Plutonium Finishing Plant Closure Project

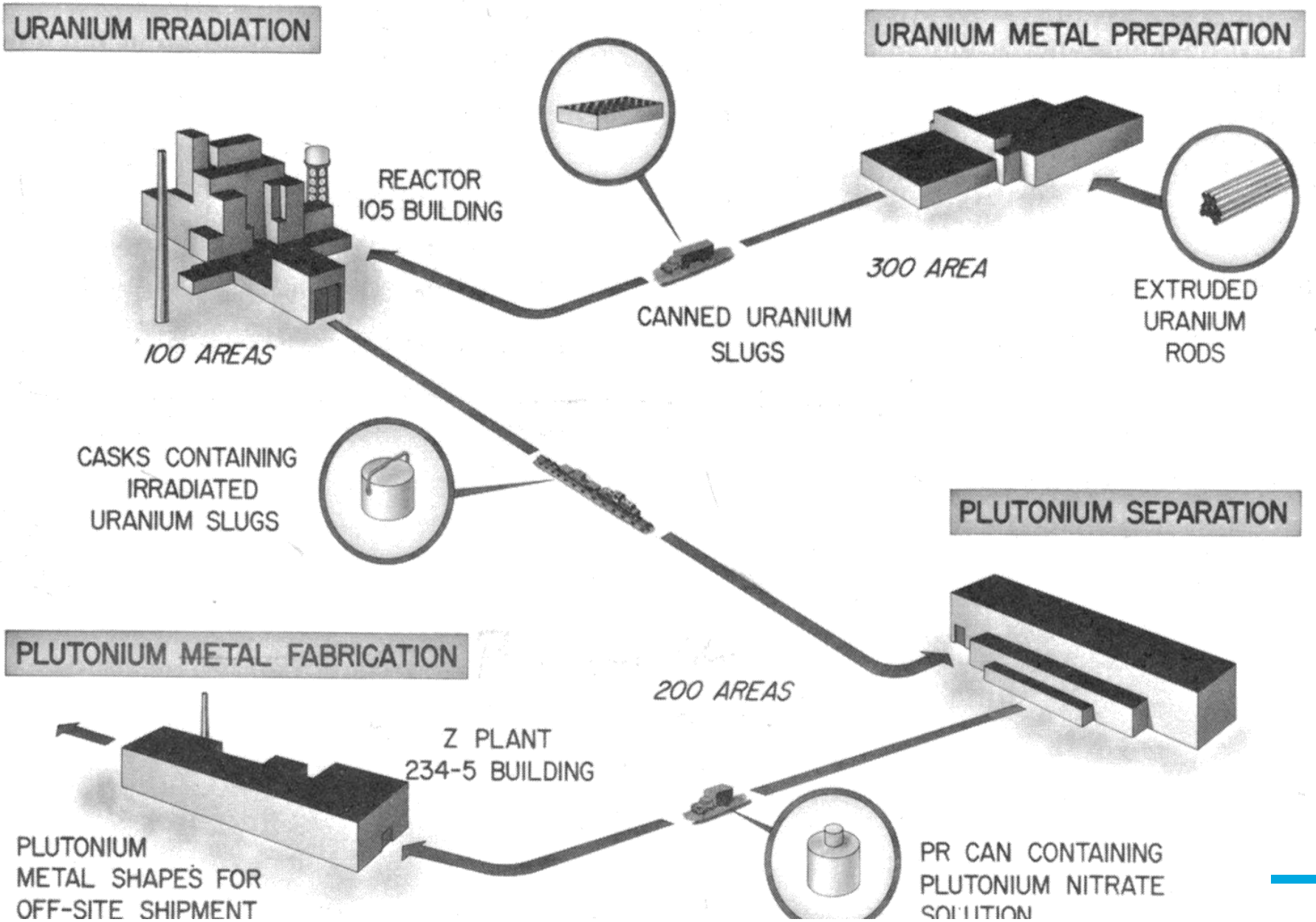
Overview and Project Status

September 2016

ch2m SM

U.S. DEPARTMENT OF ENERGY

HANFORD ATOMIC PRODUCTS OPERATION-PRODUCT FLOW



Plutonium Finishing Plant (PFP) Current Status

- Final internal hazard reduction
- Demolition zone preparations
- Employee transition planning
- Employee training
- Employee communication effort
- Demolition preparations

We don’t proceed until we are certain we can do it safely

PFP DOE-RL Project Key Risks

RL-EMP-001.01 Bump and Roll of Bargaining Unit Employees

- If a significant number of bargaining unit employees at PFP are replaced due to bump and roll, retirement or other personnel action, productivity may be impacted.

