

Decontamination and Volume Reduction System (DVRS)

Mid Year Review March 2000

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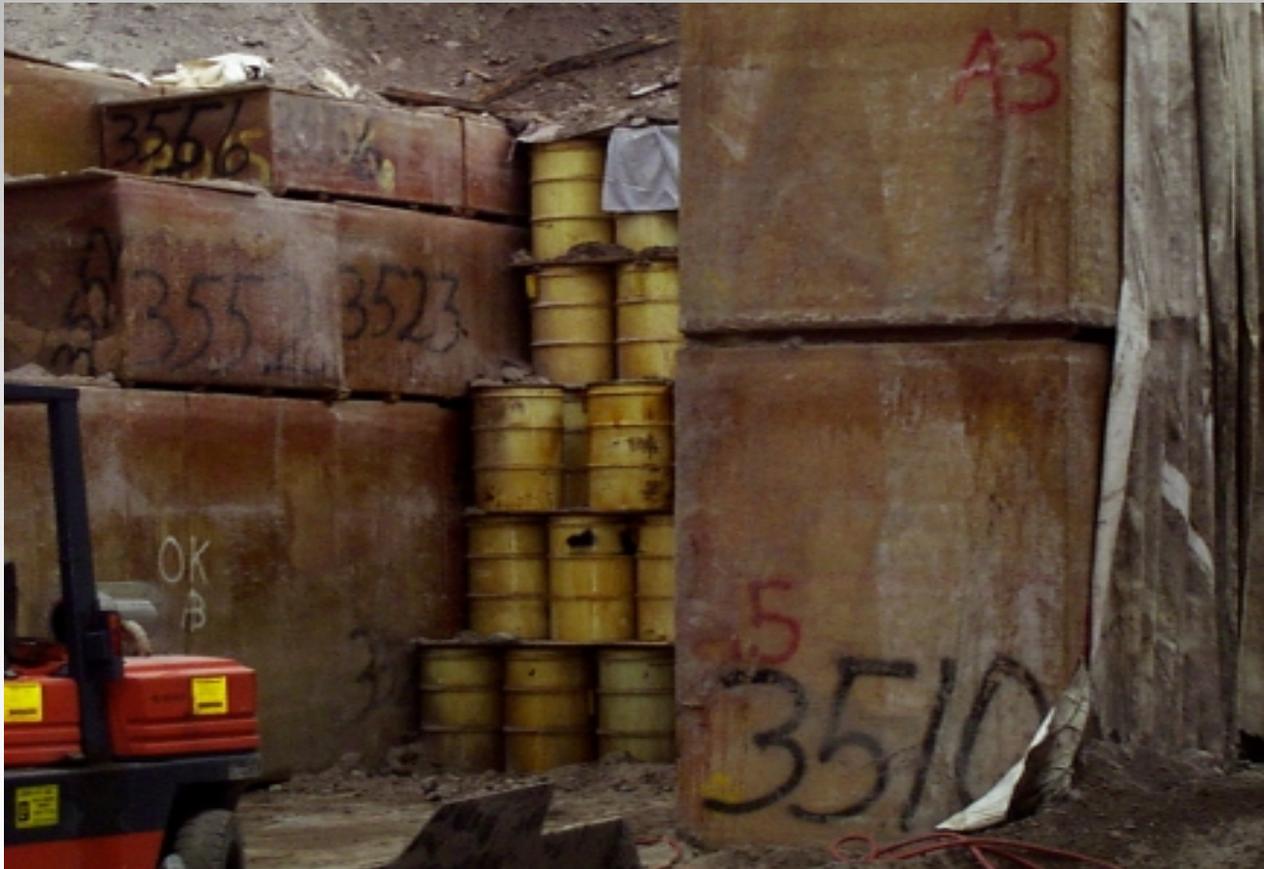


Presentation Outline

- Project goals
- Technical Approach
- Progress Status
- Future Plans



Fiberglass Reinforced Plywood (FRP) Crates



FRPs in Storage at LANL



FRP Contents are Metallic



Criteria:

1. Goals
2. Relevancy



DVRS Objectives

Adapt and integrate existing and emerging technologies to make oversize metallic waste “disposable.”

