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Richland Operations Office
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12-AMRP-0027

MAY 24 2012

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Nuclear Waste Program
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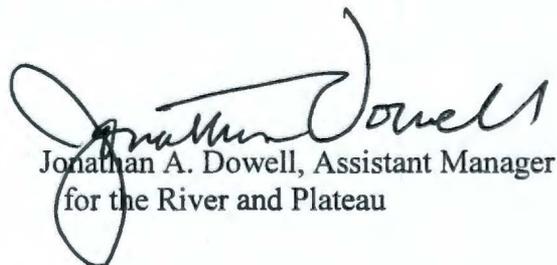
Dear Ms. Hedges:

SURVEILLANCE AND MAINTENANCE PLAN FOR THE PLUTONIUM FINISHING PLANT
COMPLEX, DOE/RL-2011-59, DRAFT B

This letter transmits the Surveillance and Maintenance Plan for the Plutonium Finishing Plant Complex, DOE/RI-2011-59, Draft B, in fulfillment of the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Interim Milestone M-083-24, "Submit a Surveillance and Maintenance (S&M) Plan as a primary document to Ecology pursuant to the Agreement Section 8.5.4" commitment. The U.S. Department of Energy Richland Operations Office considers the Tri-Party Agreement Interim Milestone M-083-24, due June 30, 2012, as being completed.

If you have any questions, please contact me, or your staff may contact Larry Romine, of my staff, on (509) 376-4747.

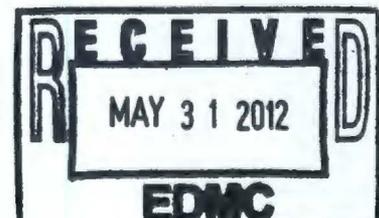
Sincerely,


Jonathan A. Dowell, Assistant Manager
for the River and Plateau

AMRP:MJV

Attachment

cc: See Page 2



Ms. J. A. Hedges
12-AMRP-0027

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MAY 24 2012

cc w/attach

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Administrative Record

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Surveillance and Maintenance Plan for the Plutonium Finishing Plant Complex

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



U.S. DEPARTMENT OF
ENERGY

Richland Operations
Office

P.O. Box 550
Richland, Washington 99352

**Approved for Public Release;
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Date Published
November 2011

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



U.S. DEPARTMENT OF
ENERGY

Richland Operations
Office

P.O. Box 550
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Signature Sheet

Title *Surveillance and Maintenance Plan for the Plutonium
Finishing Plant Complex*

J.A. Dowell, Assistant Manager for River and Plateau
U.S. Department of Energy, Richland Operations Office

Signature

Date

Signature Sheet

Title *Surveillance and Maintenance Plan for the Plutonium
Finishing Plant Complex*

D.A. Faulk, Program Manager
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Signature Sheet

Title *Surveillance and Maintenance Plan for the Plutonium
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Rick Bond, Project Manager
State of Washington Department of Ecology

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Terms

ALARA	as low as reasonably achievable
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
DOE	U.S. Department of Energy
Ecology	State of Washington Department of Ecology
FY	fiscal year
HEPA	high efficiency particulate air
HMS	Hanford Meteorological System
IC	institutional control
NTC	Non-time critical (removal action)
OSHA	Occupational Safety and Health Administration
PPF	Plutonium Finishing Plant
PRF	Plutonium Reclamation Facility
PTE	potential to emit
RCT	radiological control technician
ROD	record of decision
QA	quality assurance
S&M	surveillance and maintenance
TEDF	Treated Effluent Disposal Facility

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1 Introduction

In 1996, the U.S. Department of Energy (DOE) issued a formal shutdown order for the Plutonium Finishing Plant (PFP) Complex (Figure 1) at the Hanford Site. This order directed PFP to complete ongoing plutonium stabilization activities and transition to a safe and stable condition. The PFP Complex was evaluated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process by DOE/RL-2004-05, *Engineering Evaluation/Cost Analysis for the Plutonium Finishing Plant Above-Grade Structures*, and a preferred alternative was selected and issued under an action memorandum, DOE/RL-2005-13, *Action Memorandum for the Plutonium Finishing Plant Above-Grade Structures Non-Time Critical Removal Action* (henceforth referred to as the Action Memorandum). The selected alternative is demolition to slab-on-grade, suitable for long term, low cost surveillance and maintenance (S&M) pending final disposition.

This document provides the plan for implementing S&M to ensure that the PFP site(s) are maintained in a safe, environmentally secure, and cost effective manner prior to final disposition (or remediation). This S&M Plan has been prepared in accordance with the guidelines provided in DOE/EM-0246, *Decommissioning Resource Manual* and *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement, Ecology et al., 1989), milestone M-083-24 requirements. The Plan is intended to be updated and then implemented at completion of the PFP Complex Action Memorandum and associated non-time critical (NTC) removal actions. Once implemented, S&M of the PFP site(s) will continue until disposition decisions (e.g., CERCLA Record(s) of Decision, ROD) are finalized and implementation is initiated.

The specific objectives of the S&M program are as follows:

- Ensure adequate containment of remaining radioactive and hazardous material.
- Provide security control for access into the facility and physical safety to surveillance personnel.
- Maintain the facility in a manner that will minimize potential hazards to the public, environment, and surveillance personnel.
- Provide a plan for the identification and compliance with applicable environmental, safety, health, and security requirements.

A graded approach will be used in determining appropriate actions in order to meet these objectives. The graded approach will be based on final conditions, once removal actions are complete, at the PFP site(s).

When the PFP Complex D&D activities are completed, the above grade structures will have been removed leaving the structure slabs, below grade portions of the original structures, pipelines, tanks, and potentially contaminated soil in the areas below or around the original structures. As part of the completion process of the removal action, the remaining components will be evaluated and assigned to the appropriate operable unit in accordance with existing Tri-Party Agreement (Ecology et al., 1989) procedures (TPA-MP-14). Final disposition decisions for these remaining components will be documented in the operable unit(s) ROD(s).

