

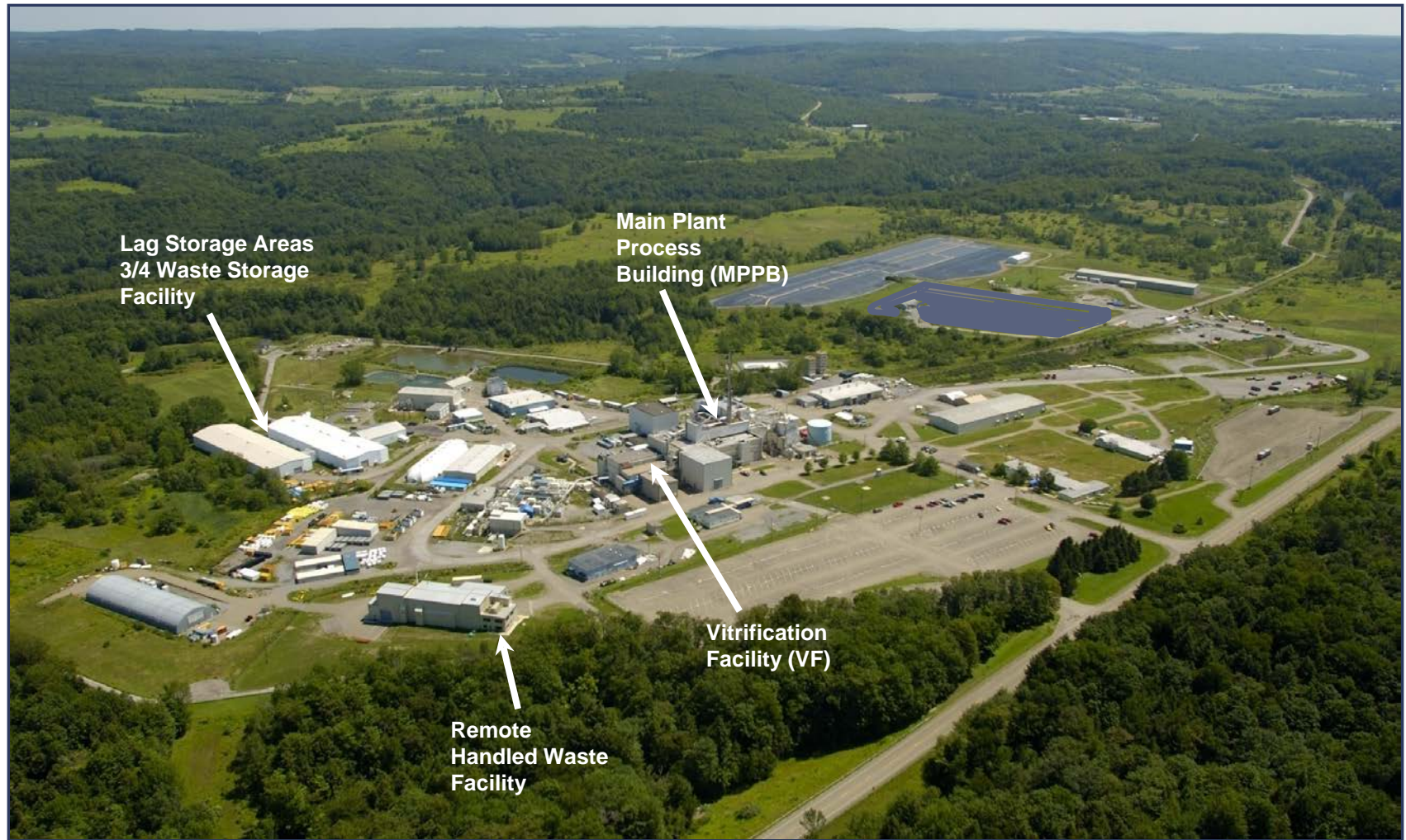


# Demolition of the Main Plant Process Building at the West Valley Demonstration Project

Scott A. Anderson  
Deputy General Manager

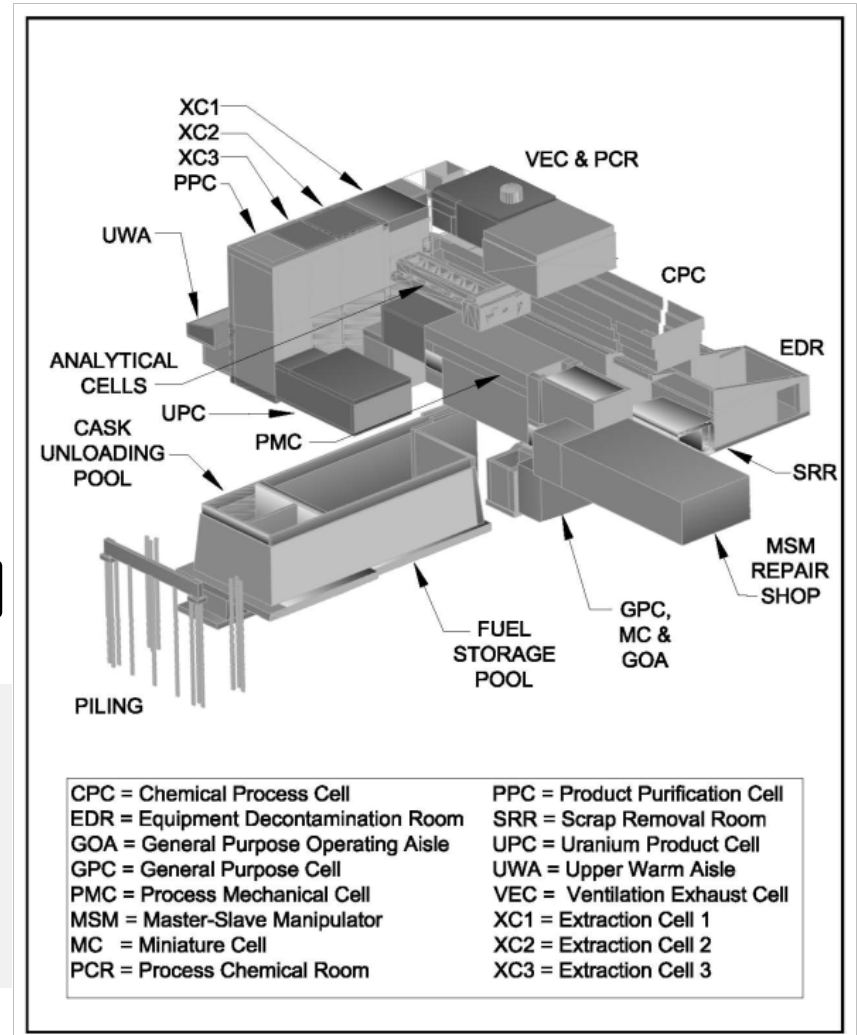
March 8, 2017

# The West Valley Demonstration Project (WVDP) Site





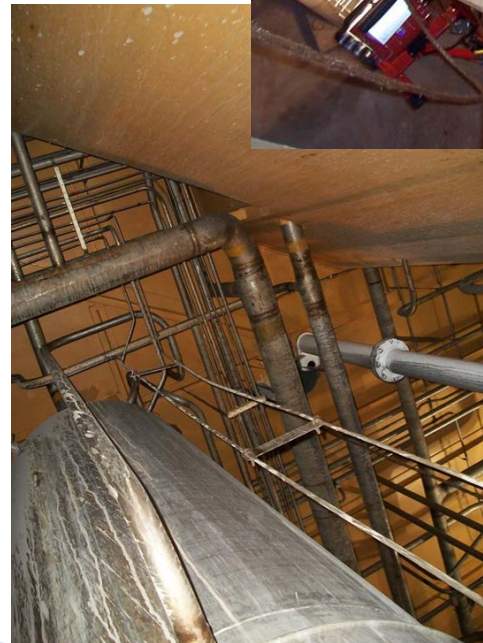
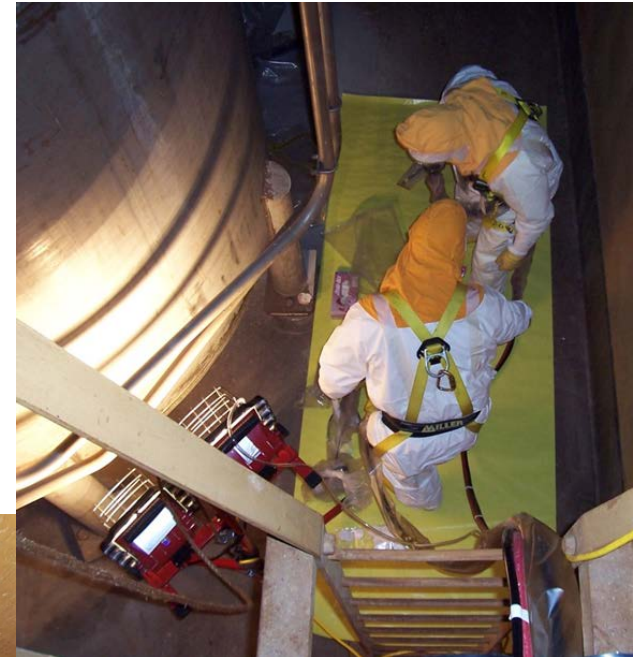
# Main Plant Processing Building



- ▶ Built between 1963 and 1966
- ▶ Processed spent fuel between 1966 and 1972
- ▶ 130 ft. X 270 ft. X 79 ft. high
- ▶ Extends 27 ft. below grade (GPC)
- ▶ Walls range in thickness from 1 ft. – 6 ft. with most hot cells 3 ft. – 5 ft.

# Main Plant Processing Building (cont.)

- ▶ 6,100 Curies Total Activity
  - Major contributions from Cesium-137, Strontium-90, Plutonium (Pu)-241
  - Lesser contributions from Americium-241 and Pu-238, 239, 240



# Main Plant Processing Building (cont.)

Contamination Levels from Select Areas Within the Plant

Area	Total Alpha (dpm/100cm <sup>2</sup> )	Total Beta (dpm/100cm <sup>2</sup> )	Total (dpm/100cm <sup>2</sup> )
Extraction Cell 2	1.48E+05	3.18E+05	4.66E+05
Off-Gas Aisle	6.75E+03	1.00E+05	1.07E+05
Extraction Chemical Room	9.14E+03	1.22E+05	1.31E+05
Liquid Waste Cell	1.15E+06	1.57E+07	1.69E+07