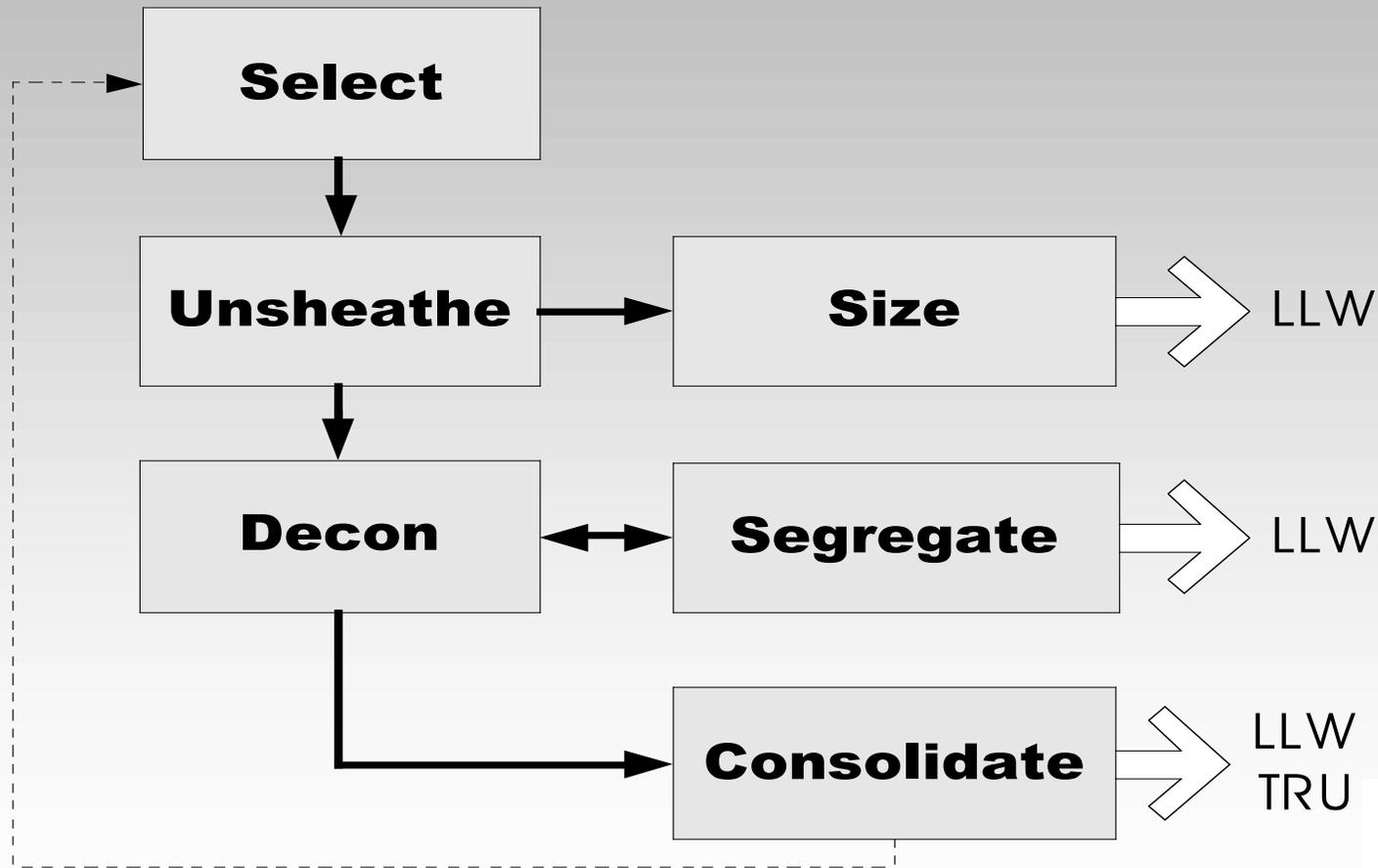


Oversize Metal Waste is a DOE Complex-Wide Problem

- 28,000 m³ of TRU boxed waste in DOE
- 2400 m³ at LANL in Storage
- 3000 m³ from future D&D at LANL
- 150 oversized crates at INEEL AMWTP
- 58 steel boxes at NTS
- 30 oversized crates at LLNL
- 97 oversized crates at SR



DVRS Work Process



FRP Reconnaissance

- Historical Photos/Records
- Database Records
- Physical Measurements
- Radiological Surveys
- Real Time Radiography



Radiological Assay



Mobile Gamma Radiography



VACIS “Drive-By Shooting”

