

FACILITY STATUS CHANGE FORM

Date Submitted: 02/14/2019	Area: 200W	Control Number: D4-PFP-068 D4-PFP-069
Originator: James Leary	Facility ID: 291Z and 291Z001	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		
<input checked="" type="checkbox"/> All D4 operations required by action memo complete.		

Description of Completed Activities and Current Conditions:

The 291Z001 Main Exhaust Air Stack was deactivated and demolished to slab-on-grade in July 2017.

The 291Z Exhaust Air Filter Stack Building was deactivated, the above-grade portion was demolished, and the below-grade portion backfilled with work finishing in October 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.
- Removed and disposed of the attached 2712Z Stack Monitoring Station.
- Performed nonradiological and radiological facility characterization.
- Fogged the stack with fixative.
- 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 material (ACM) and completed a report confirming that ACM was present. Removed regulated asbestos-containing material (RACM).
- Completed a beryllium assessment that documented and concluded that no beryllium postings are required for 291Z.
- Removed and properly disposed of the above-slab structure. Depending on waste characterization, disposal of mixed and non-mixed waste occurred in the Environmental Restoration Disposal Facility (ERDF), while transuranic waste (TRU) or TRU-mixed waste was prepared for storage at Waste Receiving and Processing (WRAP) Facility/Central Waste Complex (CWC) pending disposal at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico.
- Toppled the stack using controlled explosive methods.
- 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.
- 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 (hereinafter called the RAWP)
 - NMS-16404 [formerly HNF-22401], 2004, *Plutonium Finishing Plant (PFP) Complex End Point Criteria*, Rev. 0
 - DOE/RL-2015-38, *291Z/291Z001 Endpoint Criteria Checklist*, Rev. 0

7

FACILITY STATUS CHANGE FORM (continued)

Date Submitted: 02/14/2019

Area: 200W

Control Number: D4-PFP-068
D4-PFP-069

Description of Completed Activities and Current Conditions:

- DOE/RL-2015-38, 291Z/291Z001 Endpoint Criteria Checklist, Rev. 0

Total D4 Cost for the Facility:

\$3,543,000

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:

291Z001 Exhaust Stack: The 291Z001 Exhaust Stack was removed to the grade-level stack base pedestal. The demolition filled the below-grade portion of the stack.

291Z Exhaust Air Filter Stack Building: The roof and above-grade portions of walls of the 291Z Building were removed. Asbestos and hazardous materials were removed during pre-demolition preparation activities. TRU items were also removed prior to demolition except for two objects that were removed as specially handled items during demolition. Items remaining in below-grade space include demolition debris, the stabilized duct from 232Z, and fixed equipment such as piping, motor control centers, transformers, switch gear, substation, fans, motors, and compressors. The below-grade space was backfilled to grade See CWR-PFP-00014, 2017, 291Z Demolition Report, Rev. 0.

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

N/A

Section 3: List of Attachments

- Attachment 1: Facility Information
- Attachment 2: Photographs
- Attachment 3: Supporting Information

THOMAS TEYNOR
DOE-RL Print First and Last Name


Signature

02-21-2019
Date

NOTE: The information on this form also satisfies the related DOE 430.1B Facility Closeout Reporting Requirements.

FACILITY STATUS CHANGE FORM (continued)

Date Submitted: 02/14/2019	Area: 200W	Control Number: D4-PFP-068 D4-PFP-069
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Attachment 1: Facility Information

291Z001 Main Exhaust Air Stack

A 200-ft reinforced concrete stack, the 291Z001 Exhaust Stack expels through a large plenum from 291Z. The stack's inside diameter is approximately 15 ft. The stack foundation is a massive concrete footing block that is roughly octagonal in shape and 32 ft across its flat sides. The foundation block is approximately 27 ft thick, and its top is approximately 3 ft above the finished grade. A 90-degree elbow opening in the footing connects the bottom of the stack to the main exhaust duct from 291Z. The 2712Z monitoring building was attached to the stack at the 50-ft level with stairs leading up to the building.