Dose Rates from Select Areas Within the Plant

Area	mrem/hour
Chemical Process Cell	15,000
Equipment Decontamination Room	50
General Purpose Cell (3 ft. above floor)	200,000
General Purpose Cell (9 ft. above floor)	32,000
Head-End Ventilation Cell	50,000
Liquid Waste Cell	1,800
Miniature Cell	80
Off-Gas Blower Room	700
Process Mechanical Cell	40,000
Product Purification Cell	53
Sample Storage Cell	1,950
Ventilation Wash Room	1,500



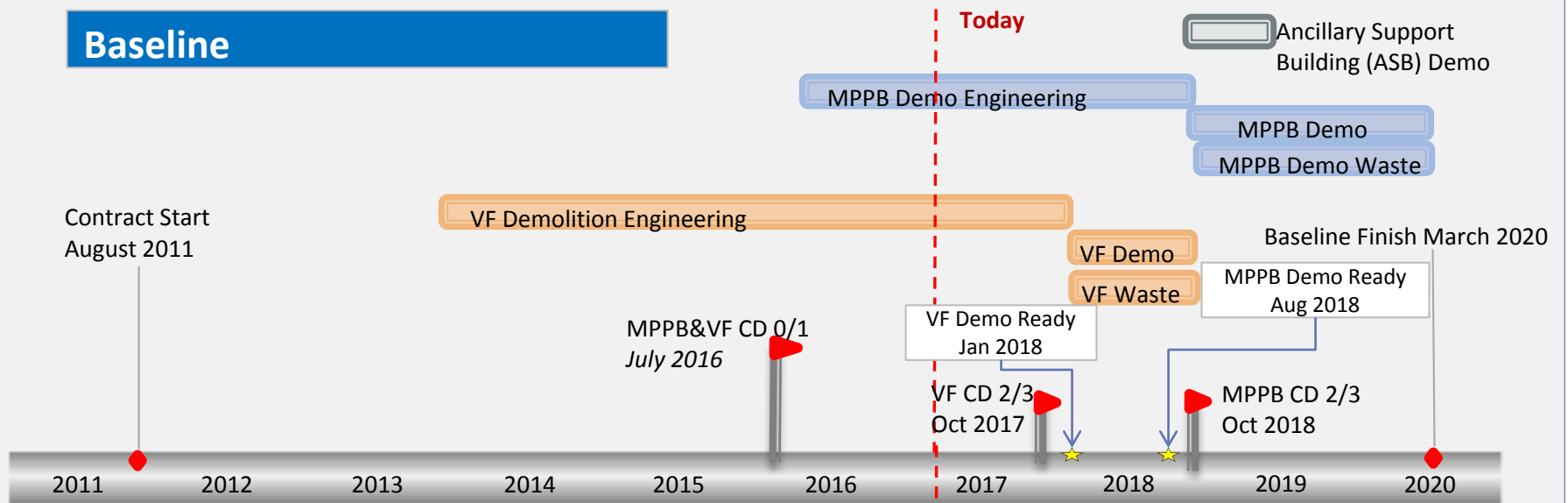
# Ancillary Support Buildings

1. Utility Room Extension
2. Utility Room
3. Laundry
4. Office Building
5. Load-In Facility
6. MSM Shop
7. Contact Size Reduction Facility

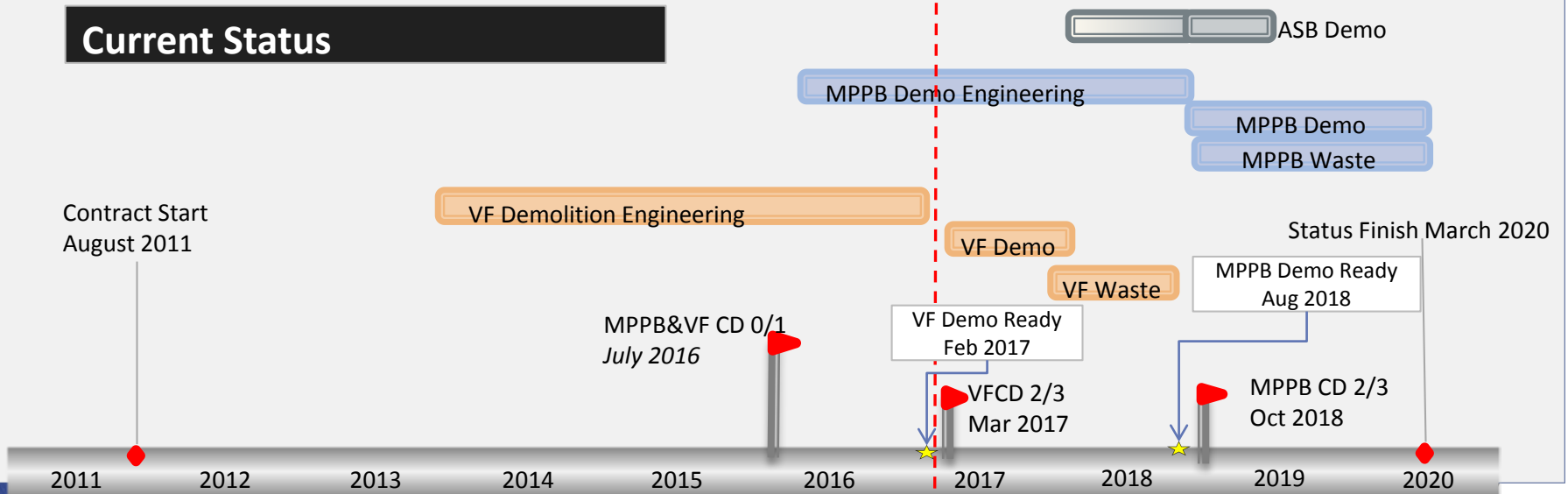


# MPPB – Demolition Schedule

## Baseline



## Current Status



# Management of Demolition Waste

- ▶ Waste managed in accordance with the WVDP Waste Management Program
  - Confirmatory characterization prior to packaging
  - Waste segregated as it is packaged (i.e., Mixed Low Level Waste, Asbestos Containing Material)
  - Frequent debris cleanup and packaging to reduce potential for contamination