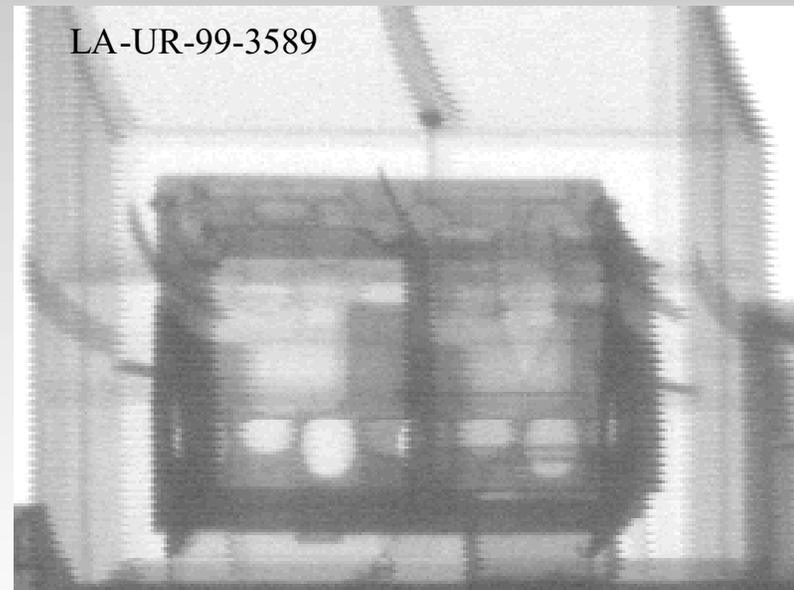


VACIS Digital Images

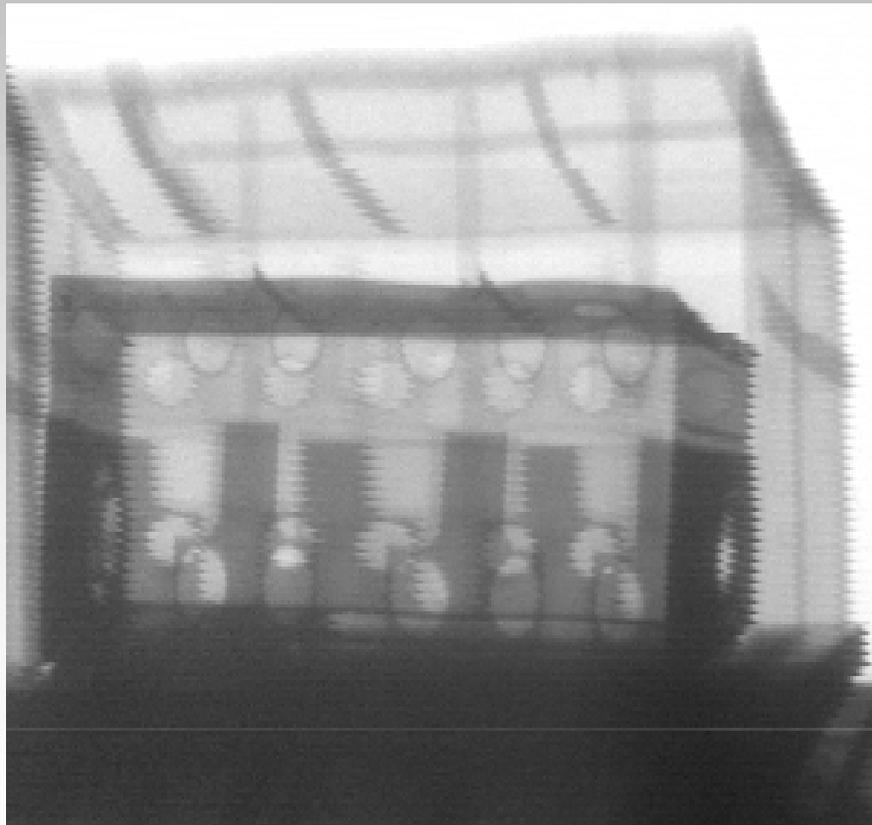
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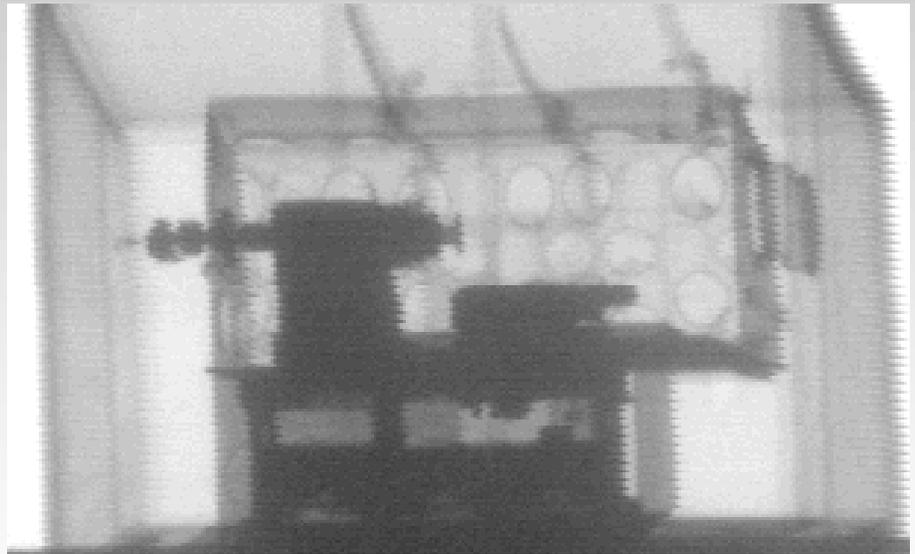
Confirm FRP History Info