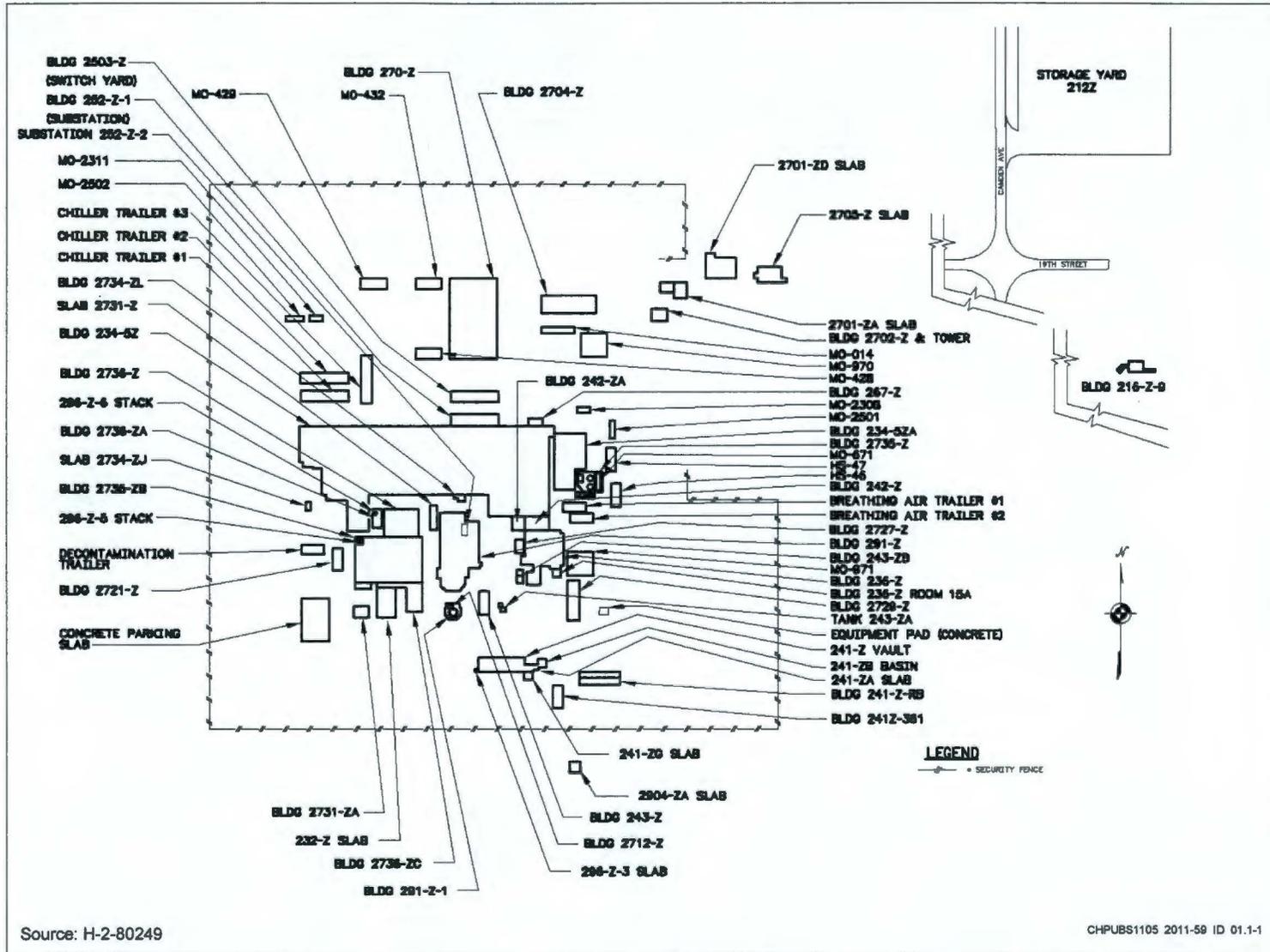


Figure 1. PFP Facility Map

2 PFP Site Information

The PFP Complex is located in the 200 West Area of the Hanford Site. During operations, the PFP Complex conducted plutonium processing and storage for national defense, which included the following activities:

- Special nuclear material handling and storage
- Plutonium recovery
- Plutonium conversion
- Plutonium reclamation and recycling
- Plutonium Processing Systems Development Laboratory operations
- Laboratory support
- Waste handling
- Operational facility surveillances, and
- Shutdown

Figure 1 shows the current buildings, facilities, and structures associated with the PFP Complex. It is included to illustrate the buildings, facilities, and structures proximity to one another. Only those buildings, facilities, and structures identified in Appendix A are included in this Surveillance and Maintenance Plan.

The following facility condition assumptions apply to the initiation of S&M activities, except as noted in Table A-1 (Appendix A):

- The above grade portions of all buildings subject to demolition are removed to slab-on-grade consistent with the End Point Criteria (HNF-22401)
- All remaining penetrations at slab (e.g., piping and conduit) and below grade areas are isolated to mitigate the potential of water entering the below grade spaces
- The remaining slabs are decontaminated, or a 20-year cover placed over the contaminated sections of the slab consistent with the End Point Criteria (HNF-22401)
- Storm water runoff that currently drains to the Treated Effluent Disposal Facility (TEDF) may need to continue being collected and drained to TEDF during S&M.

