



Follow Up to the December 2025 Community Advisory Council Meeting

Jason Remien, Manager
Environmental Protection Division
Brian Barth, Manager
Groundwater Protection Group

January 22, 2026



BNL's Commitment to the CAC

- We recognize that community input and local knowledge help shape cleanup priorities and decisions...thank you!
- We'll continue to provide you full and transparent information
- We'll continue to engage with you and hear your concerns

Where We Are Today – Answering Your Questions

- Working together, we have made tremendous progress on environmental cleanup at the Laboratory
- Complex challenges remain and we want to be responsive to your questions and concerns:
 - When and how we came to understand the challenges meeting cleanup goals for a few treatment systems
 - What is the status of all Records of Decision (RODs) and associated cleanup goals
 - What is being done or can be done to speed things up

We recognize that we can do better communicating these challenges to you to maintain your trust

BNL's Environmental Cleanup

- BNL remains committed to the restoration of the aquifer
- Remedies are designed to be protective of human health and the environment, during cleanup potential exposure pathways are mitigated
- Resources are focused where they will reduce the highest risks as quickly as possible
- Risk-based decisions are made and revisited as new data become available
- Framework for cleanup established under CERCLA in a Federal Facilities Agreement between DOE, EPA, and NYSDEC



Department
of Health



CERCLA Cleanup Process

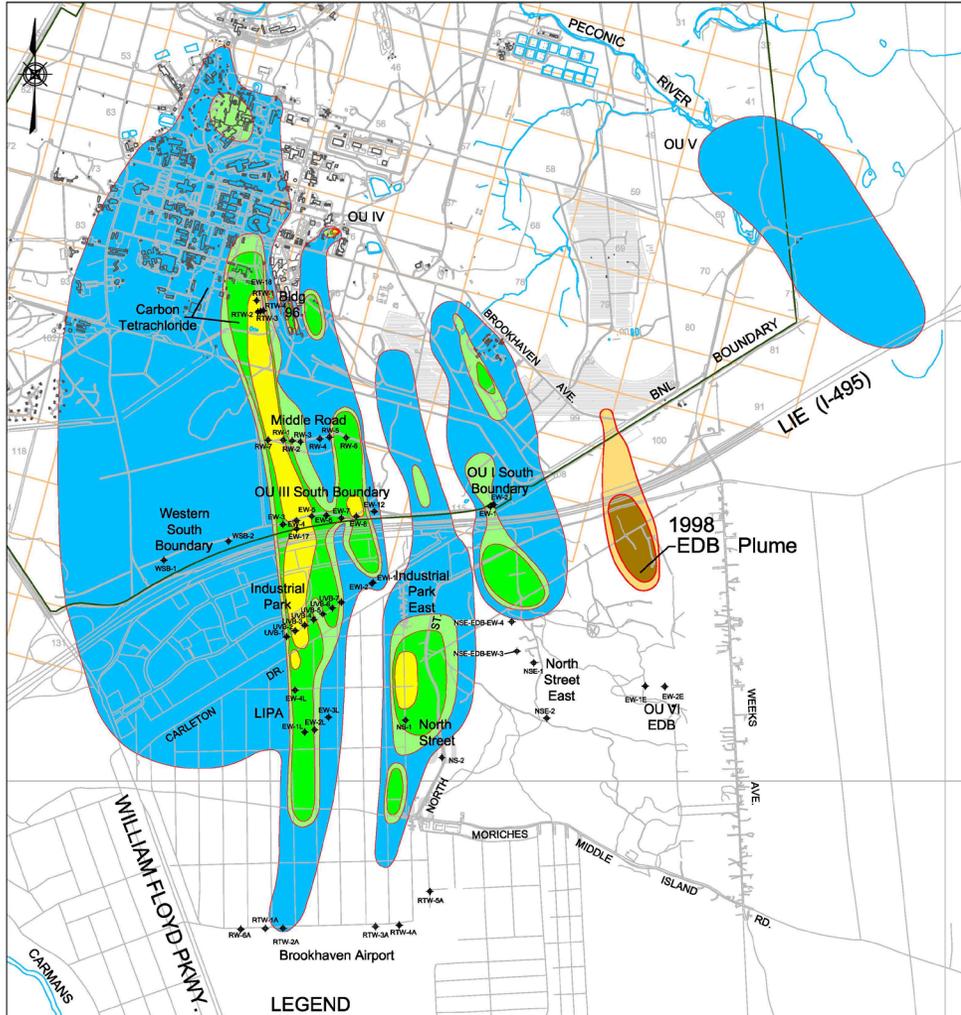


Records of Decision (RODs)

| ROD | Description | Date | Status |
|---------|---|------|------------|
| OU I | Radiologically Contaminated Soil. Radiological and VOC Contaminated Groundwater (FHWMF, Former & Current Landfills) | 1999 | On Track |
| OU III | Groundwater On and Offsite | 2000 | Challenges |
| OU IV | Soil and Groundwater Onsite (Central Steam Facility, 650 Sump & Outfall) | 1996 | On Track |
| OU V | Sewage Treatment Plant (STP) | 2001 | Met |
| OU V | Peconic River | 2004 | Met |
| OU VI | Ethylene Dibromide (EDB) in Groundwater Offsite | 2000 | Challenges |
| OU VIII | g-2, BLIP, USTs | 2007 | On Track |
| OU IX | HFBR Radiologically Contaminated Structures and Soil | 2009 | On Track |
| OU XI | BGRR Radiologically Contaminated Structures and Soil | 2005 | On Track |

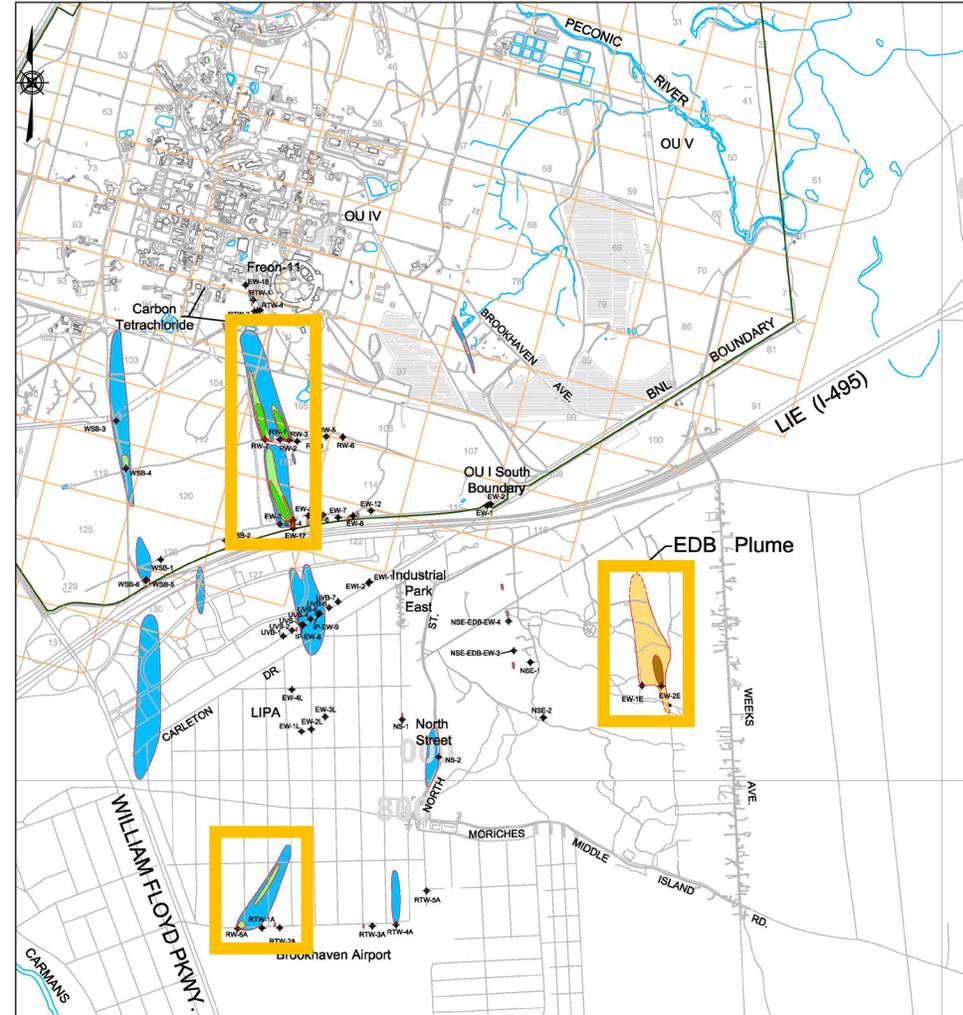
VOC Plume Comparison (1997 vs. 2024)