Locate the Lead Shielding



VACIS images support information on crate contents

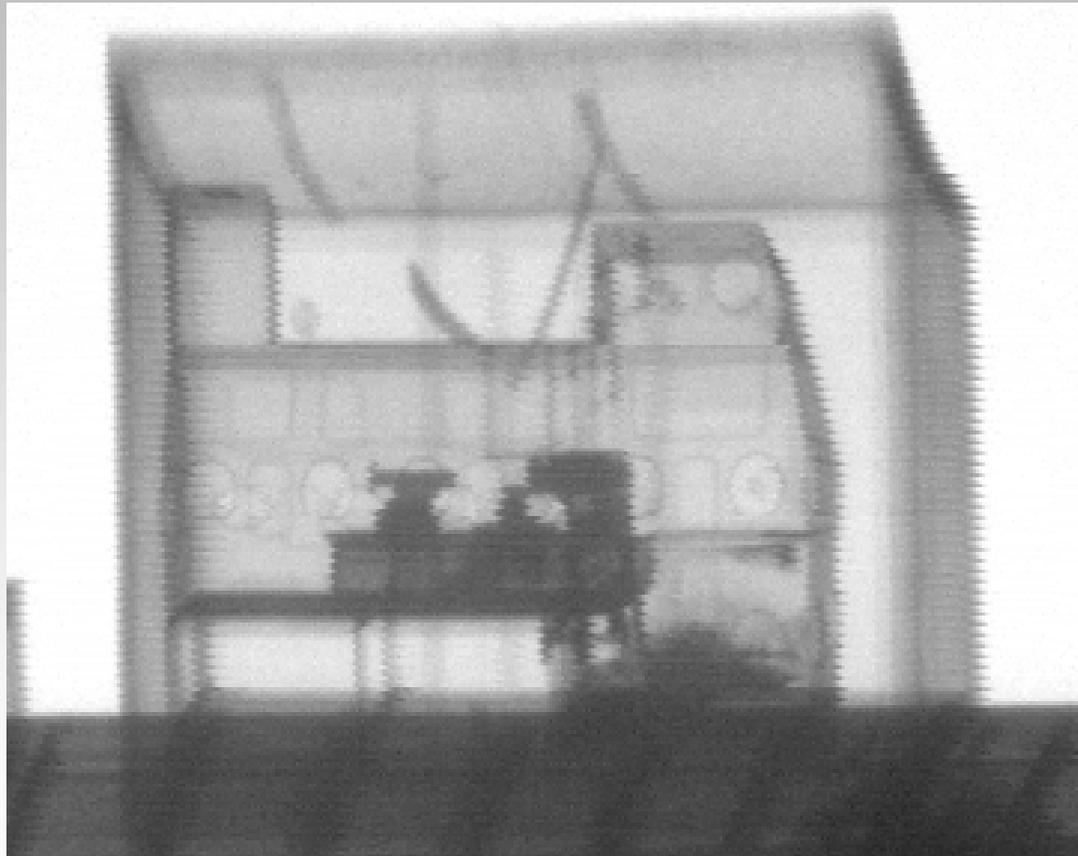


Operational Readiness

- Activity Breakdown/Readiness Schedule
- Quality Assurance Plan
- Start-Up Engineering Support
- Work Process Definition
- SAR Revision/Approval
- Hazard Analysis/Control
- Document Hierarchy
- Data Management



Blueprints for the “Cut Plan”



Dome 231 Permacon



FY00 Processing Operations

- Prepare 30'x60' Permacon for Training Operations
- Prepare Detailed “Cut Plans” for Damaged FRPs
- FRP Unsheathing
- External Decon of Internal Items
- Verify Operational Procedures
- Verify Communications/Work Instructions
- Repackage bulky TRU items
- Lessons Learned



