

FACILITY STATUS CHANGE FORM

Date Submitted: 02/14/2019	Area: 200W	Control Number: D4-PFP-025
Originator: James Leary	Facility ID: 242Z	Phone: 509 942-6675

Action Memorandum/Removal Action Work Plan:

DOE/RL-2005-13 / DOE/RL-2011-03

This form documents the status of facility decontamination, deactivation, decommissioning, and demolition operations or debris removal in accordance with the applicable regulatory decision documents.

Section 1: Facility Status
 All D4 operations required by action memo complete.

Description of Completed Activities and Current Conditions:

The 242Z Waste Treatment Facility was deactivated and demolished to slab-on-grade in January 2017.

Deactivation and demolition activities included, but were not limited to, the following:

- Isolated mechanical and electrical utilities.
- Removed and disposed of unattached materials and equipment.
- Performed nonradiological and radiological facility characterization.
- Removed and properly disposed of hazardous materials (e.g., refrigerants, lights [fluorescent and incandescent], batteries, and any items containing lead).
- Conducted a thorough inspection for asbestos-containing materials (ACMs) and removed friable ACMs that were present.
- Completed a beryllium assessment. A potential for beryllium to be present in electrical components was noted.
- Performed demolition using standard practices and equipment such as excavators with attachments for shearing, handling, and size reduction of the structure and associated equipment/components.
- Removed and properly disposed of the above-slab structure. Depending on waste characterization, disposal of mixed and non-mixed waste occurred at the Environmental Restoration Disposal Facility (ERDF) while transuranic (TRU) waste or TRU-mixed waste was treated and packaged (or packaged for treatment at an offsite facility), or placed into storage pending disposal at the Waste Isolation Pilot Plant (WIPP).
- Completed required facility removal actions according to the following documents:
 - DOE/RL-2005-13, 2005, *Action Memorandum for the Plutonium Finishing Plant Above-Grade Structures Non-Time Critical Removal Action*, Rev. 0
 - DOE/RL-2011-03, 2016, *Removal Action Work Plan for the Deactivation, Decontamination, Decommissioning, and Demolition of the Plutonium Finishing Plant Complex*, Rev. 1
 - HNF-22401, 2004, *Plutonium Finishing Plant (PFP) Complex End Point Criteria*, NMS-16404, Rev. 0
 - DOE/RL-2015-37, 2017, *242Z/242ZA Endpoint Criteria Checklist*, Rev. 1

Total D4 Cost for the Facility:

\$532,188

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Section 2: Underlying Soil Status

- No waste site(s) present. No additional actions anticipated.
- Documented waste site(s) present. Cleanup and closeout to be addressed under a separate CERCLA Response Action.
- Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned. Cleanup and closeout to be addressed under a separate CERCLA Response Action.

Description of Current/As-Left Conditions:

The 242Z slab has been left in place and multiple layers of gravel and dirt placed on top and contoured to provide a stabilized condition suitable for D4 activities to proceed in adjacent areas. A post-demolition physical walkdown of the area where the structure previously stood was not conducted due to industrial safety, radiological, and other potential hazard concerns. Photographs, interviews with employees, and examination of work documents confirmed that demolition was completed, the waste removed, and the area posted for existing conditions at the time demolition completed.

(See CWR-PFP-00010, 2017, 236Z and 242Z Demolition Report: As Left Characterization, Rev. 0)

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):

The 242Z slab and subgrade piping are expected to have contamination that will need to be addressed during the PFP Complex CERCLA remedial action following completion of the current removal action. Characterization of the slab is planned to commence following demolition of adjacent buildings (e.g., 236Z and 234-5Z) and will provide additional information as to the nature of potential waste site conditions.

Section 3: List of Attachments

- Attachment 1: Facility Information
- Attachment 2: Pre-Demolition and Post-Demolition Photographs
- Attachment 3: Supporting Information

<u>THOMAS TEYNOR</u> DOE-RL	<u></u> Signature	<u>02-21-2019</u> Date
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NOTE: The information on this form also satisfies the related DOE 430.1B Facility Closeout Reporting Requirements.

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Attachment 1: Facility Information

242Z Waste Treatment Facility

The 242Z Waste Treatment Facility, also known as the Americium Recovery Facility (Figure 1 in Attachment 2), was part of the Plutonium Finishing Plant (PFP) Complex located between the main processing building (234-5Z) and the Plutonium Reclamation Facility (PRF) (236Z). The 242Z Building was designed and built concurrent with PRF. The 242Z Building was used to treat 234-5Z and PRF waste and extract plutonium and americium from the liquid waste using special ion-exchange resins. In 1976, an accident caused high levels of contamination (plutonium, americium, resin, and nitric acid [HNO₃]) to be deposited in the rooms of the process area, necessitating the isolation and discontinued use of the building.

Characterization

Table 1 summarizes the characterization information collected prior to demolition.