1997 VOC PLUME DISTRIBUTION



| | | |
|---------------------------------|----------------------------------|--|
| 5-49 mg/L TVOC CONCENTRATION | ≥ 500 mg/L TVOC CONCENTRATION | GROUNDWATER REMEDIATION WELL RTW-4A |
| 50-99 mg/L TVOC CONCENTRATION | 0.05-0.99 µg/L EDB CONCENTRATION | OU - OPERABLE UNIT |
| 100-499 mg/L TVOC CONCENTRATION | ≥ 1.00 µg/L EDB CONCENTRATION | EDB - ETHYLENE DIBROMIDE |
| | | VOC - VOLATILE ORGANIC COMPOUND |
| | | TVOC - TOTAL VOLATILE ORGANIC COMPOUND |
| | | µg/L - MICROGRAMS PER LITER |

2024 VOC PLUME DISTRIBUTION

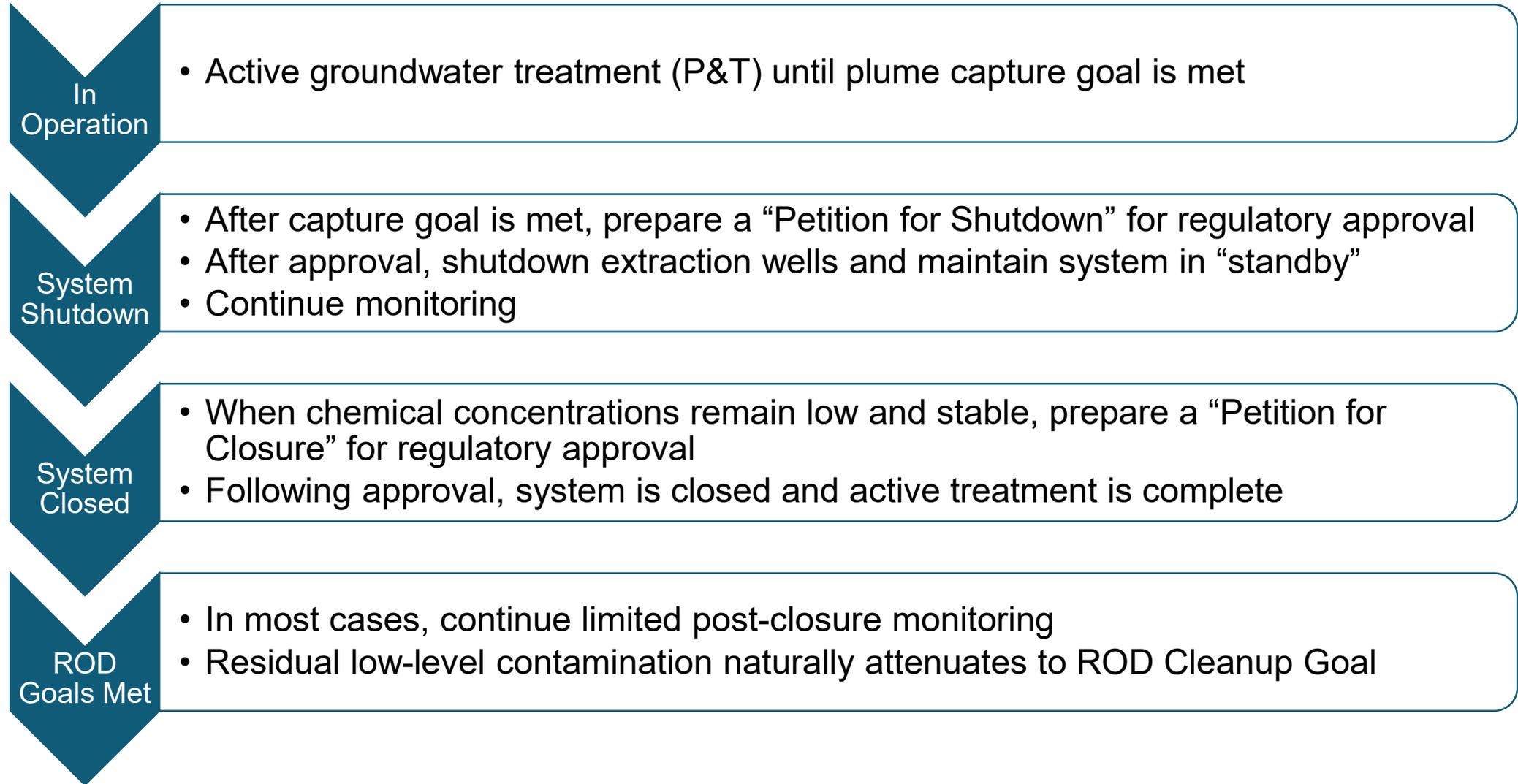


| | | |
|---------------------------------|----------------------------------|--|
| 5-49 mg/L TVOC CONCENTRATION | ≥ 500 mg/L TVOC CONCENTRATION | GROUNDWATER REMEDIATION WELL RTW-4A |
| 50-99 mg/L TVOC CONCENTRATION | 0.05-0.99 µg/L EDB CONCENTRATION | OU - OPERABLE UNIT |
| 100-499 mg/L TVOC CONCENTRATION | ≥ 1.00 µg/L EDB CONCENTRATION | EDB - ETHYLENE DIBROMIDE |
| | | VOC - VOLATILE ORGANIC COMPOUND |
| | | TVOC - TOTAL VOLATILE ORGANIC COMPOUND |
| | | µg/L - MICROGRAMS PER LITER |