RL-EQ-01 – Catastrophic Safety Equipment Failure

- Details: Aging equipment and/or components create a catastrophic safety system failure that shuts down D4 operations at PFP.

DEMO-009 – Stakeholder Concern Delays Work

- Details: If a key stakeholder raises a significant concern during demolition, then work may be interrupted, resulting in schedule delays.

DEMO-001 – Airborne/Shipping Off-Normal Event During Demolition.

- Details: Airborne or Shipping Off-Normal Event During Demolition while performing demolition of the major buildings at PFP. EPA and Ecology will be monitoring demolition events. May affect adjacent working projects or off-site areas.

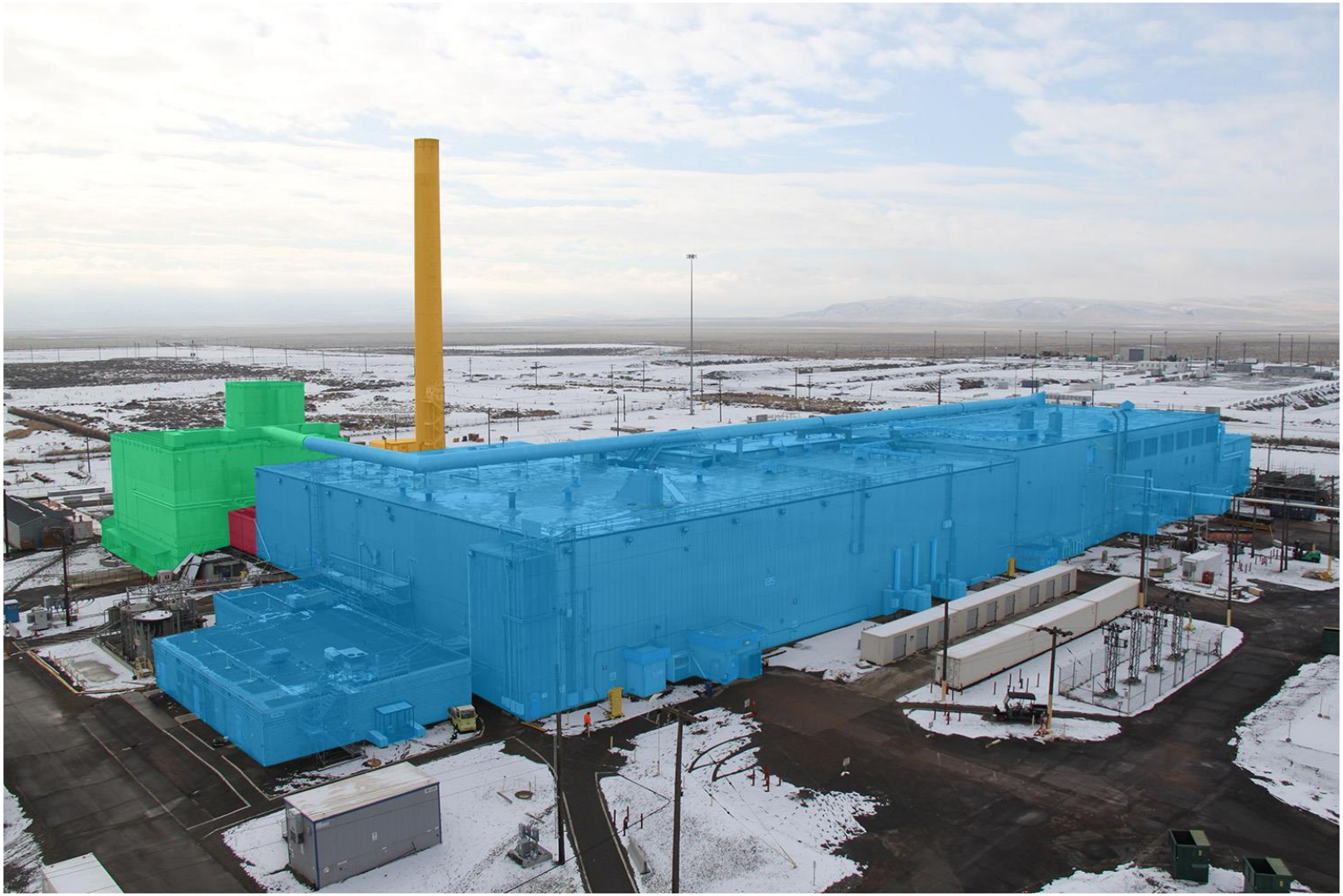
PFP: The Lay of the Land

236-Z
Plutonium Reclamation Facility (PRF)

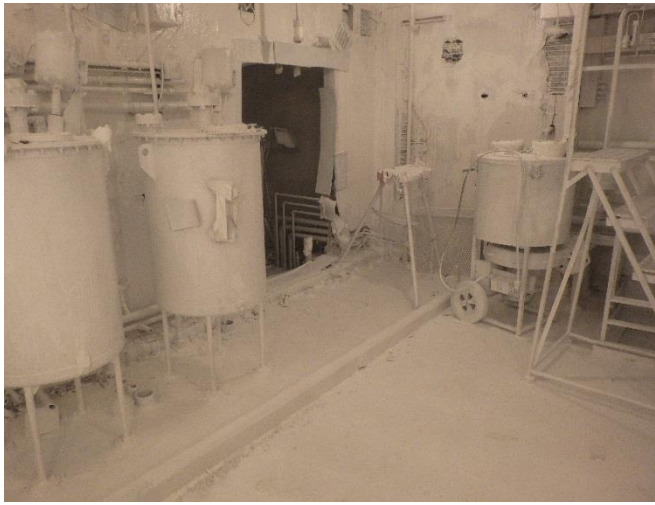
242-Z
McCluskey Room

234-5Z
Plutonium Finishing Plant (PFP)

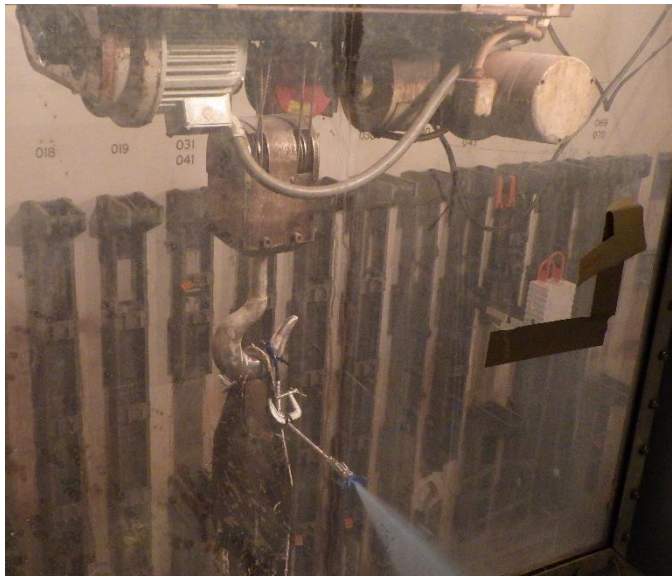