Secondary Confinement



DVRS Process Enclosure

- DOE Cat 2 Non-Reactor Nuclear Facility
- Fire-Rated Confinement Systems
- Nuclear Grade HEPA HVAC
- Fire Detection/Suppression
- Back-up and Uninterrupted Power Sources
- Re-configurable Enclosure and Utilities



Construction Progress

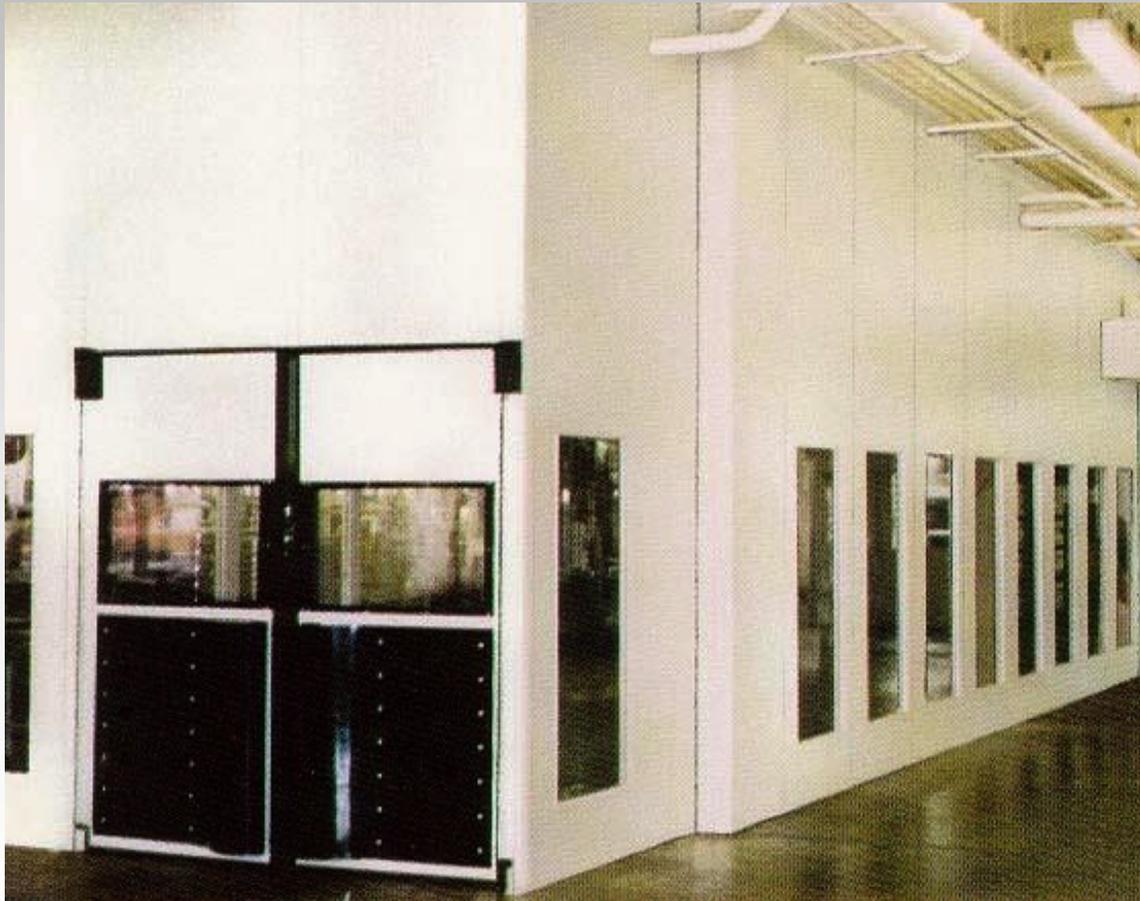
- Construction is 40 % Complete
 - Foundation Finished
 - Concrete Slab Finished
 - Building Skeleton Installed
 - Shear Bailer Installed
 - Ventilation Skid Prepared for Relocation
- Phase II Construction has begun
 - Modular Primary Confinement On Order
 - Puck Glovebox Design 50 % complete



Original Permacon System (No Fire Rating)



Modular Work Enclosure (2 hr Fire Rating)



Future Activities

- 30 M3 TRU Processed 7/1/00
- Cold Test of Shear Bailer 8/1/00
- Construction Complete 9/29/00
- Acceptance Testing 10/31/00
- SAR Revision Approved 12/1/00
- ORR Begins 11/27/00
- Start-Up Authorization 1/15/01