Remediation Systems – Closure Timeline

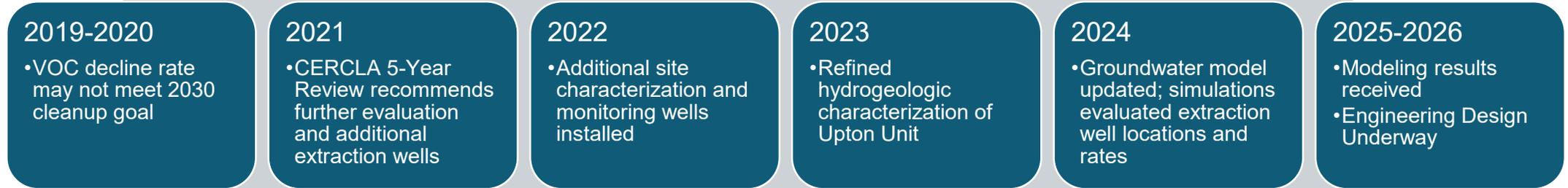
| OU III Cleanup Objectives | System | Operations | System Status | | Meeting Cleanup Objectives? |
|---|---|--------------|---------------|---|--|
| <p>To meet MCLs in groundwater for VOCs</p> <p>Complete the cleanup of the groundwater in a timely manner, which for the Upper Glacial aquifer is 30 years or less (2030) and within 65 years or less for the Magothy aquifer (2065)</p> <p>Prevent or minimize further migration of VOCs</p> | OU I – South Boundary | 1996 – 2019 | Closed (VOCs) | | On Track – Monitoring Ongoing |
| | OU III – Middle Road/South Boundary | 1997 – | In Operation | | Unlikely to meet 2030 goal for Upper Glacial Expected to meet 2065 goal for Magothy |
| | OU III – Industrial Park & Modification | 1999 – 2025 | Closed | | On Track – Monitoring Ongoing |
| | OU III – Carbon Tetrachloride | 1999 – 2010 | Closed | | Met |
| | OU III – Building 96 | 2001 – | In Operation | Anticipate Petition for Shutdown in 2026-2027 | On Track – Monitoring Ongoing |
| | OU III – Western South Boundary | 2002 – | In Operation | | On Track – Monitoring Ongoing |
| | OU III – Industrial Park East | 2004 – 2014 | Closed | | Met |
| | OU III – North Street | 2004 – 2020 | Closed | | On Track – Monitoring Ongoing |
| | OU III – North Street East – VOCs | 2004 – 2020 | Shutdown | | On Track – Monitoring Ongoing |
| | OU III – North Street East – EDB | 2020 – 2026 | Shutdown | | On Track – Monitoring Ongoing |
| | OU III – LIPA | 2004 – 2025 | Closed | | On Track – Monitoring Ongoing |
| | OU III – Airport | 2004 – | In Operation | | Unlikely to meet 2030 goal for Upper Glacial Expected to meet 2065 goal for Magothy |
| | OU III – Freon-11 | 2012 – 2019 | Closed | | Met |
| | OU IV – ASVE | 1997 – 2003 | Closed | | Met |
| | OU V – MNA of VOCs | NA | NA | | Met |
| OU VI – EDB | 2004 – | In Operation | | Unlikely to meet 2030 goal | |
| OU X – PFAS TCRA | 2022 – | In Operation | | Cleanup goals have not been determined | |

Treatment System Closure Process



Evolving Understanding and Actions

OU III Middle Road/South Boundary Treatment System:



Other Risk-Based Priorities During this Timeframe:

2017-2023

PFAS & 1,4-Dioxane - Established OU X, Construction & Operation of Two PFAS Groundwater Treatment Systems (**Operational January 2023**)
Western South Boundary Optimization (**Operational 2019**)
North Street East EDB Optimization (**Operational 2020**)