291-Z
Fan House, Stack



Status: 242-Z (McCluskey Room)



Status: 236-Z (Plutonium Reclamation Facility)



Status: Ongoing Work Prior to Demolition

Process Vacuum Piping

Filter Boxes

Ventilation Duct

Asbestos

Ancillary Building Demolition and Site Prep

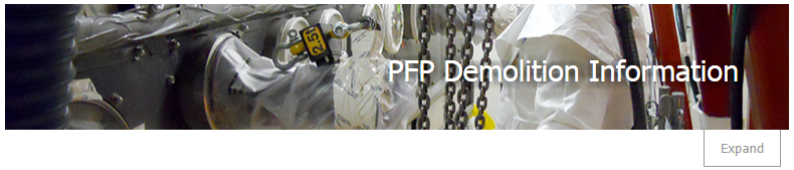
Status: Employee Transition Planning

Canyon risk mitigation

- 263 HAMTC employees to transition based on Collective Bargaining Agreement
- 113 non-bargaining employees to transition to other scope and projects where possible
- Execution:
  - Dates identified based on project needs and skill mix
  - Three phases planned
  - One-on-one meetings

Status: Employee Training

Status: Employee Communication



Expand

PFP Demolition Information

This site is meant to be a resource to find information related to PFP demolition, including questions and answers, current status and multimedia.