2.1 Transition from Deactivation to S&M

In 2004, transition activities were initiated to isolate the facility, mitigate contamination migration, and achieve facility stability through the removal, stabilization, and disposal of major radioactive sources, hazardous materials, and dangerous chemicals and waste. The end point criteria for the PFP deactivation activities are defined in HNF-22401. The transition from deactivation will be considered complete when the PFP end points have been met. At that time the PFP site(s) will be placed into S&M awaiting final remedial decisions and remedial actions. For the purpose of this S&M Plan, the facilities are listed by original building name and mission. Appendix A lists the facilities and their current configurations.

2.2 Major Remaining Structures and Expected Conditions

This section describes the major components that will remain after the CERCLA removal action has been completed. These remaining components will be evaluated and assigned to the appropriate operable unit in accordance with existing Tri-Party Agreement procedures (TPA-MP-14). Certain components have already been assigned to an operable unit and are identified in this section.

2.2.1 234-5Z Plutonium Fabrication Facility Description

The 234-5Z Building first floor slab and the basement will remain onsite. The first floor slab and basement consist of poured concrete. The basement primarily consists of pipe tunnels (Figure 2) containing drain piping. Pipe trenches beneath the main floor slab (Figure 3) connect to the pipe tunnels. Access to the below grade areas via stairwells will have been sealed, and all portions of the below grade area will be stabilized using fill or other means necessary to support the demolition activities and preclude future collapse.