Table 1. Summary of Characterization Information

Type	Documented In	Results Summary
Asbestos	CHPRC-02787, 2016, <i>Asbestos NESHAP Thorough Inspection Report for the 242-Z Waste Treatment Facility</i> , Rev. 0	The asbestos thorough inspection found ACM throughout the 242Z Building. All friable ACM was removed prior to demolition. All Category I and Category II ACM was managed in accordance with the removal action work plan (DOE/RL-2011-03).
Beryllium	BFA-B-20880-Rev1, 2017, <i>Beryllium Facility Assessment for 200W - 242Z - Waste Treatment Facility</i>	Due to industrial safety, radiological, and other potential hazard concerns, a physical walkdown of this facility was not feasible. However, a virtual walkdown was performed. Specifically, the walkdown team agreed that a sufficient number of people were contacted to determine the current and past usages of the building. The beryllium assessment was based on historical process knowledge. Conclusion: Other than a potential for beryllium in building electrical components, beryllium is not likely to be present at 242Z.
Radiological	CWR-PFP-00025, 2016, <i>Radiological Characterization of 242-Z</i> , Rev. 0	The radiological characterization of 242Z found significant radiological contamination throughout the 242Z Facility. Prior to demolition, fixative was applied in copious amounts.

Waste Disposition

Hazardous materials (including regulated asbestos-containing materials [RACM]) identified during walkdowns and inspections were removed prior to demolition and properly dispositioned. Depending on waste characterization, disposal of mixed and non-mixed waste occurred at ERDF, while TRU waste or TRU-mixed waste was treated and packaged, or packaged for treatment at an off-site facility, or placed into storage pending disposal at WIPP. The work associated with removal of the 242Z Building was performed under Work Package 2Z-16-01101.

Associated Waste Information Data System (WIDS) Sites

No WIDS sites were associated with the 242Z Building.

Anomalies Discovered During Demolition

Other than the already known high levels of radiological contamination associated with the 242Z slab, no anomalies were discovered during demolition. Soils around the slab displayed no visual evidence of staining or discoloration.

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Attachment 2: Pre-Demolition and Post-Demolition Photographs

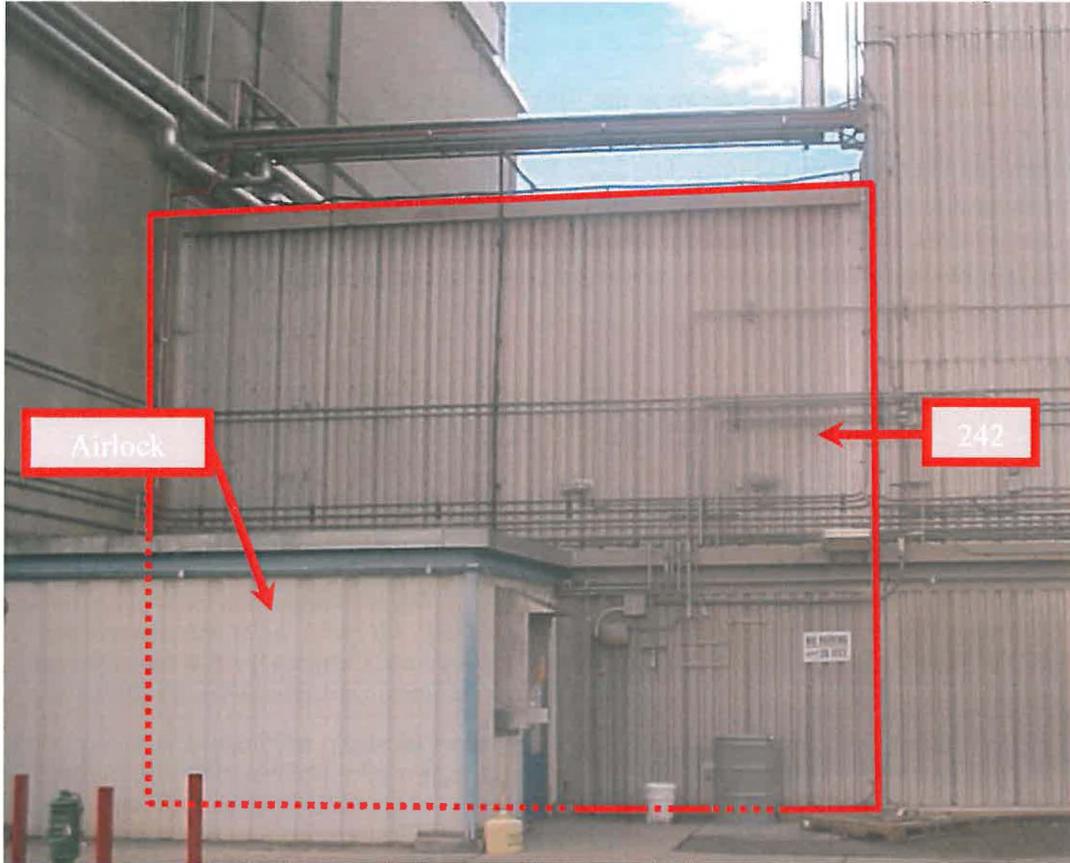


Figure 1. 242Z Building Pre-Demolition



Figure 2. 242Z and 242ZA Slabs

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Attachment 3: Supporting Information