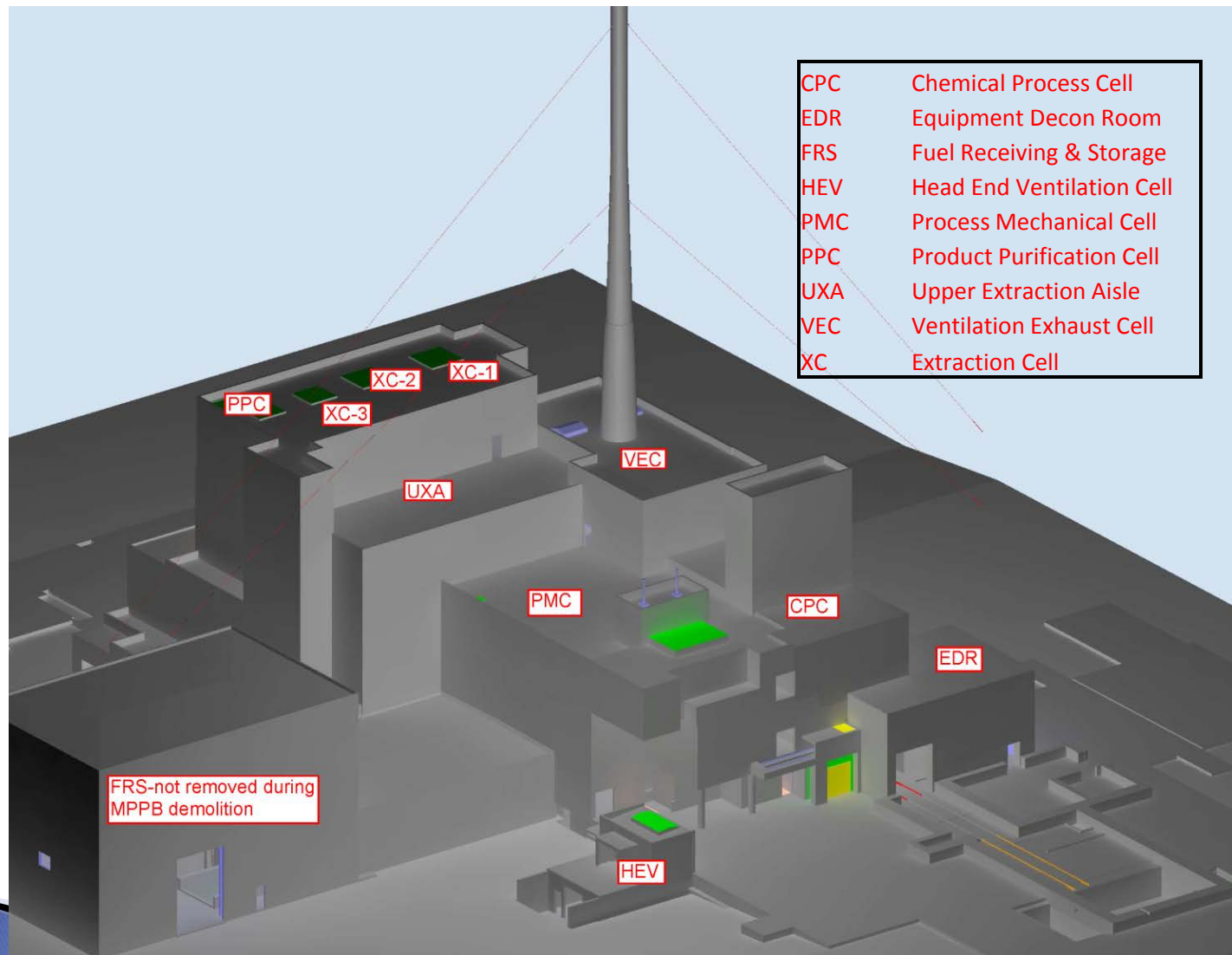
**Waste Characterized, Segregated and Packaged Throughout Demolition**

MPPB Area	Tons	Containers*
Extraction Cells	4,844	323
ARC/OGC/ SW Stairs	857	57
CPC/CCR	7,430	495
Upper & Lower warm aisles & pump niches	681	45
LWC/UPC	1,079	72
PMC/PMCR	2,777	185
Analytical Cells/Aisles	992	66
EDR	931	62
<b>Subtotal</b>	<b>19,591</b>	<b>1,306</b>
+ 10% for Equipment & Miscellaneous	1,959	131
<b>MPPB Total</b>	<b>21,550</b>	<b>1,437</b>