291Z Exhaust Air Filter Stack Building

The 291Z Exhaust Air Filter Stack Building is a reinforced concrete structure south of the central part of the 234-5Z Building. Of irregular shape, its approximate dimensions are 74 by 143 ft. Its overall height is approximately 23 ft, with only 4 ft above-grade. This structure houses the exhaust fans, mechanical service equipment, and electrical substation 252Z2, which is located in the northwest corner in room 500 of the 291Z Building.

Characterization

Table 1 summarizes the characterization information collected prior to demolition.

Table 1. Summary of Characterization Information

Type	Documented In	Results Summary
Asbestos	<i>CWR-PFP-00027, 2017, Asbestos NESHAP Thorough Inspection Report at 291Z, Rev. 1</i>	291Z001 Exhaust Stack: The asbestos thorough inspection found no ACM associated with the 291Z001 Exhaust Stack. 291Z Exhaust Air Filter Stack Building: The asbestos thorough inspection found ACM throughout the 291Z Building. All Category (Cat) I and Cat II nonfriable ACM and all friable RACM have been identified and documented. All friable ACM was removed prior to demolition. All Cat I and Cat II ACM was managed in accordance with the RAWP.
Beryllium	291Z001: <i>BFA-S-20892-Rev1, 2017, Beryllium Facility Assessment for 200W - 291Z001 - Exhaust Air Filter Stack Building</i> 291Z: <i>BFA-B-20914-Rev2, 2017, Beryllium Facility Assessment for 200W - 291Z - Exhaust Air Filter Stack Building</i>	291Z001 Exhaust Stack: The assessment determined the stack to be beryllium cleared. 291Z Exhaust Air Filter Stack Building: Twenty samples were taken, and all were below the laboratory detection limit. The report concludes that neither the facility nor the 291Z plenum are potentially internally beryllium contaminated; therefore, the building is classified as a beryllium cleared facility.
Radiological	<i>CWR-PFP-00034, 2017, 291Z Radiological Data Summary, Rev. 0</i>	291Z001 Exhaust Stack: The radiological characterization of 291Z001 identified low levels of radiological contamination on interior surfaces of the stack. 291Z Exhaust Air Filter Stack Building: The radiological characterization of 291Z found radiological contamination throughout the facility.

FACILITY STATUS CHANGE FORM (continued)

Date Submitted: 02/14/2019	Area: 200W	Control Number: D4-PFP-068 D4-PFP-069
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Waste Disposition

291Z001 Exhaust Stack: Removable hazardous materials were not present or identified during walkdowns and inspections (including regulated ACM). The internal surfaces of the 291Z001 Exhaust Stack had a fixative applied to minimize a potential release of radiological material. All waste generated from the demolition of the exhaust stack was designated as low-level waste and met the ERDF waste acceptance criteria (ERDF-00011, 2016, *Environmental Restoration Disposal Facility Waste Acceptance Criteria, formerly WCH-191 Rev 4, Rev. 0*).

291Z Exhaust Air Filter Stack Building: Hazardous materials identified during walkdowns and inspections (including RACM) were removed prior to demolition to meet ERDF waste acceptance criteria. Low-level and low-level mixed demolition debris was sent to and disposed at ERDF. Demolition debris designated as transuranic or transuranic mixed waste was placed in storage at the WRAP/CWC waiting for disposal at the WIPP near Carlsbad, New Mexico. The work associated with removal of the 291Z Building was performed under work package 2Z-17-01662.

Associated Waste Information Data System (WIDS) Sites

291Z001 Exhaust Stack: No WIDS sites were associated with the 291Z001 Exhaust Stack.

291Z Exhaust Air Filter Stack Building: WIDS sites 216-Z-13, 216-Z-14, and 216-Z-15 were associated with the 291Z Building. These three sites are dry wells for steam condensate from 291Z. They are located 9 ft below-grade and have been isolated from 291Z.

Anomalies Discovered During Demolition

291Z001 Exhaust Stack: No anomalies were discovered during demolition. Soils around the slab displayed no visual evidence of staining or discoloration.