Supporting information and documentation for this Facility Status Change Form are provided in Appendix B of CWR-PFP-00010-ADD1, 2017, *242Z and 242ZA Endpoint Documentation*, which provides the evidence to document how applicable endpoints for 242Z/242ZA demolition were satisfied. The following list is the Summary of Contents from Appendix B of CWR-PFP-00010-ADD1.

B1 242Z/242ZA Buildings Ready for Demolition Checklist

The Ready for Demolition Checklist identifies tasks to be completed prior to demolition. Completion of each task on the checklist is verified by appropriate personnel after a walkdown and review of documentation, as needed. The checklist supports verification for the completion of endpoints 4, 5, 6, 7, 10, 14 and 27.

B2 Work Package Approval Sheet

The work packages 2Z-16-01101/M, 2Z-15-06531/M, 2Z-13-07371/M, 2Z-15-04629/G, and 27-16-03911/W support the verification for completion of endpoints 2, 4, 5, 6, 7, and 27.

B3 Verification of Hazardous Energy Isolation (VOHEI) Report

The Verification of Hazardous Energy Isolation (VOHEI) provides documentation that the isolations identified in both the mechanical and electrical isolation indexes have been completed and the facility meets cold and dark requirements for demolition. The VOHEI supports verification for completion of endpoints 5, 6, and 7.

B4 Beryllium Assessment Report

The Beryllium Assessment Report for 242Z identified a potential for beryllium associated with electrical equipment. The report for 242ZA concluded that it would not be treated as a beryllium controlled facility. These reports support the verification for completion of endpoint 9.

B5 Pre-Demolition Radiological Data Summary Report

The radiological data summary report summarizes the radiological data for the 242Z Building. This report supports the verification for completion of endpoint 9.

B6 Post-Stabilization Radiological Survey Report of the 242Z/ZA Area

The post-demolition radiological survey report of equipment documents radiological conditions observed. The slab remains highly contaminated, and interim stabilization measures were taken to accommodate adjacent demolitions (236Z and 234-5Z). This report supports the intent of endpoints 16 and 19, which are delayed to post-transition.

B7 Review of Waste Handling and Disposal Records

The memorandum in this section documents the successful review of waste disposal records. This review supports the completion of endpoint 20.

B8 Email Summary and Post-Demolition Walkdown

Due to site conditions, a virtual walkdown of the site was performed. This section documents the results of the post-demolition walkdown. The checklist supports documentation of facility endpoints shown in the email summary.

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B9 Asbestos NESHAP Thorough Inspection Report at 242Z/242ZA and EPA Approvals

CHPRC-02787, *Asbestos NESHAP Thorough Inspection Report at 242Z*, documents the inspection of 242Z for asbestos-containing material (ACM). CHPRC-02943, *Asbestos NESHAP Thorough Inspection Report at 242ZA*, documents the inspection of 242ZA. Approval sheets for these reports are provided as objective evidence of the inspections. The inspections supported facility characterization per endpoint 9.

Email correspondence with the U.S. Environmental Protection Agency documents the approvals obtained to allow non-friable ACM to remain in the building during demolition. These documents demonstrate compliance with the site asbestos program per endpoint 27. Note: All regulated asbestos-containing material (RACM) was removed prior to demolition. Documentation regarding asbestos abatement is provided in Sections B1, B2, and B12.

B10 Safeguards Documentation

This section contains emails from the Material Balance Area (MBA) custodian dealing with the MBA walkdown and the status of the material from the MBA post-demolition. This objective evidence supports endpoints 1 and 10.

B11 Criticality Evaluation Documentation

CHPRC-01430, *CSER 11-004: Criticality Safety Evaluation Report for Contaminated In-Place Pipe and Duct Systems*, evaluated the potential for criticality and concluded that the plutonium in below-grade/buried systems does not pose a potential for criticality in the current undisturbed condition. The document is Official Use Only; therefore, it is not included herein. This section supports verification of completion of endpoint 11.

B12 Work Package Entries Documentation

This section contains miscellaneous work package documentation for endpoints 4, 5, 6, 7, and 27.

B13 242Z Slab Penetration Summary

Radiological conditions immediately following the demolition of 242Z prevented workers from safely completing a physical post-demolition walkdown of the slab. The portion of the drawing pulled from H-2-43502 is shown in the lower portion of the figure in this section. The drawing shows the location of the pipe trench, sump, and where there were slab penetrations for the 242Z Building.