or ship) all transuranic mixed (TRUM) waste off the Hanford site to actual 2035 date
 - 😊 Moved up from implied 2043 (at required waste retrieval rate) to 2035
 - 😊 NEW milestone: Small container contact-handled (CH) TRUM shipped by 2018
- 😞 Facility/capability construction/acquisition delayed from 2012 construction to 2018 design (approximate 2023 construction)

Overview (continued)

- 😞 Concerns about Waste Isolation Pilot Plant (WIPP) [New Mexico]
 - Closure date vs. 2035 final treat (or ship)
 - WIPP capacity for remote-handled (RH) transuranic waste, that would be last Hanford shipments
- 😊 DOE headquarters (Ines Triay, EM-1) agreed to shipping milestones
 - 😊 DOE WIPP personnel reviewed, agreed to milestones
 - 😊 Pending approval to ship RH in smaller containers addresses RH shipping, disposal capacity issue

M-091 Milestone Organization

- Facility/capability acquisition/construction
- CH waste retrieval
 - Includes mixed low-level waste (MLLW)
 - Includes small container TRUM
- RH and large box TRUM retrieval
- MLLW treatment, disposal
- CH small container TRUM shipment (treatment)
- RH and large box TRUM shipment (treatment)

TPA Waste Management Milestones

Existing

- **2012**: Facility capability and design for TRUM waste treatment
- **No set end date** for retrieval of CH RSW
- Retrieval of RH RSW
 - **2014**: Non-caisson
 - **2018**: 200 Area caissons
- **No set end date** for treatment of CH MLLW

Proposed

- **2016**: Conceptual design
2018: Definitive design
- **2011, 2015**: Enforceable milestones; **2012, 2013, 2014**: Target milestones; **2016**: Completion milestone
- Retrieval of RH RSW
 - **2016** : Non-caisson
 - **2018**: 200 Area caissons
- **2017**: Complete treatment of CH MLLW

TRUM – transuranic mixed waste

CH – contact handled

RSW – retrievably stored waste

RH – remote handled

MLLW – mixed low-level waste

TPA Waste Management Milestones

Existing

- **No set end date** for treatment and shipment of CH large container and RH TRUM waste
- **No prior milestones** for certification and shipment of CH small container TRUM waste