Current Status:
Crews recently completed painting the inside of 242-Z (the Americium Recovery Facility), which is one of the last steps before demolition on that facility can begin. Demo preparations are also proceeding inside 236-Z (the Plutonium Reclamation Facility). These structures will be demolished first; demolition is expected to begin after a readiness assessment scheduled for early August. *(Updated July 11, 2016)*

History:
PFP was once the last stop of plutonium production at Hanford. From 1949 to 1989, workers at PFP produced plutonium "buttons" and plutonium oxide powder that could then be shipped to the country's weapons production facilities.

That work left the facility contaminated with a variety of radiological and chemical hazards. Safely and compliantly demolishing the Plutonium Finishing Plant will reduce risk to workers and the environment and will reduce life cycle costs on the Hanford Site.

Years of careful work to deactivate, decommission and decontaminate the facility was necessary before demolition could occur. Today, the focus is on safe and compliant demolition – keeping workers, the public and the environment safe while carefully removing a hazard from the Hanford Site.

Resources

Video Gallery
Photo Gallery
Frequently Asked Questions
Informational Demolition Presentation

Intranet presence for project status updates and frequently asked questions

- Goals: address questions and concerns about PFP demolition
- 40+ briefings conducted
  - CHPRC employees
  - Other Hanford contractor employees
  - Hanford Atomic Metal Trades Council employees
  - Stakeholders
  - Regulators
- Online presence for questions and multimedia

Hazard Mitigation: Summary

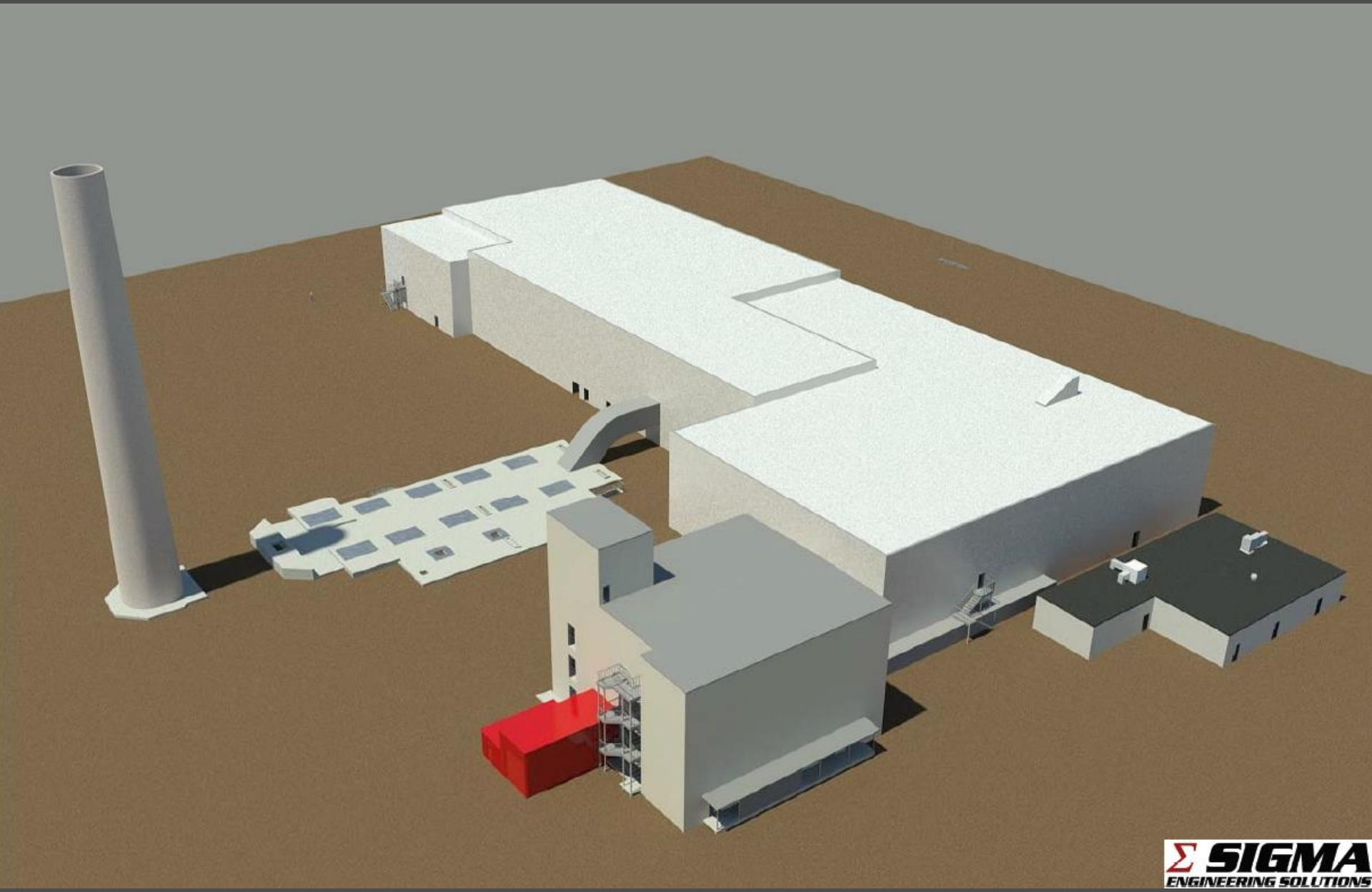
Beryllium	Asbestos	Radiological
Maintaining beryllium controls as a conservative measure Postings as necessary Extensive fogging, water suppression and fixative used Fully characterized according to Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)	Removed 26,176 of 28,890 ft^2 of asbestos insulation (7/18/16) All friable (easily crushed) asbestos removed All transite (asbestos-containing) panels to be removed prior to demolition Will be fully characterized according to EPA demolition standards (40 CFR 61.145) and CHPRC guidance for demolition (PRC-GD-EP-52776)	Source term removed or prepared for removal during demolition Extensive fogging, water suppression and fixative used Boundaries modeled by PNNL based on conditions Will be fully characterized according to sampling and analysis plan (DOE/RL-2004-29)

