Hot Cells Project
Building 3026 and 3038
Presentation to SSAB

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Building 3026


Bldg 3026 wooden structure


2008 D-side manipulator


Wooden structure demolition

Built in 1940s Fission Product Laboratory

Facility Shutdown 1970 -1980

Facility Inactive; Some Decon 1990 - 1995

Routine S&M 1990 - 2008

Exterior Building Demolition 2009 -2010

Hot Cells D&D 2010 -Active


Remaining Hot Cells Coated with Polyurea


Current 3026 C/D Hot Cells

Buildings 3026 C&D General Facts

- Built in 1943 – 1945 and comprised of 2 adjoining facilities separated by a common fire wall.
  - *Building 3026C on west side:*
    - Two story wooden structure
    - 8,279 ft2 gross square footage
    - 2 Banks of Hot Cells (Banks 1 & 2)
  - *Building 3026D on east side:*
    - Three story wooden structure
    - 11,563 ft2 gross square footage
    - 2 Banks of Hot Cells

- Facilities modified to accommodate various missions but primarily used for hot cell work including storage, processing, conversion and dispensing of radioactive isotopes and laboratories.
- Programmatic activities ended in the early 1990s.

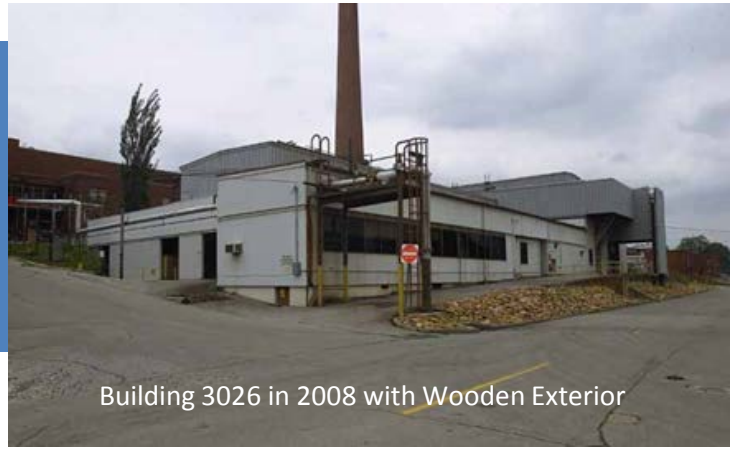
Historical Operations Summary

Building 3026 C	Building 3026 D
1940s: Facility constructed; processed irradiated reactor targets for research isotopes	**1940s:** Facility constructed; chemical processing of Ba-140 for RaLa Program
1950s: Fission product recovery of liquid wastes	**1950s:** Isotope production; accidental release; contaminated building interior
1960s: Segmenting of reactor fuel; hot metallographic work	**1960s:** Facility modified to support Sodium Reactor Experiment
1970s and 1980s: Tritium facility packaged, stored and tested radio-luminescent lights	**1970s and 1980s:** Examined irradiated metallurgical reactor components
1990 – 1995: Facility inactive	**1990 – 1995:** Facility inactive

Recent Operations Summary

1995-2008

- Inactive except for routine S&M to maintain safe conditions


Building 3026 in 2008 with Wooden Exterior

2008-2009

- 3026 D Cells A/B Manipulator Removal
- Access and utility ports secured


Before

After

Recent Operations Summary

2009

- Demolition of exterior wooden superstructure while protecting Hot Cells
- 24,000 square feet demolished; over 1.75 million pounds of waste safely shipped

2010

- Polyurea coating system applied to remaining structures

Current 3026 C/D Hot Cells

FY2011 - Current Work

3026 C/D Today

(1) "Tritium Lab" 3026 C-side. ~480 sq.ft. Rad Facility

✓ 100% ready for demolition. Contractor removed fume hood, lead counter tops, lead wall liners, duct and piping; decontaminated and surveyed interior surface.

(2) "Counting Room" 3026 C-side. ~160 sq.ft. Rad Facility.

✓ 100% ready for demolition. Contractor removed all piping, duct and heating unit ; decontaminated and surveyed interior surface.