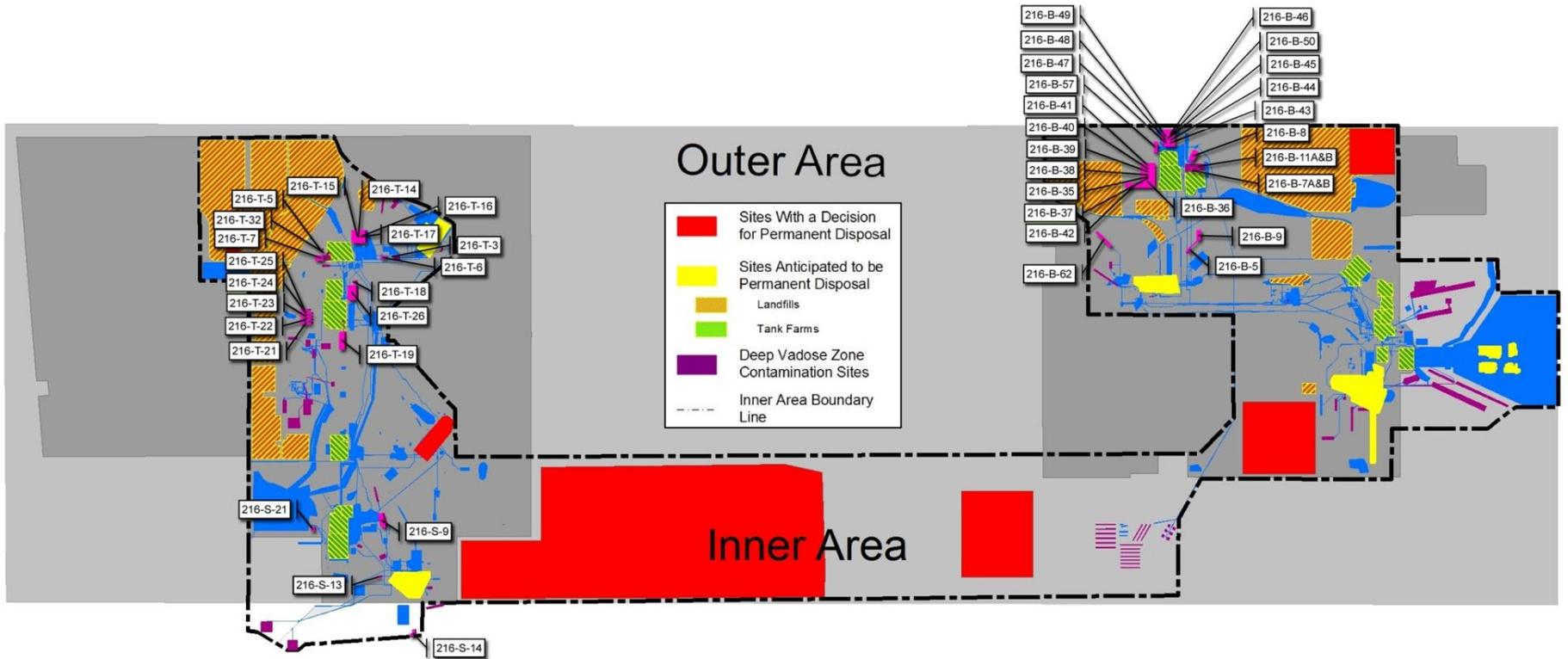
Proposed

- **2016, 2017, 2018:** Treat/certify 300 m³
2018: Propose annual treatment/shipment milestones
- **2035:** Complete treatment and shipment
- Certification milestones
 - **2011, 2015, 2016:** Enforceable
 - **2012, 2013, 2014:** Target
 - **2017:** Completion
- **2018:** Complete shipment

Waste Milestone Trade-offs

- Ecology can require DOE to designate retrieved waste
 - Designation requires expensive, hazardous characterization
 - Designation may find TRU not hazardous (see below)
 - DOE presumption that TRU is mixed benefits all parties
- Legal decision affirmed Ecology position DOE must treat all transuranic mixed (TRUM) waste
 - Ecology lacks authority to force shipment of TRUM, once treated to land disposal restriction (LDR) standards
 - Treatment is very expensive
 - Facility construction cost estimated at \$300-500M
 - DOE agreement to ship all TRUM, in lieu of treatment, benefits all parties

M-091 and Central Plateau Backup Slides



M-091 Change Package Backup Slides

Highlights of Proposed M-091 Changes

Retrievably-stored Mixed Low-Level Waste and Retrievably-stored Transuranic Mixed

- Adjust existing M-091 milestones to consider American Recovery & Reinvestment Act funding and overall Hanford priorities
- Replace “To Be Determined” dates
- Add new milestone to address “No Path Forward” waste
- Streamline and simplify change package language in response to 2009 public comments
 - Change embedded milestones to stand-alone milestones
 - Eliminate text related to historical, completed milestones

Highlights of Proposed M-091 Changes (continued)

Retrievably-stored Mixed Low-Level Waste and Retrievably-stored Transuranic Mixed

- Establish enforceable milestones for retrieval, certification and shipment of transuranic mixed (TRUM) waste in FY 2011 (aligned with ARRA funding), 2015 and 2016 (for certification of TRUM)
- Establish enforceable milestones for the certification and shipment of TRUM off-site including large container contact-handled TRUM
- Identify target milestones for FYs 2012-2014, consistent with higher Site priorities for retrieval and treatment of TRUM waste
- Modify milestone structure to complete the conceptual and definitive design for disposition of remote-handled TRUM waste and large container TRUM waste; including a milestone to establish treatment and shipment of waste generated

Acquisition of Capabilities for Processing RH and Large Box Transuranic Mixed Waste

- Annual progress is reported in the Hanford Site Transuranic Mixed and Mixed Low-Level Project Management Plan, M-091-03
- This milestone includes:
 - Complete the conceptual design for remote-handled/contact-handled large package transuranic mixed capability by September 30, 2016
 - Complete the definitive design for remote-handled/contact-handled large package transuranic mixed capability by September 30, 2018
- Establish treatment and shipment milestones after completion of design under M-091-44T (Contact-handled Large Container and Remote-handled Transuranic Mixed Waste)

Retrieval of Contact-Handled Retrievably Stored Waste

- Annual milestones established for retrieval of suspect retrievably stored waste
- Enforceable milestones in FYs 2011 and 2015
- Target milestones in FYs 2012, 2013, and 2014
- Milestone completion date of September 30, 2016