Air Monitoring for All Hazards

Keeping Employees and Environment Safe

- Real time radiological monitoring
- Airborne hazard control through fixatives, fogging and deluge sprays
- Fixatives and ground maintenance to avoid contamination spread
- Expeditious packaging and load out of contaminated debris
- Water runoff management
- Demolition won't start until building conditions comply with the air dispersion model
  - Estimates of contamination and emission levels for various potential demolition activities

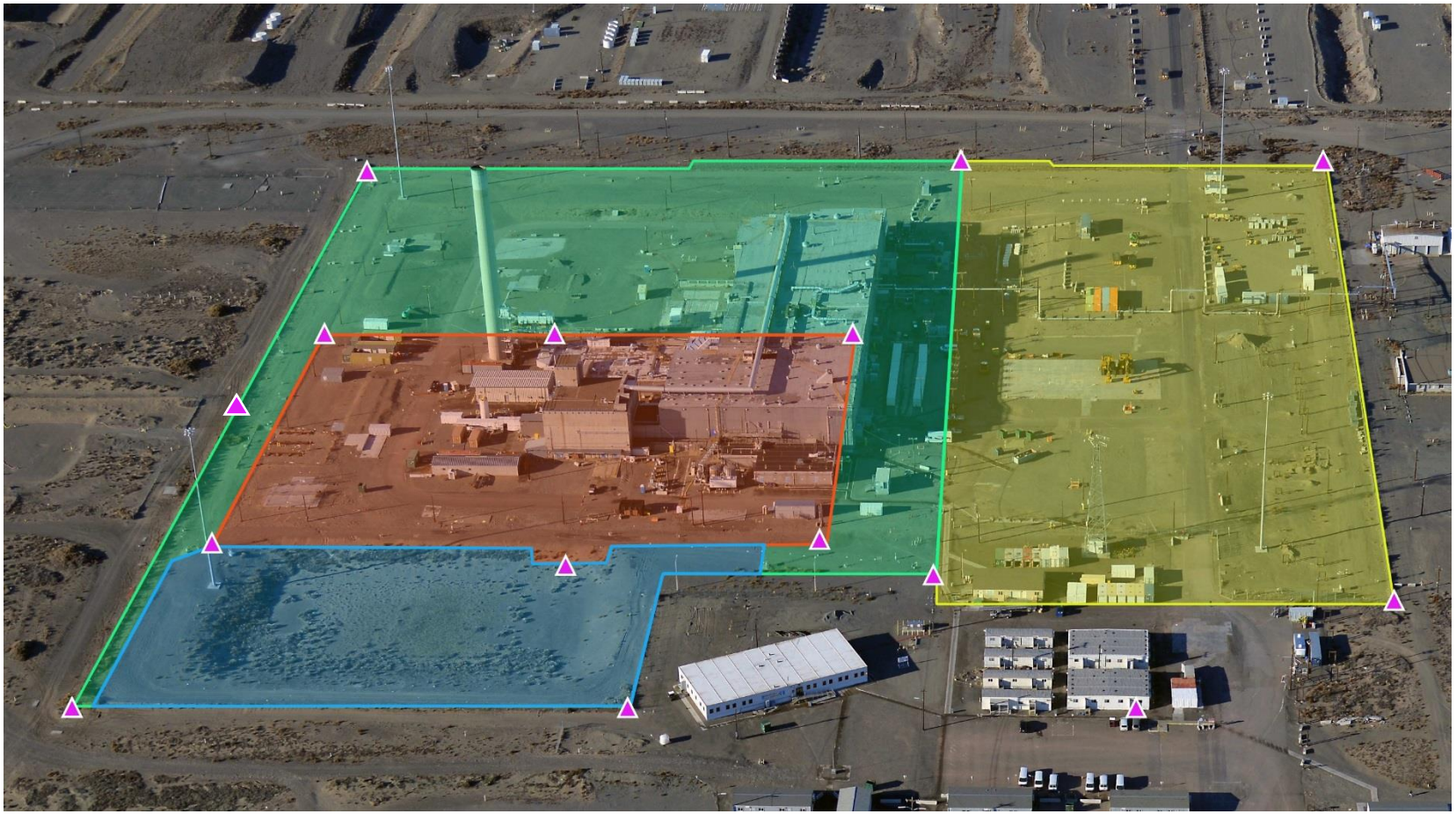
Precision fogger at PFP



Animation of Detailed Demolition Sequence for 234-5Z

https://www.youtube.com/watch?v=81XNw6wwZ6I

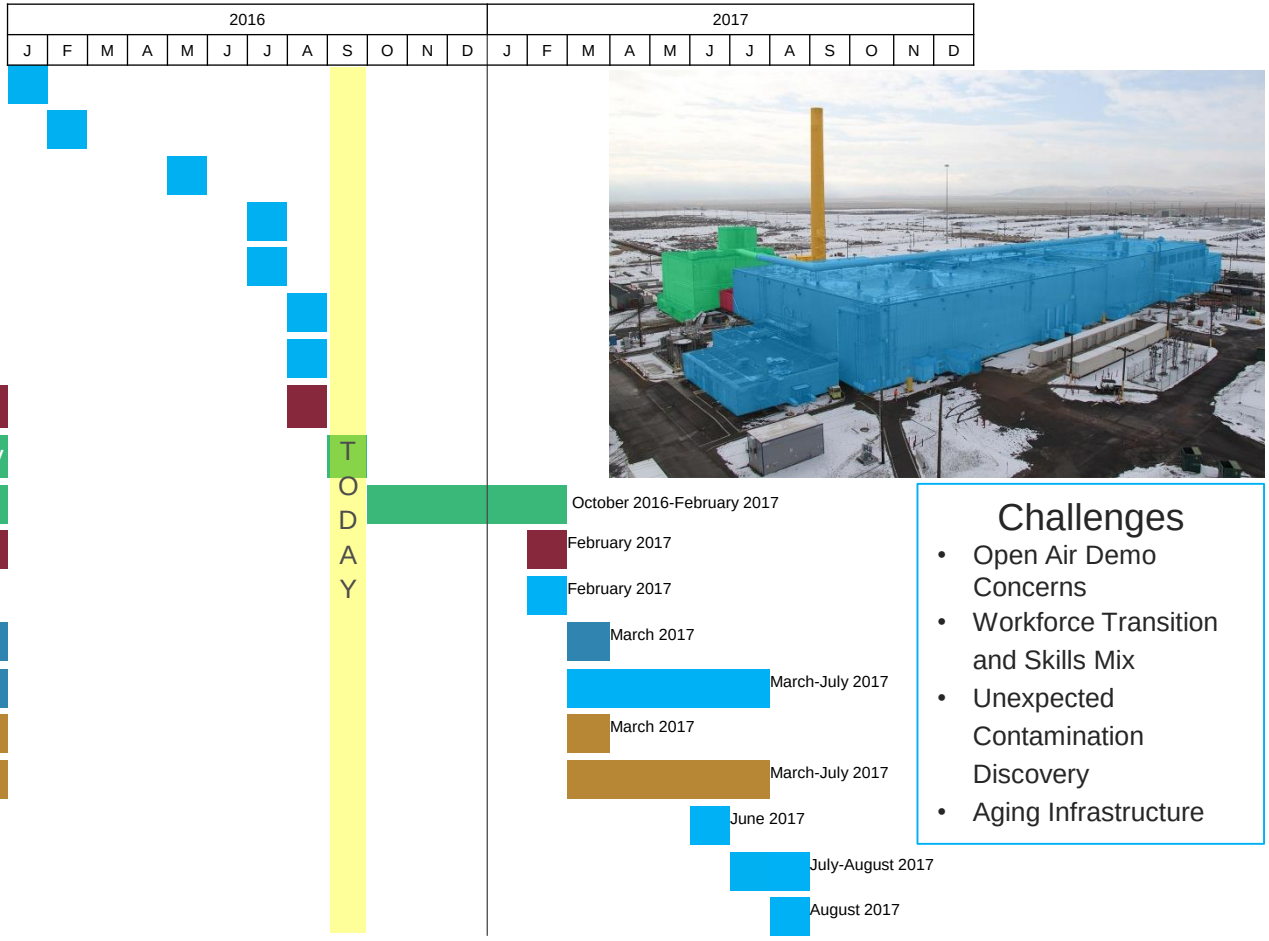
Site Map


Outer Fence/Laydown Area