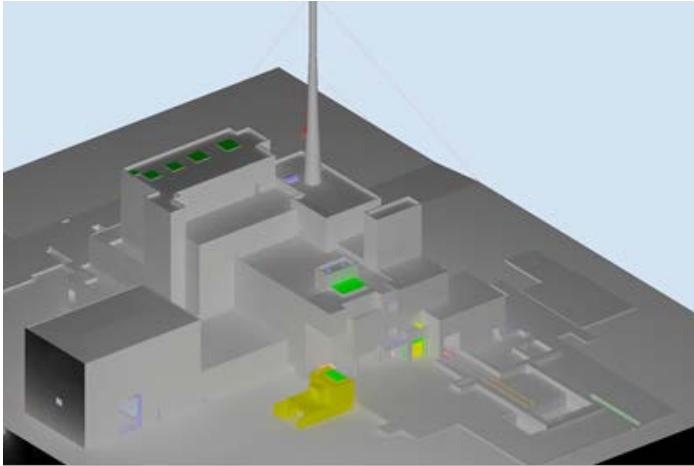
\* Container size assumed to be 25 cu yd carrying 15 tons/container



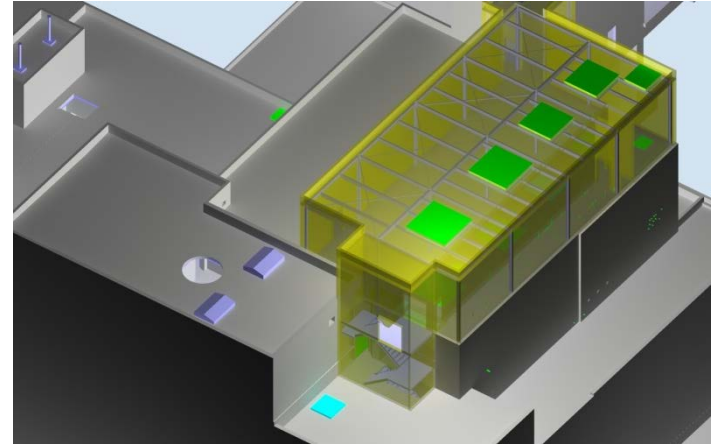
# MPPB Demolition Areas



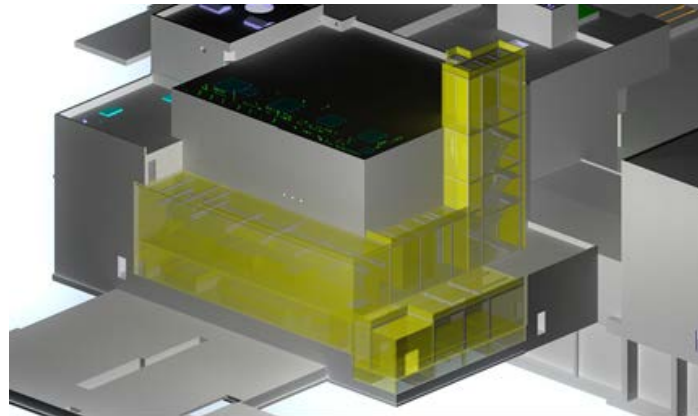
# MPPB Demolition Sequence



Head End Vent and Ventilation Stack

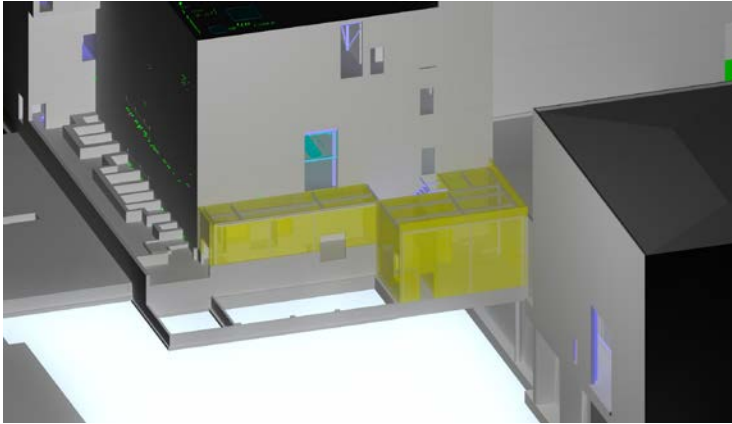


Extraction Area Crane Terraces

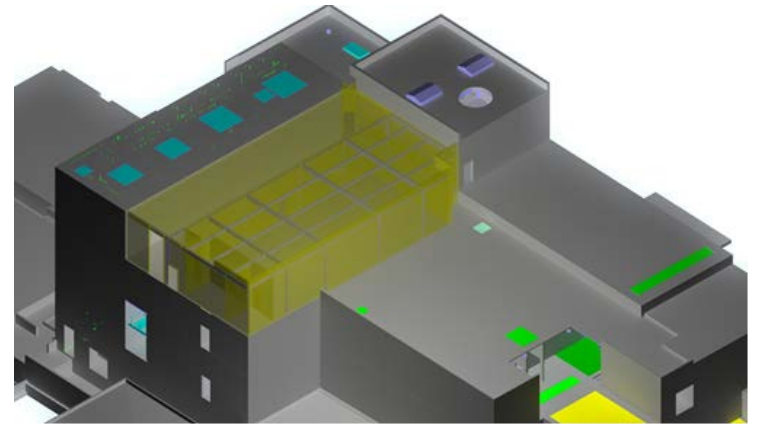