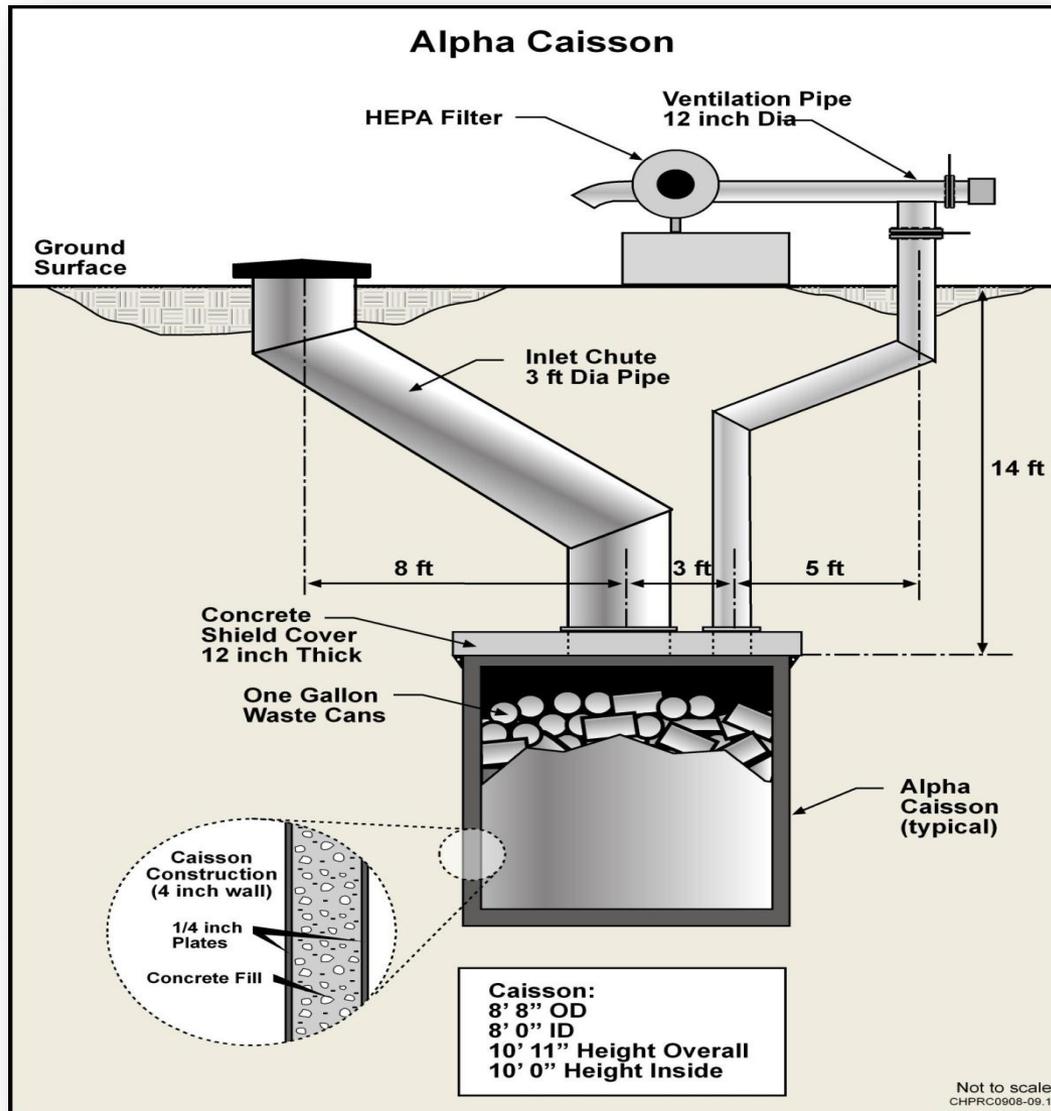


The installation of a cover box for Box 1 in 3A Trench 17 (8/14/09)



Box 27, 3A Trench 17 partially excavated. The lid to the box is partially concave. (07/16/09)

Retrieval of Remote-Handled Retrievably Stored Waste



- Completion of retrieval of non-caisson remote-handled retrievably stored waste by September 30, 2016
- Completion date for retrieval of 200 Area caisson waste by December 30, 2018
- No change to this milestone

Treatment of Contact-Handled Small Container Mixed Low-Level Waste

- Completion date for treatment of contact-handled, small container mixed low-level waste in storage and from retrieval is September 30, 2017
- Establishes new target milestone completion date of September 30, 2011 to include the Project Management Plan the plans for treatment of “No Path Forward” and Toxic Substances Control Act (TSCA) waste
- Consistent with RCRA, perform treatment within one year of generation for newly generated wastes (after June 30, 2009) to prevent a buildup of legacy waste in storage



Drums containing backlog soils stored at the Central Waste Complex prior to shipments



The Central Waste Complex after shipments

Treatment of Contact-Handled Large Container and Remote-Handled Mixed Low-Level Waste

- Completion date for treatment of contact - handled large container and remote-handled mixed low-level waste in storage and from retrieval is September 30, 2017
- Established new target date to treat waste in storage as of June 30, 2009 by September 30, 2011



Two shipments consisting of mixed low-level and low-level waste being loaded onto a truck at the Central Waste Complex

Certification/Shipment of Contact-Handled Small Container Transuranic Mixed Waste



Nuclear chemical operators hired using Recovery Act funds prepare drums to be filled for repackaging at the T Plant Canyon

- Created a new milestone series with annual milestones established for treatment/certification of small container TRUM waste
- Enforceable milestones to produce certifiable TRUM waste in FY 2011
 - Consistent with ARRA funding
- Target milestones in FYs 2012, 2013 and 2014
- Complete shipment of 1000m³ of TRUM for off-site disposal by September 30, 2011
- Complete treatment/certification by September 30, 2017
 - Linked to completion of retrieval
- Complete shipment of contact-handled small container TRUM for off-site disposal by September 30, 2018

Treatment of Contact-Handled Large Container and Remote-Handled TRUM Waste

- Requires annual treatment milestones for contact-handled large package and remote-handled TRUM waste
 - Treat/certify 300 cubic meters by September 30, 2016, 2017 and 2018, respectively
 - Propose annual treatment and shipment milestones for completion of all waste on September 30, 2018
 - Following completion of definitive design, need to complete disposition of waste from this milestone (from M-091-01)
 - Complete treatment and shipment by December 31, 2035