(3) & (4) "Cell Banks 1 and 2", 3026 C-side.
~192 sq.ft. Rad Facility

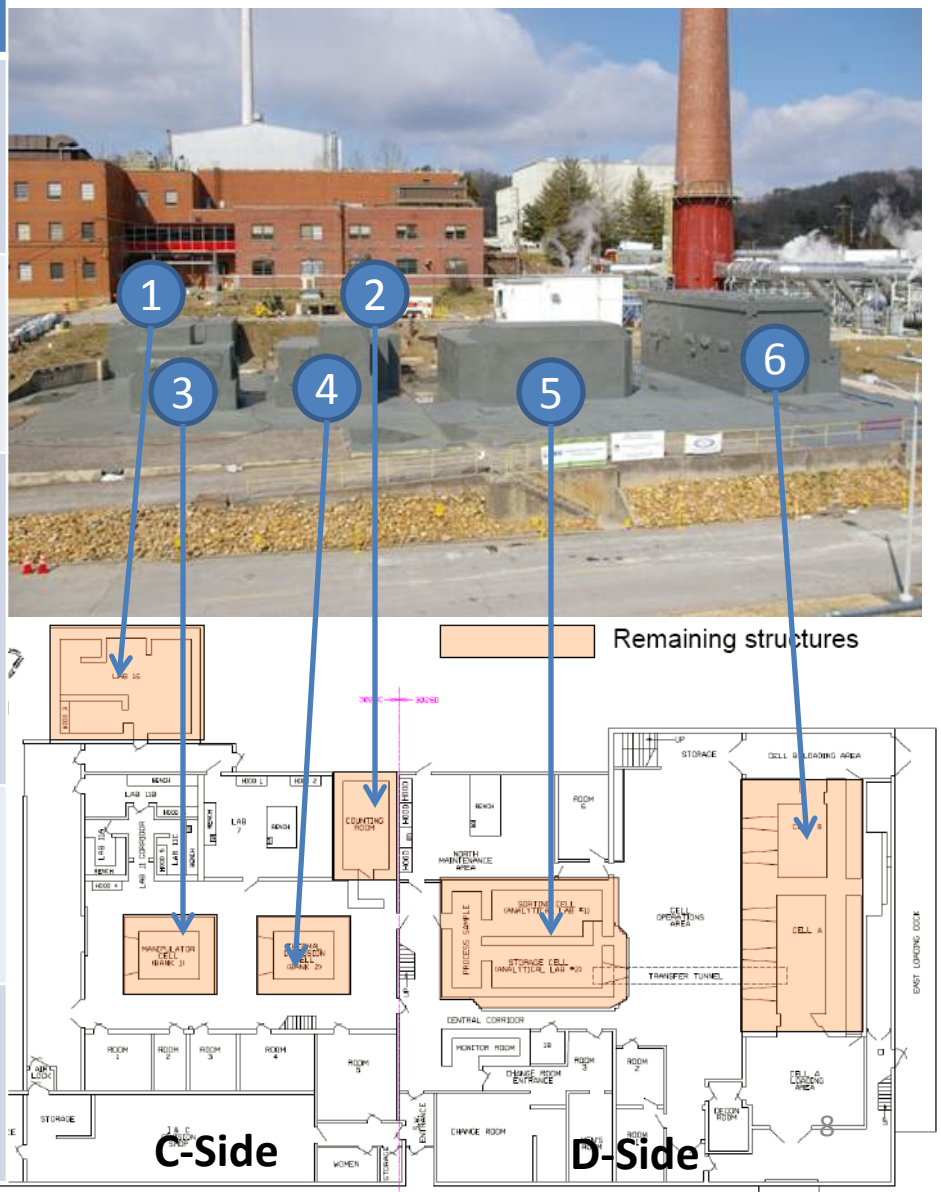
➢ ~85% ready for demo. In Cell Banks 1 and 2 contractor has removed all piping, duct work and light fixtures in each cell bank, including removal of lead floor; in process of decontaminating and surveying interior surface. To be completed 1/31/2012

(5) "Storage Sorting Cell" 3026 D-side.
~800 sq.ft. Haz Cat 3 Facility

➢ Contractor will enter facility, remove legacy waste and prepare for demolition.

(6) "Cell A and B" 3026 D-side
~1200 sq.ft. Haz Cat 3 Facility

➢ Contractor created mock-up for characterization; and has mobilized to perform characterization.



Re-planning Approach 3026-D Cell A and B

3026 D Cell A and B. Mock-ups were created to simulate entering the facility through ports using a remote arm to collect samples

1. Contractor discovered increased radiological and hazardous material inventories in 3026D
2. Technical alternative completed and analysis and a recommended proposed approach was submitted for DOE's consideration.
3. Currently performing sampling, analysis and characterization
4. Finalize safety basis and controls
5. Remove highly contaminated items
6. Demolish building structure
7. Package and dispose of waste

Artistic Projection of Future 3026 Slab


Building 3038

Building 3038 General Facts

1949 - built as an Isotope Development Laboratory, approximately 6,900 sq. ft. Single story masonry structure contains hot cells, gloveboxes, fume hoods.

1960s – portion of building converted to Alpha Handling Facility; became three independent operational areas 3038-E, 3038-M and 3038-W

1970s – 1980s - research program conducted on plutonium alloys and compounds

1994 – Facility shutdown

2004 – deactivation work was completed

May 2011, contractor took over operational responsibility for surveillance and maintenance activities for Building 3038, a Hazard Category 3 nuclear facility.

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3038 Current Work

Inside 3038:Gloveboxes and Fume Hood

- Contractor built mock-up units and performed pre-work demonstrations for the flange separation, gloveboxes and fume hoods.
- Preparations made for temporary power, electrical and mechanical isolations and verification.
- Performing Phase two characterization of containerized waste for disposition.
- Finalizing preparations for asbestos removal, universal/haz waste, attic access & characterization.

As of October 2011, contractor has:

- Removed 53 cubic meters loose legacy material
- Cleaned out 1,750 square feet of floor space in preparation for intrusive work
- Disposed of 10 cubic meters of LLW
- Completed Phase I Legacy Waste Removal

Inside 3038: Shipping Area, including high contamination area

Remaining 3038 Work

- Contractor will remove contaminated material
- Demolish building to slab
- Package and dispose of waste

Equipment and waste in Alpha Handling Facility

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Thank You