Upper and Lower Warm Aisles and  
East Stairs

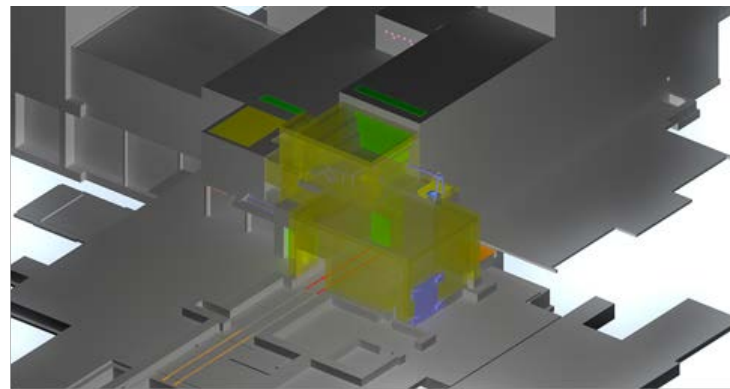
# MPPB Demolition Sequence (cont.)



Product Packaging and Handling Area



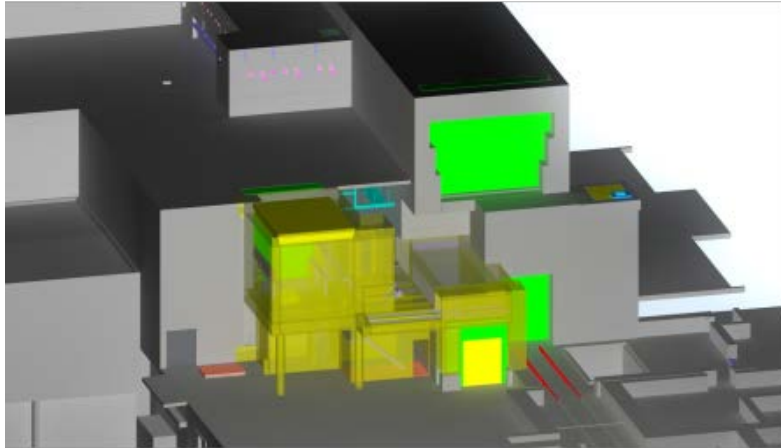
Upper and Lower Extraction Aisle



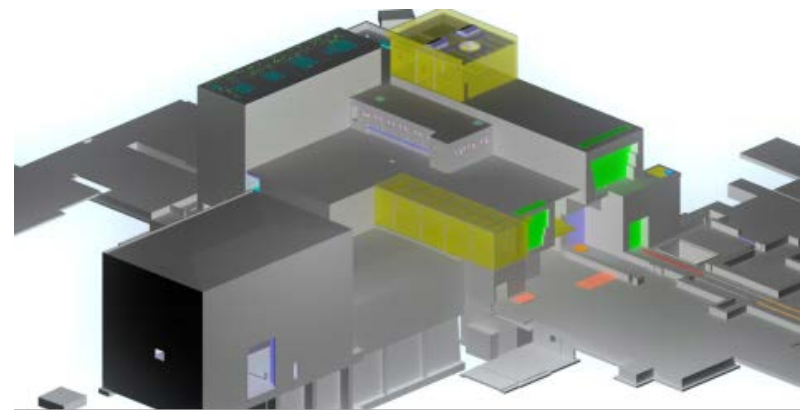
EDR and Chemical Crane Room



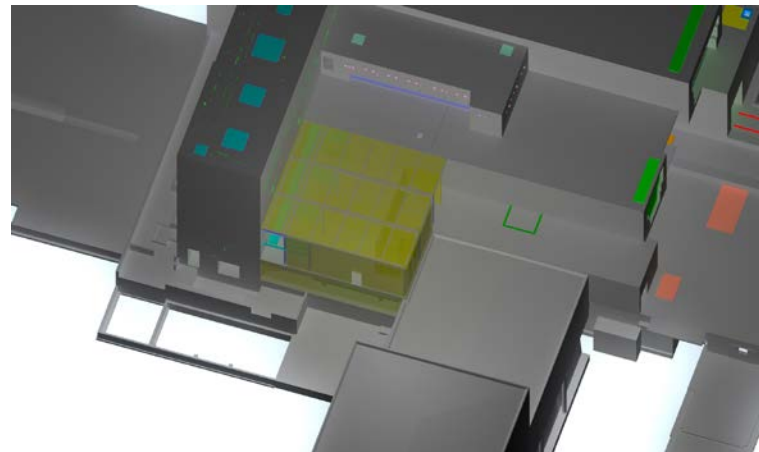
# MPPB Demolition Sequence (cont.)