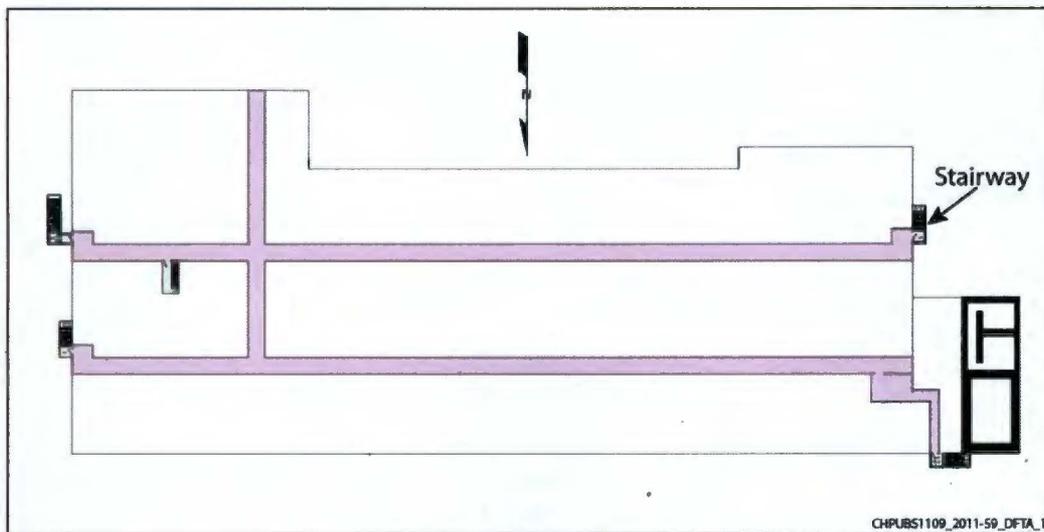


Figure 2. Below Grade Stairwells and Tunnels

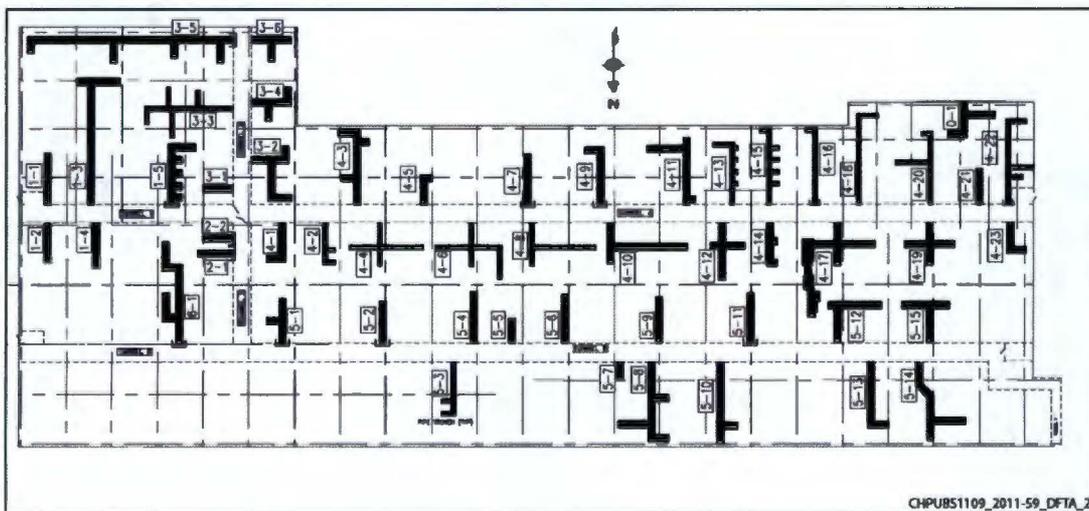


Figure 3. Below Grade Trenches

1 **2.2.2 236-Z Plutonium Reclamation Facility Description**

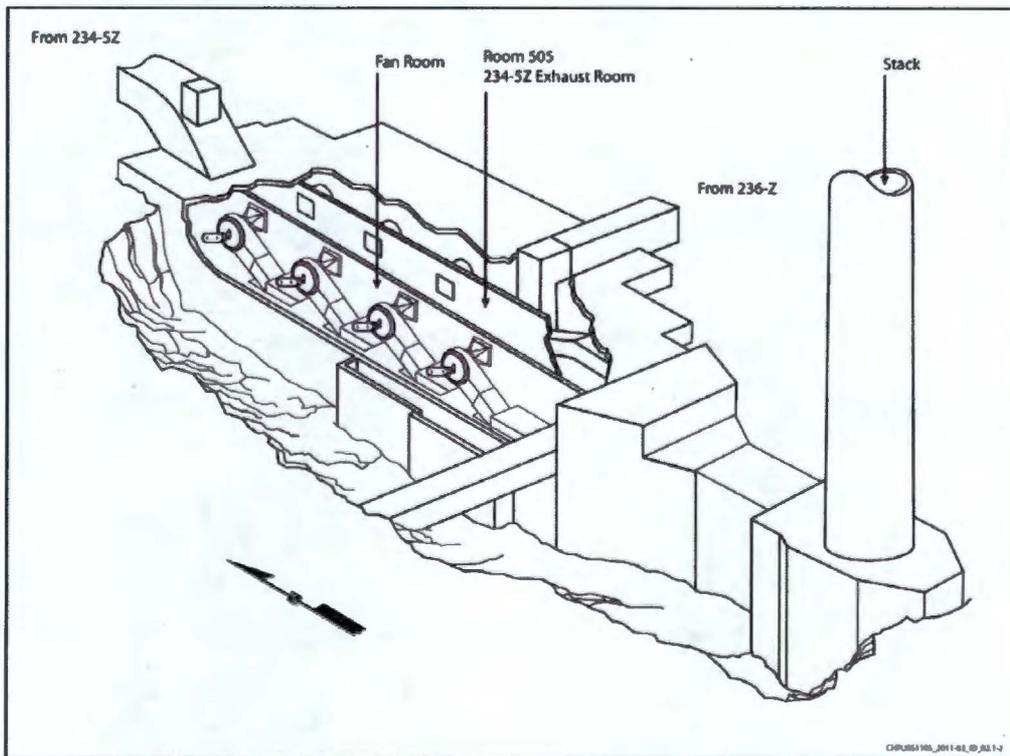
2 The PRF ground level slab and below grade exhaust tunnel and pipe tunnel will remain on site. The 236-Z
3 Plutonium Reclamation Facility (PRF) was located near the southeastern corner of the 234-5Z Building.
4 PRF was connected to the 234-5Z Facility by the 242-Z Building. Below grade tunnels (H-2-29620) will
5 be stabilized using fill or other means necessary to support the demolition activities and preclude future
6 collapse. The highly contaminated PRF canyon floor will have been decontaminated and/or removed.

7 **2.2.3 242-Z Waste Treatment Facility Description**

8 The 242-Z Building ground level slab and pipe tunnel will remain on site. The 242-Z Building connected
9 the southeastern corner of the 234-5Z Building to the 236-Z Building. The below grade pipe tunnel
10 (H-2-43510) will be stabilized using fill or other means necessary to support the demolition activities and
11 preclude future collapse.

12 **2.2.4 291-Z Exhaust Air Filter Stack Building Description**

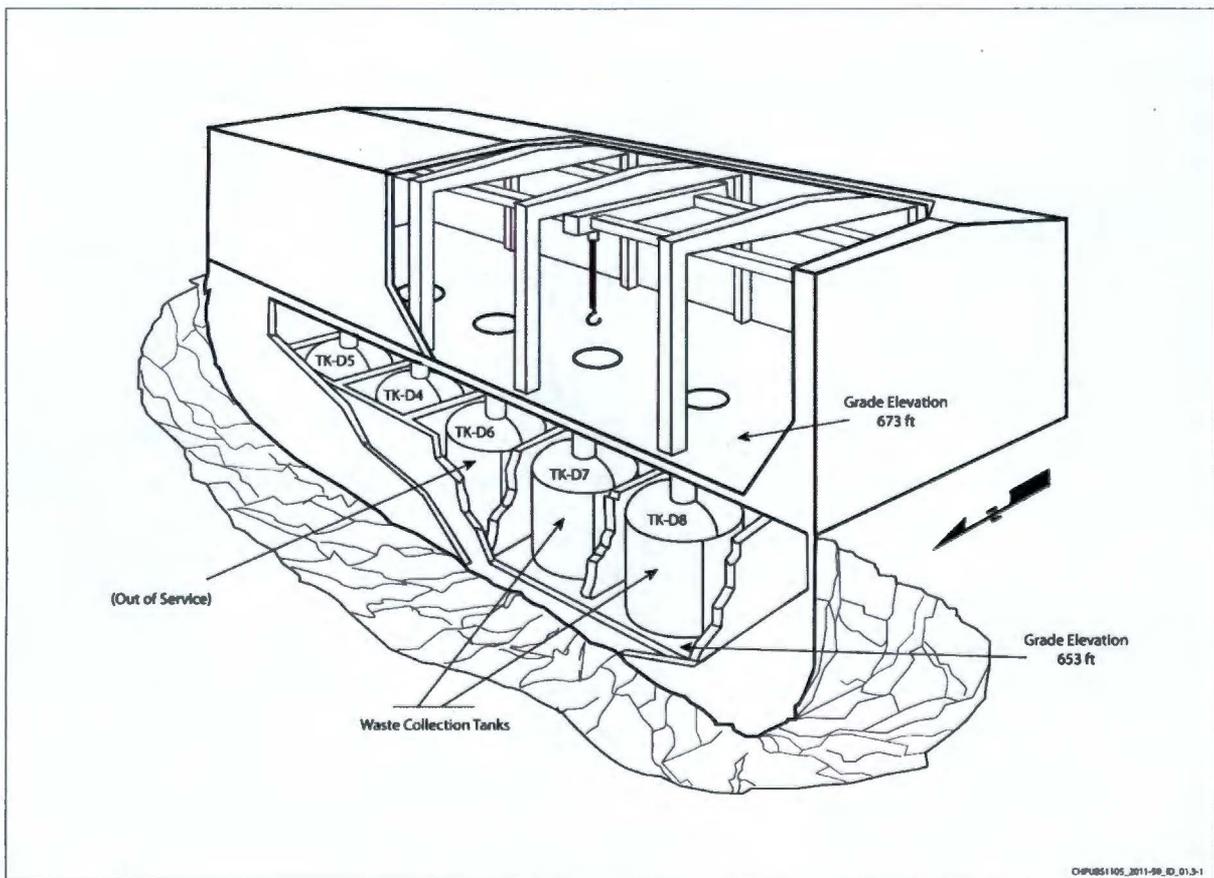
13 The 291-Z Building will remain on site. The 291-Z Building is located south of the 234-5Z Building and
14 is mainly below grade. This building housed the exhaust fans and plenums that provided ventilation
15 exhaust for the 234-5Z, 242-Z, 236-Z, and 232-Z Buildings. A cutaway of the 291-Z Building is shown in
16 Figure 4. The 291-Z Building will have the ductwork blanked off, but the substructure is expected to
17 remain mostly unfilled. The 291-Z-1 stack will be removed, and the opening will be provided with a
18 weather tight seal.