291Z Exhaust Air Filter Stack Building: No anomalies were discovered during demolition. There are known levels of radiological contamination associated with the 291Z below-grade spaces and sub-grade items that remain for future remedial actions. No visual evidence of staining or discoloration was noted in the surrounding soils during either demolition or demolition preparation activities.

FACILITY STATUS CHANGE FORM (continued)

Date Submitted: 02/14/2019

Area: 200W

Control Number: D4-PFP-068
D4-PFP-069

Attachment 2: Photographs



Figure 1. 291Z001 Exhaust Stack and 291Z Exhaust Air Filter Stack Building: Pre-Demolition



Figure 2. 291Z Facility Post-Demolition

FACILITY STATUS CHANGE FORM (continued)		
Date Submitted: 02/14/2019	Area: 200W	Control Number: D4-PFP-068 D4-PFP-069

Attachment 3: Supporting Information

Supporting information and documentation for this Facility Status Change Form are provided in Appendix B of CWR-PFP-00014-ADD1, 2017, *291Z Exhaust Air Filter Stack Building Endpoint Documentation*, Rev. 0, which provides the evidence to document how applicable endpoints for demolition were satisfied. The following list is the Summary of Contents from Appendix B of CWR-PFP-00014-ADD1.

B1 Ready for Demolition Checklists

Three Ready for Demolition Checklists were completed for 291Z and associated facilities. The one for 291Z001 did not address any endpoint checklist items and is therefore not included in this section. The other two checklists are for the 291Z Ventilation Exhaust Fan House (including 252Z2) and the 2712Z Stack Sampling and Monitoring Station.

The Ready for Demolition Checklists confirm that tasks required to be performed prior to demolition were completed as indicated by signature of the manager responsible for completing the action. Some tasks required verification of completion by a walkdown. Completed walkdown checklists are included as indicated. The following tables summarize the endpoints supported by the Ready for Demolition Checklists.

B2 Work Package Approval Sheets

Field work for the work packages that supported demolition of the 291Z Ventilation Complex was completed in September 2017.

B3 Verification of Hazardous Energy Isolation (VOHEI) Report

The Verification of Hazardous Energy Isolation (VOHEI) report provides documentation that the isolations identified in the mechanical and electrical indexes have been completed and the facility meets cold and dark requirements for demolition. Due to the size of the VOHEI, only select pages are included here to demonstrate completion of this item.

B4 Beryllium Assessment Report

The three beryllium assessment reports concluded that 291Z, 291Z001, and 2712Z Buildings would not be treated as beryllium controlled facilities.

B5 Pre-Demolition Radiological Data Summary Report

The report summarizes the radiological data for the 291Z and 291Z001 Buildings in support of completion verification for endpoints 3, 8, and 9.

B6 Post-Stabilization Radiological Survey Report of the 291Z Ventilation Complex

Due to concurrent demolition activities taking place at the 234-5Z and 236Z Buildings, a post stabilization radiological survey of the 291Z Ventilation Complex was not possible. To provide some indication of radiological conditions, surveys were conducted on equipment in the area during demolition of the 291Z Ventilation Complex. The post-demolition radiological survey report of demolition zone equipment is used to document the interim conditions observed. Interim stabilization measures were taken to accommodate adjacent demolitions (236Z and 234-5Z).

B7 Review of Waste Handling and Disposal Records

The memo documents the successful review of waste disposal records.

B8 Email Summary and Post-Demolition Walkdown

This section documents the results of the post-demolition walkdown.

FACILITY STATUS CHANGE FORM (continued)

Date Submitted: 02/14/2019

Area: 200W

Control Number: D4 - PFP - 068
D4 - PFP - 069

B9 Asbestos NESHAP Thorough Inspection Report

Three separate reports document the thorough inspection of 291Z Ventilation Complex for asbestos containing material (ACM). Coversheets of the asbestos reports and the email correspondence with the U.S. Environmental Protection Agency (EPA) documenting the approvals obtained to allow some ACM to remain during demolition are included in this section. This documentation supports verification of endpoints 9 and 27.

B10 Miscellaneous Documentation

This section provides miscellaneous documentation that supports completion of endpoints 1, 2, 3, 4, 10, 11, 12, 13, 14, and 15.