PMC Crane Room and Scrap Removal Room

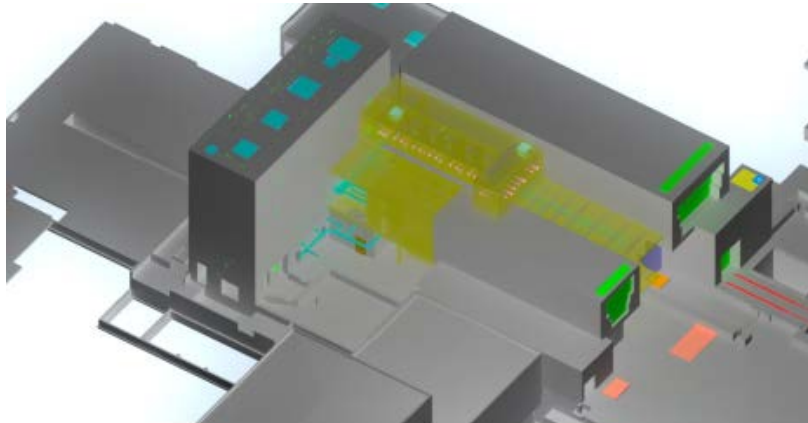


Vent Wash Room, Vent Exhaust Cell and Vent Supply Room

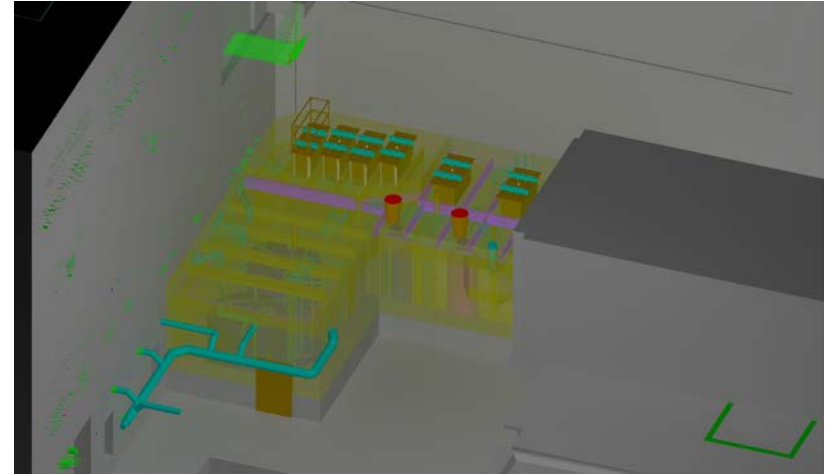


Uranium Product Cell

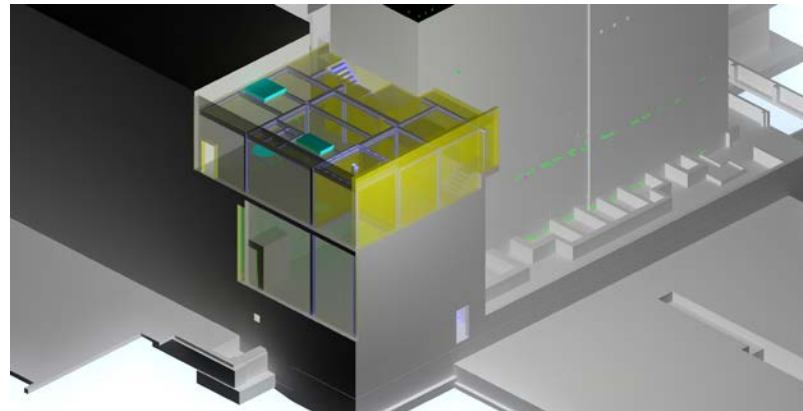
# MPPB Demolition Sequence (cont.)