19 **Figure 4. Cutaway View of the 291-Z Exhaust Fan and Compressor House**

1 **2.2.5 241-Z Tank Cells Description**

2 The 241-Z grade level slab, sheet metal decking, below grade cells and tanks will remain on site. The
3 241-Z Liquid Waste Treatment Facility started operations in 1949 to provide the PFP with the capability
4 to treat, store, and dispose of radioactive mixed waste. This facility was permitted under the *Resource*
5 *Conservation and Recovery Act of 1976 (RCRA)* and has been clean closed. The site is a buried,
6 reinforced concrete structure with a sheet metal decking over the top. The buried structure consists of five
7 separate cells, each containing a 16,277.3 L (4,300 gal) tank. The tanks (TK-D4, TK-D5, TK-D7, and
8 TK-D8) were cleaned and stabilized as part of the facility deactivation (see HNF-33999, *241-Z As Left*
9 *Characterization*, for a detailed description of below grade conditions). The 241-Z Building (Figure 5) is
10 approximately 6.1 m (20 ft) wide, 28 m (92 ft) long, and 6.7 m (22 ft) deep and is located approximately
11 100.6 m (330 ft) south of the 234-5Z Building. The upper portion of the structure has been removed and
12 below grade space has been cleaned out and stabilized. The 241-Z below grade structure is currently
13 included in the scope of the 200-IS-1 operable unit.



14
15 **Figure 5. 241-Z Building Cutaway View**

16
17

2.3 Facility/Site Classifications for S&M

This section groups similar components that will remain following completion of the CERCLA removal actions into one of four facility groups established for this S&M Plan. This was done to facilitate a graded approach for determining what S&M actions may be necessary. Descriptions of the four facility groups are provided in the following subsections. Appendix A contains a table of structures reflecting the applicable group(s) for the various structures.

2.3.1 Group 1—Building Slabs

Slab-on-grade is defined as a concrete slab (typically the first floor of a building) resting on grade (earth) that is free of dispersible radiological contamination or is appropriately stabilized with a cover.

2.3.2 Group 2—Structures that May Require Periodic Access for Surveillance

Several above grade structures are anticipated to remain at the completion of the project in a deactivated condition pending a determination of final disposition.

2.3.3 Group 3—Below Grade Structures with Void Spaces—No Entry Planned

Several below grade structures with large void spaces will remain:

- 234-5Z Tunnels
- 241-Z Vaults
- 291-Z Exhaust Air Filter Stack Building (roof is considered at grade)

Provision for access to these facilities is not planned.

2.4 Access Control

Access to 200 West Area, including the PFP site(s) will be controlled at the three existing guard barricades. All personnel who are required to be onsite will follow appropriate badging and training requirements.

3 PFP Site Surveillance and Maintenance

This chapter describes typical S&M activities that would be considered for surveillance and maintenance and may be implemented in a graded approach for the PFP site(s). Routine activities ensure that structural and passive confinement integrity is maintained and may include periodic inspections and planned maintenance. Non-routine activities include responses to undesirable observations (e.g., actions to be taken if rodent intrusion has been discovered).

3.1 S&M Program Administration

Administration of the S&M program typically includes but is not limited to the following considerations:

- Documented S&M strategies, standards and record keeping requirements.
- Human resources management and planning to ensure that the program has a sufficient number of qualified personnel to perform its functions and monitor personnel in the performance of their assigned responsibilities.
- Work control process for conducting S&M field work.
- Health and safety process for implementing a health and safety program.
- QA process for implementing applicable QA programs elements.
- Environmental, Safety, and Health Program.

3.2 Maintenance Activities

This section describes typical maintenance activities conducted under the S&M program. The specific maintenance activities for the PFP site(s) will be determined prior to initiation of S&M and applied using a graded approach.

3.2.1 Routine and Preventative Maintenance

Routine and preventative maintenance ensures structures and/or equipment continues to perform their designed function.

3.2.2 Erosion Maintenance

Erosion maintenance may be conducted on barrier covers or around foundations or structures to maintain their integrity.

3.2.3 Weed and Pest Maintenance

Weed and pest maintenance activities may include periodic herbicide or pesticide application and may require coordination with the following entities:

- U.S. Fish and Wildlife Service
- Benton County Noxious Weed Control Board

3.2.4 Roof Maintenance Inspection

A maintenance inspection may be conducted to determine structural integrity of the roofs.

1 **3.3 Surveillance and Inspection Activities**

2 This section describes typical surveillance activities conducted under the S&M program. The specific
3 surveillance activities for the PFP site(s) will be determined prior to initiation of S&M and applied using
4 a graded approach.

5 **3.3.1 General Inspections**

6 General inspections may be conducted to determine if and how site conditions have changed from the
7 initiation of S&M activities and previous inspections. These may include the condition of foundation
8 slabs, covers, roads, structures, equipment, and postings (other than radiological); and evidence of
9 subsidence, erosion, vegetation, or pests.