Radiological Buffer Area
HCA/ARA
Contamination Area

Extended Air Monitoring Near PFP

Environmental Air Sampling Locations Near PFP

The Schedule



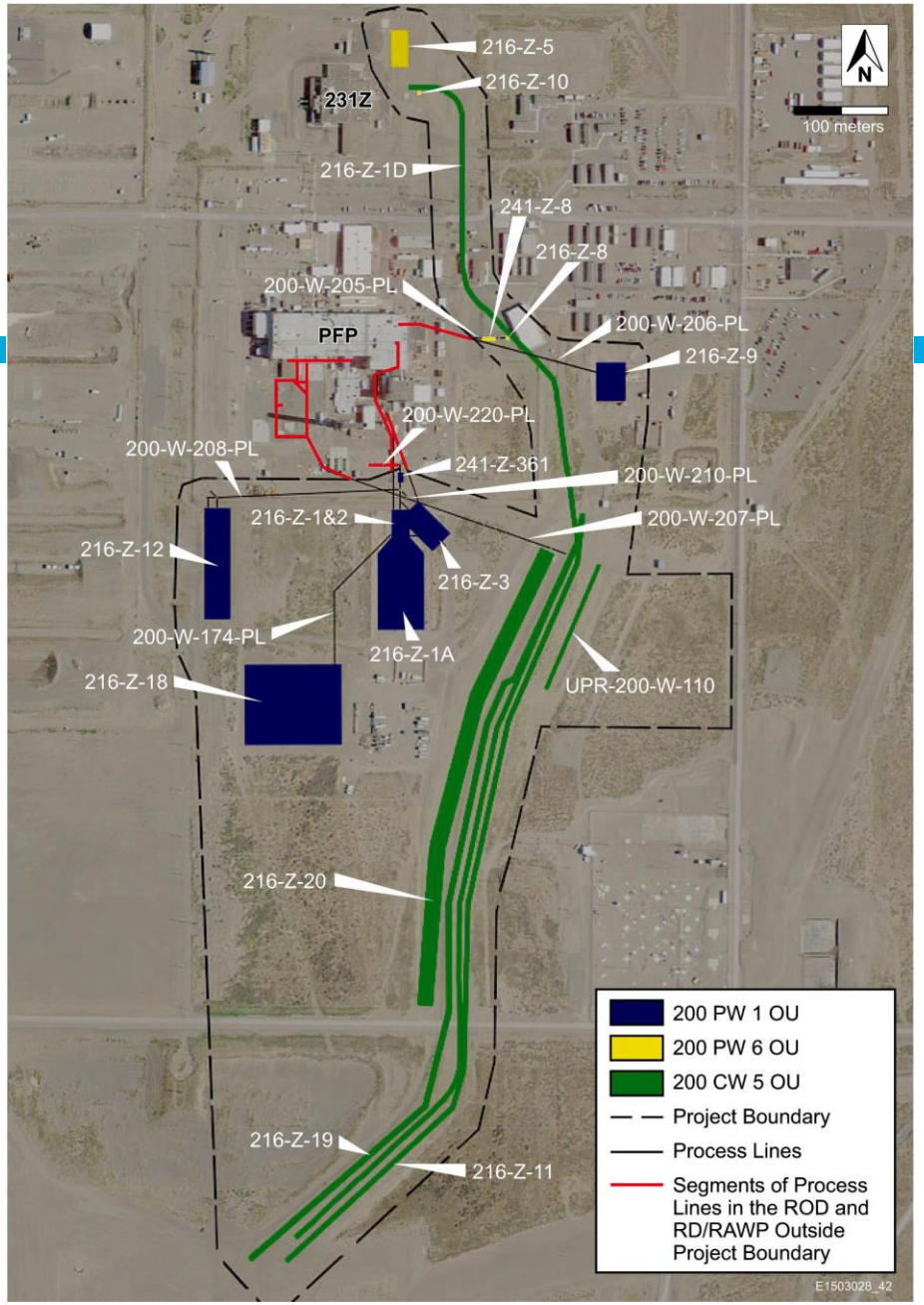
Challenges

- Open Air Demo Concerns
- Workforce Transition and Skills Mix
- Unexpected Contamination Discovery
- Aging Infrastructure

PFP Post “Slab on Grade” Remediation Work to Go

- Upon completion of demolishing the Plutonium Finishing Plant (PFP) complex to “slab on grade,” substantial subgrade work remains to remediate pipelines, waste sites and waste water discharge ditches, and cribs.
- The drivers for this post slab-on-grade cleanup at PFP are Tri-Party Agreement (TPA) milestones and enforceable schedules within approved RCRA/CERCLA decision documents (e.g., work