Hot Cells

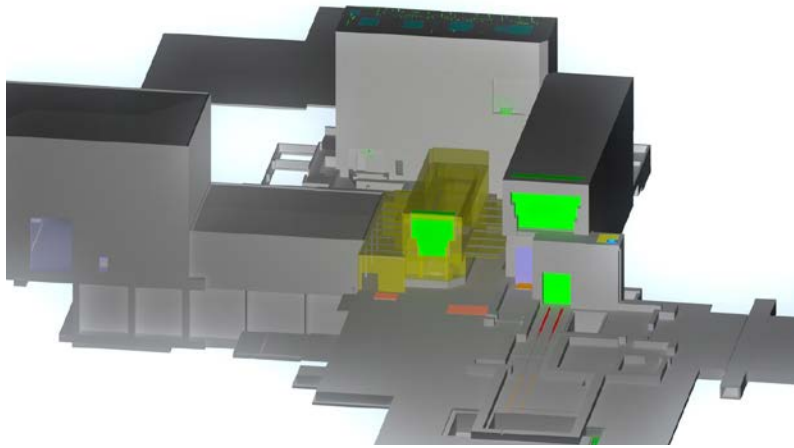


Liquid Waste Cell

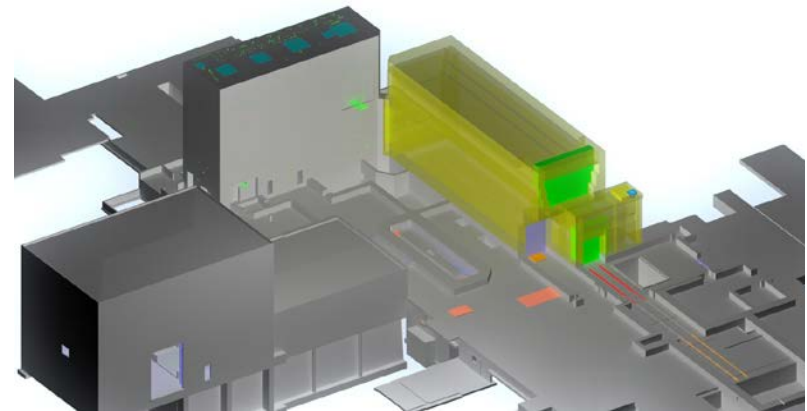


Off Gas Aisle and Acid Recovery Cell

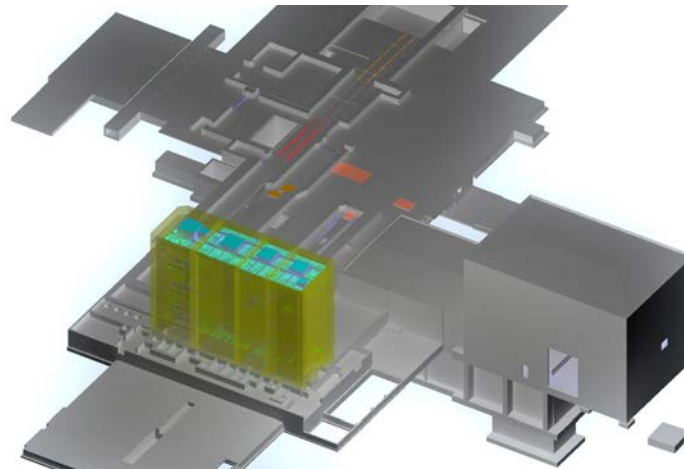
# MPPB Demolition Sequence (cont.)



Process Mechanical Cell



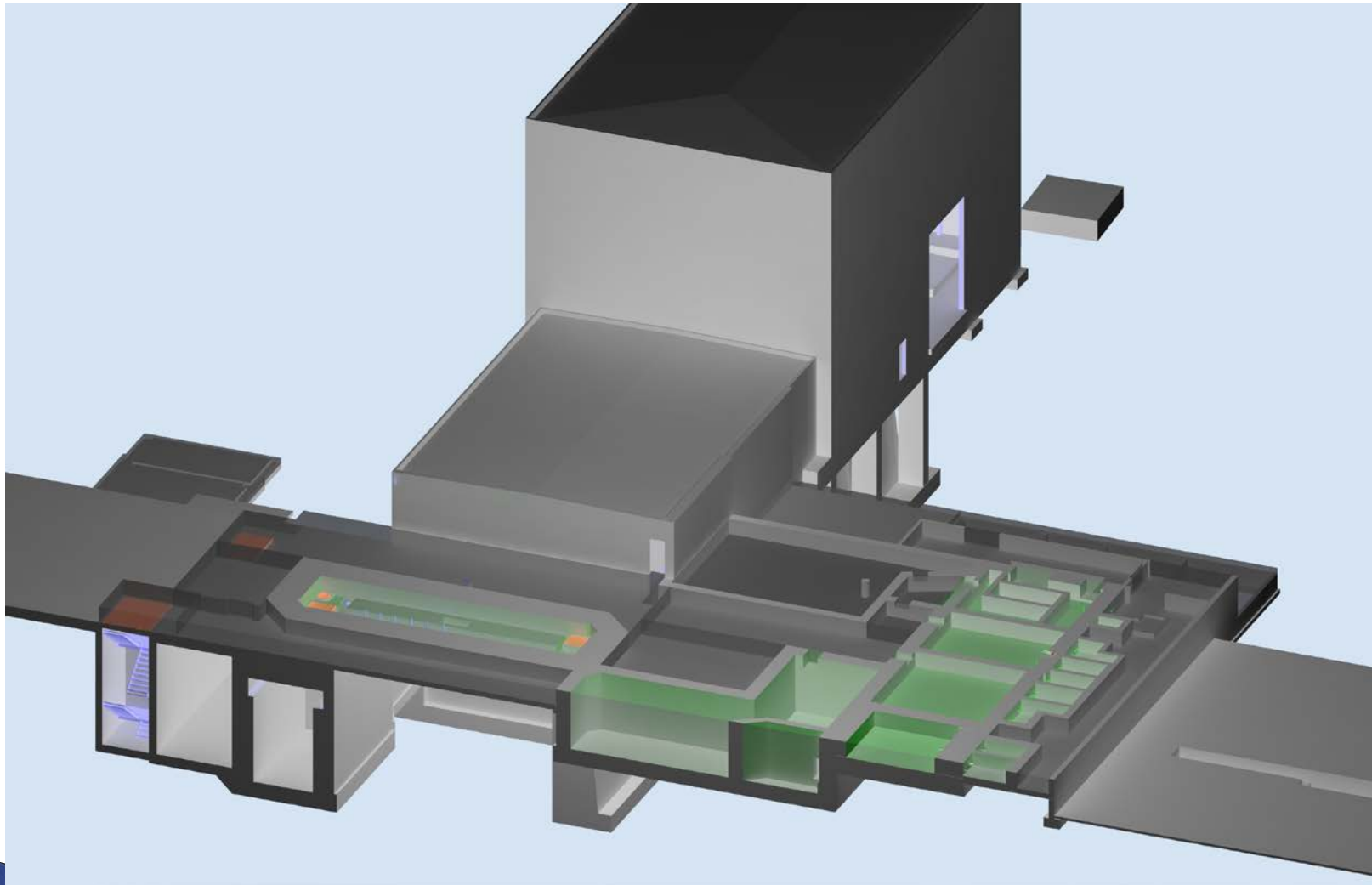
Chemical Process Cell



Extraction Cells and Product Purification Cell



# MPPB Demolition Complete



# MPPB Demolition – Before and After