10 **3.3.2 Operations Inspections**

11 Operational inspections may be conducted if equipment is needed to remain operating. These may include
12 passive filters, drain systems, or monitoring systems. If equipment not connected with the PFP site(s) is in
13 operation in the area, the tenant/owner is responsible for its maintenance. It is not covered under the S&M
14 program.

15 **3.3.3 Radiological Surveys**

16 Radiological surveys may be conducted if areas of contamination were left. These ensure proper
17 radiological posting and detect if there is a spread of contamination.

18 **4 Quality Assurance**

19 The DOE's S&M program complies with the requirements of 10 CFR 830, "Nuclear Safety
20 Management," Subpart A, "Quality Assurance Requirements"; DOE O 414.1D, *Quality Assurance*; and
21 applicable state and federal environmental regulations for the establishment and implementation of a QA
22 program.

23 **5 Training and Qualifications**

24 DOE requires that training and qualification programs be established and implemented to satisfy the
25 requirements of 10 CFR 830.122(b), "Nuclear Safety Management," "Quality Assurance Criteria,"
26 "Criterion 2 – Management/Personnel Training and Qualification"; and DOE O 414.1D, Attachment 2,
27 "Management/Criterion 2 – Personnel Training and Qualification." Training requirements for personnel
28 performing and/or supporting activities in Managed Nuclear Facilities will encompass training
29 requirements specific to the PFP site(s).

30

6 Radiological Controls

6.1 Facility Controls

The radiological controls and protection program is defined in DOE programs, work requirements, and processes. The radiological controls and protection program reduces the risks to personnel health and safety to as low as reasonably achievable (ALARA) levels. The radiological protection program meets the requirements of 10 CFR 835 “Occupational Radiation Protection” and DOE O 458.1, “Radiation Protection of the Public and Environment.”

6.2 Radiological Air Emissions

Potential emissions include diffuse and fugitive sources such as passive vents, below grade structures, and soil contamination areas. Activities conducted under S&M also have potential to generate emissions.

Activities such as waste generation or maintenance that could cause air emissions, performed according to this S&M Plan, will comply with applicable or relevant and appropriate requirements specified in the Action Memorandum (DOE/RL-2005-13), approved under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*.

S&M activities, specifically excavating and backfilling, have the potential to release a variety of radioactive contaminants into the air. The following subsections describe the management requirements to ensure that the emissions are ALARA and appropriately monitored.

6.2.1 Federal and State Regulations

The federal Clean Air Act Amendments of 1990 (42 United States Code 7401 et seq.) and the Washington Clean Air Act (RCW 70.94) each require regulation of radionuclide air emissions. The federal implementing regulation, 40 CFR 61 Subpart H, “National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities,” require that radionuclide airborne emissions be controlled so that any member of the general public would not receive an exposure greater than 10 mrem/yr effective dose equivalent. The EPA’s delegation of authority to the State of Washington to implement and enforce 40 CFR 61 Subparts A and H includes all substantive emissions monitoring, abatement, and reporting aspects of the federal regulation as adopted under the WAC 246-247, “Radiation Protection – Air Emissions.” These state standards protect the public by conservatively establishing exposure standards applicable to the maximally exposed public individual.

As a state implementing regulation the WAC 246-247, “Radiation Protection—Air Emissions” adopts the 40 CFR 61 Subpart H standard, requiring verification of compliance with the 10 mrem/yr standard. The WAC 246-247 further addresses sources emitting radioactive airborne emissions by requiring monitoring of such sources (emission units).

The above state implementing regulations further require control of radioactive airborne emissions to the extent economically and technologically feasible (WAC 246-247-040[3] and 040[4], “General Standards,” and associated definitions). To address the substantive aspect of these requirements, best or reasonably achieved control technology could be addressed by ensuring that applicable emission control technologies (those successfully operated in similar applications) would be used when economically and technologically feasible (i.e., based on cost/benefit). Controls will be administered as appropriate using the best methods from among those that are reasonable and effective.

1 **6.2.2 Airborne Source Information**

2 Handling radiologically contaminated materials during PFP S&M activities has the potential to generate
3 particulate emissions from point sources and diffuse fugitive sources. The primary radionuclides of
4 concern are americium-241 and plutonium-239, -240, and -241. Other radioisotopes may be present in
5 lower amounts because of activation products, fission products, decay products, sources, and standards.
6 Point source emissions are primarily associated with passive vents, but may also include emissions
7 associated with portable temporary radioactive air emission units.

8 **6.2.3 Airborne Emission Controls**

9 Airborne emission controls will be applied to the S&M activity using a graded approach based on
10 radiological conditions present at the completion of the NTC removal action. The following are examples
11 of typical controls for diffuse and fugitive emissions:

- 12 • Engineered contamination control barriers.
- 13 • Filters on passive vents
- 14 • Water applied in the most effective method, as needed, for suppression of fugitive emissions and dust
15 during excavation and backfilling activities.
- 16 • Radiological surveys (e.g., smears) taken on the outlet of passive vents and external surfaces where
17 there is potential for emissions.
- 18 • Appropriate controls such as fixatives, covers, containment tents, windscreens, or other controls as
19 determined by the radiological control organization, based on conditions in the area of work.
- 20 • Vacuum cleaners and portable exhausters used in a manner consistent with Hanford Site HEPA
21 Vacuum and Portable Exhauster practices.