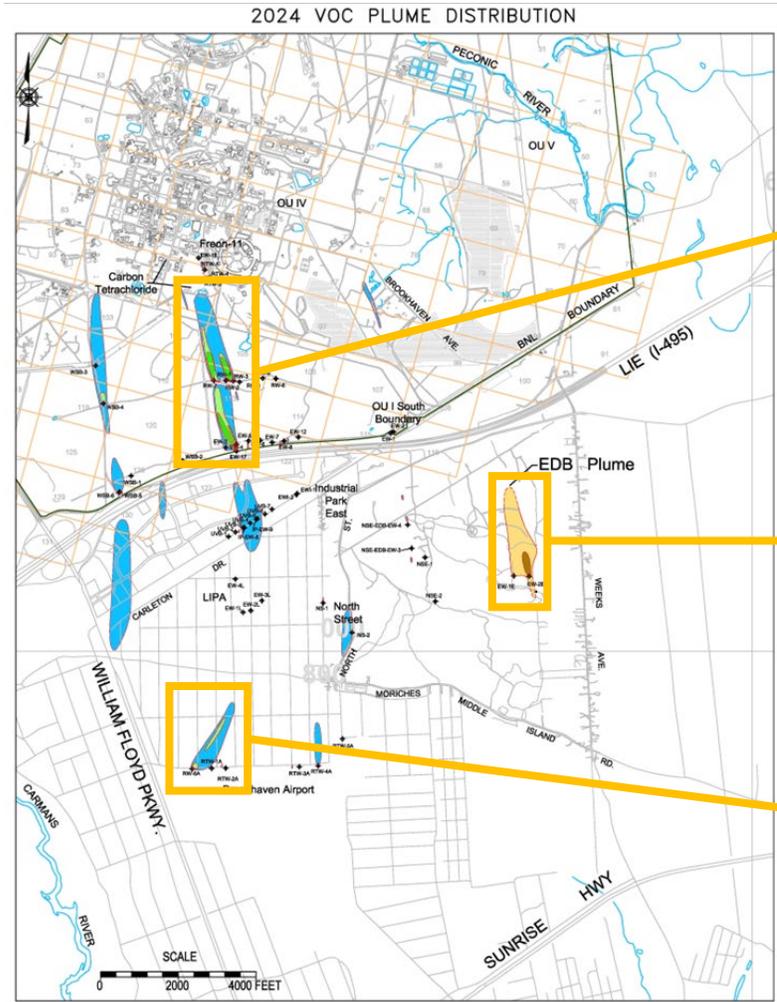
2021-2024

OU VI EDB - Installation of Two Deep Extraction Wells (**Operational January 2024**)

2023-2024

OU III Building 96 - Treatment of Residual Source Area Soil Contamination (**Completed June 2024**)

Ongoing Challenges



| System | Challenge | Estimated Timeframe |
|---|---|--|
| OU III – Middle Road and South Boundary | <ul style="list-style-type: none"> Lower permeability zone in the deep Upper Glacial aquifer is impeding VOC removal | 2040+ (with current system) 2035+ (with modification) |
| OU VI - EDB | <ul style="list-style-type: none"> Two additional extraction wells installed to capture the deeper EDB. Additional modeling planned to refine cleanup timeframe | 2035+ (with current system) |
| OU III - Airport | <ul style="list-style-type: none"> VOCs migrating slower than expected in the deep Upper Glacial aquifer Residential area to the north prevents the installation of additional extraction wells | 2035+ (with current system) |

Prioritizing Future Actions

| Project | Description of Future Action | Cost Estimate | Current Risk |
|---|---|---------------|--|
| OU X Current Firehouse PFAS System | Installation of 3-4 additional extraction wells to address a shift in migration pathways | \$2M | Portions of high concentration source area plume segments are not being captured, treated, or contained |
| OU III SB/MR/WSB and Airport Treatment Systems | Install Advanced Oxidation Process (AOP) treatment to meet discharge standards | \$8M | Operational VOC treatment systems continue to discharge PFAS and/or 1,4-dioxane above discharge limits |
| Conduct OU X Remedial Investigation/Feasibility Study | Complete the investigation of the extent of PFAS and 1,4-dioxane in groundwater and soil | \$10M | Full extent of contamination has not been delineated. Cannot develop a final remedial strategy |
| Building 197 Mercury | Complete cleanup of mercury contaminated soil | \$5M | Elemental Hg remains in soil. Exposure risk is being mitigated through interim stabilization and institutional controls |
| OU III Middle Road and South Boundary Treatment Systems | Install 3 additional groundwater extraction wells to accelerate the capture and treatment of VOCs that are in the low permeability Upton Unit | \$2M | Unlikely to achieve 2030 cleanup timeframe goal |

Closing Remarks

- We are grateful to the CAC for your continued commitment to provide feedback on cleanup priorities and decisions
- We are committed to communicating more clearly about cleanup challenges and appreciate your understanding
- We promise to continue to provide full and transparent information to maintain your trust
- We invite the CAC members to visit our remediation sites and treatment systems