plans). Each of the waste sites and RCRA treatment, storage and disposal (TSD) units related to PFP are assigned to an operable unit (OU) for cleanup as detailed and scheduled in an approved decision document that has been developed or is under development.
- Remediation planning, sampling and characterization of the PFP area subgrade structures and waste sites is underway and will continue until FY2023. Field work to remediate the PFP subgrade items is scheduled to start in FY2024, funding dependent, and continue through FY2035+.
- Many of these milestones encompass areas of the Central Plateau beyond the PFP area. The TPA milestones to develop the decision documents for remediation are listed on slide No. 21.

Background – 200-CW-5, 200-PW-1 and 6



PFP Post “Slab on Grade” TPA Milestones

1. M-016-125 - Submit remedial design/remedial action work plans for 200-CW-5 and 200-PW-1/3/6 OUs to EPA as described in Section 12.4 of the associated final record of decision, due 9/30/2015.

2. M-015-99 - Complete remedial investigation of PFP related waste sites located in 200-WA-1 OU in accordance with the associated remedial investigation/feasibility study (RI/FS) work plan, due 6/30/2019.

3. M-015-91B - Submit feasibility study(s) and proposed plan(s) for the 200-BC-1/200-WA-1 OUs (200 West Inner Area) to EPA, due 7/31/2021.

4. M-015-92C - Submit a RCRA Facility Investigation/Corrective Measures Study, RI/FS report and proposed corrective action decision/proposed plan for the 200-IS-1 OU to Ecology, due 3/31/2023.