22 **6.2.4 Airborne Emission Monitoring**

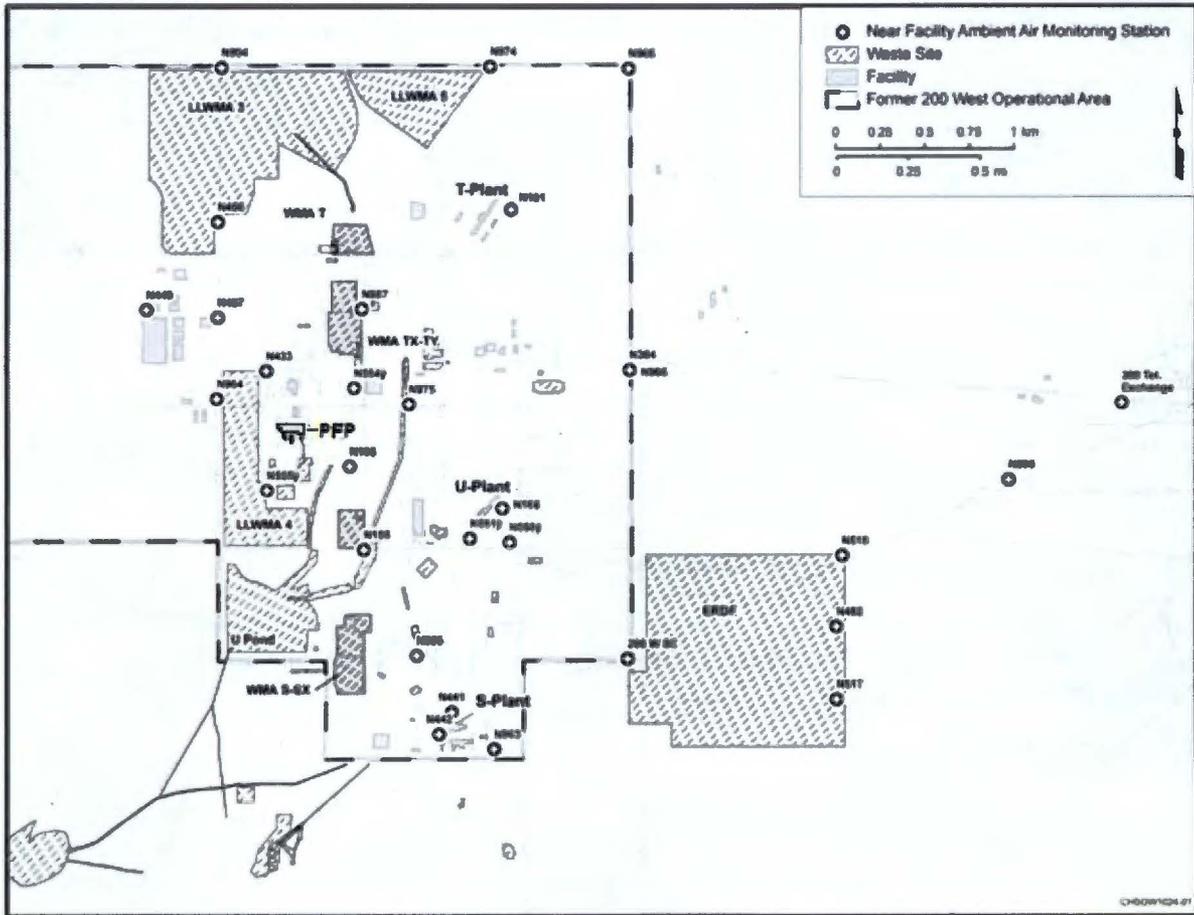
23 Airborne emissions monitoring will be established using a graded approach based on current estimates of
24 Potential to Emit, the conditions at the site at the time the NTC removal actions are complete, type of
25 activity to be conducted, and the equipment in place (e.g., filtered passive vents).

26 Monitoring may occur by various methods depending upon the configuration of the source. Most stacks
27 or vents are monitored by extracting a sample of the effluent stream within the stack or vent, with
28 subsequent analysis of the sample. Other methods include radiological surveys (e.g., smears) of the outlet
29 of passive vents or on external surfaces. Emissions which do not pass through a stack, vent or other
30 orifice are termed diffuse emissions, and these are normally monitored by extraction of a sample of the
31 ambient air, with subsequent analysis of the sample.

32 Hanford Site perimeter ambient air monitoring is currently being performed at set locations around the
33 outside of the Hanford Site.

34 Near-facility ambient air monitoring is currently being performed at several locations around the PFP
35 Complex. Monitoring stations in the 200 West Area (Figure 6) are currently available to provide an array
36 of sampling locations (including several prevailing downwind sectors) for the PFP site(s).

37 The Hanford Site perimeter and Near-Facility monitoring program is expected to continue during S&M
38 activities. The Hanford Site protocol established for emission monitoring will be followed for data
39 collection, sampling frequencies, sample analysis, and data reporting (DOE/RL-91-50, *Environmental*
40 *Monitoring Plan United States Department of Energy Richland Operations Office*).



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Figure 6. Near-facility Ambient Air Monitoring (Typical)

7 Hazardous Material Inventory, Management, and Protection

The amount of hazardous material left at the PFP site(s) should be minimal when this S&M plan is implemented. During S&M, applicable requirements for occupational safety, nuclear safety, criticality safety, and radiological safety will be implemented for control of potential personnel exposures to hazardous materials or conditions.

Work instructions will integrate occupational safety, nuclear safety, criticality safety, and radiological safety as applicable to ensure worker protection.

8 Environmental Compliance/Protection

An environmental protection program ensures that environmental and DOE requirements, controls, and standards are complied with at the facility. During S&M, DOE's environmental protection program will continue to be implemented. The facilities will be transitioned to S&M in a compliant configuration, and remain in compliance until final remediation.

8.1 Record Keeping and Documentation

All records related to sampling, analysis, investigations, and monitoring generated during S&M at the PFP site(s) will be maintained in accordance with DOE retention requirements and the Tri-Party Agreement (Ecology et al., 1989).

8.2 Institutional Controls

Institutional Controls (ICs) are non-engineered tools or approaches, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. When the final CERCLA remedial action decision is issued, the ROD will specify appropriate ICs as part of the remedial design, if any are necessary.

9 Health and Safety/Emergency Management

Health and safety and emergency management details are provided in the following sections.

9.1 Occupational Safety and Health

The Occupational Safety and Health Administration (OSHA) regulations in 29 CFR 1910, "Occupational Safety and Health Standards," and 29 CFR 1926, "Safety and Health Regulations for Construction," apply to all Hanford facilities and projects. These OSHA requirements are mandated by DOE O 440.1, *Worker Protection Management for DOE Federal and Contractor Employees*, and are considered the minimum acceptable standards for implementation.

The OSHA standards pertinent to PFP S&M are 29 CFR 1910 and 29 CFR 1926. The requirements of 29 CFR 1910 are applicable to the routine S&M activities, while 29 CFR 1926 requirements are applied to work that is subject to the *Davis-Bacon Act*.

Prior to routine entries, personnel review appropriate requirements and attend pre-job safety meetings. Work instructions will integrate occupational safety, nuclear safety, criticality safety, and radiological safety as applicable to ensure worker protection.

9.2 Emergency Management

Administration (preparedness and planning) of the emergency management program for the PFP site(s) is defined in DOE/RL-94-02, *Hanford Emergency Response Plan*, and the applicable emergency management DOE Orders and state and federal regulations.

If an emergency occurs at the PFP site(s), the response to mitigate would not be part of S&M but would fall under the Emergency Management Program, as outlined DOE/RL-94-02.

9.2.1 Emergency Preparedness

Hazards will be reduced as far as practicable through the NTC removal actions and the PFP site(s) will be unoccupied. Therefore, no permanent emergency equipment, communication equipment, warning systems, personal protective equipment, or spill control and containment supplies will be located at the facility.

9.2.2 Emergency Response

If an emergency or abnormal incident occurs during S&M activities, personnel will evacuate the facility and communicate the abnormal condition information to the appropriate agencies in accordance with DOE/RL-94-02.

The initial response to any emergency is to protect the health and safety of individuals in the immediate area and to initiate a request for emergency response. In all cases, whether an operational emergency, natural phenomena, or security emergency, personnel are to respond using the actions identified by the following SWIM acronym:

- **S**top what you are doing, and place equipment in a safe configuration
- **W**arn others, which includes the following:
 - Warning all personnel in the vicinity
 - Calling 911
 - Informing the emergency director
- **I**solate the area, so others do not enter
- **M**inimize exposure by moving upwind and away from the incident

9.2.3 Emergency Prevention

Careful planning and performance of S&M activities and personnel training mitigate contamination migration and/or minimize the potential for unplanned, sudden radiological or hazardous releases.

10 Safeguards and Security

Hanford Patrol provides routine security patrols throughout the 200 West Area. There will be no intrusion alarms or routine security patrols specifically for the PFP site(s). No additional safeguards and security requirements have been identified beyond access control to the site at this time.

11 Schedule

The S&M activities will begin after the PFP complex NTC removal action has been completed. The frequency of periodic surveillance and maintenance will be determined using a graded approach based on the conditions at the PFP site(s) at the time S&M is implemented.

12 Cost

A cost estimate for performance of PFP S&M for 2016 and beyond is to be determined, based on final conditions at the time of completion.

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Appendix A

Surveillance and Maintenance Facilities

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Table A-1. Surveillance and Maintenance Facilities			
Structure	Name/Description	Group ¹ Type	Status
200-Z Area	PFP Complex Yards and Grounds	1	Will contain areas of contamination
232-Z	Waste Incinerator Facility	1	Building demolished Slab and below grade ducting contain gram quantities of contamination – ducting is grout filled
234-5Z	Plutonium Fabrication Facility	3	Slab/below grade will contain gram quantities of contamination
234-5ZA	Change Room Addition	1	Not currently contaminated
236-Z	Plutonium Reclamation Facility	1	Slab/below grade will contain gram quantities of contamination
241-Z	Tank Farm Waste Disposal Building	3	Building demolished Tanks cut open and are RCRA clean closed but remain in below grade cells (241-Z WIDS site)
	The 241-Z WIDS site includes the slabs of the:		
	241-ZA Sample Building	1	Building demolished
	241-ZB Sodium Hydroxide Tank	1	Tank removed containment grout filled
	241-ZG Change Facility	1	Building demolished
241-Z-RB	Retention Basin and valve pit	1	Filled with grout, 207-Z WIDS site The associated valve pit contains low level contamination
242-Z	Waste Treatment Facility	1	Slab/below grade will contain gram quantities of contamination
243-Z	Low-Level Waste Treatment Facility	1	Low level contamination
243-ZA	Low-Level Waste Storage Facility	3	Collection tanks sump pit for 243-Z, low level contamination
243-ZB	Cooling Towers and Concrete Pad	1	Not currently contaminated
270-Z	Operations and Support Facility	1	Not currently contaminated
2701-ZA	Central Alarm Station Facility	1	Building demolished Slab not currently contaminated
2701-ZD	Badge House	1	Building demolished Slab not currently contaminated
2702-Z	Microwave Tower and Communications Support Building	1	Converted from Patrol communications to Site cellular service and is still in use

Table A-1. Surveillance and Maintenance Facilities			
Structure	Name/Description	Group ¹ Type	Status
2704-Z	Safeguards and Security Building	1	Siding and insulation contain asbestos
2705-Z	Operations Control Facility	1	Building demolished Slab not currently contaminated
2712-Z	Stack Monitoring Station	N/A	Attached to 291-Z-1 stack at 50 foot level, nothing will remain when stack is removed
2729-Z	Maintenance Storage Building	1	Not currently contaminated
2731-Z	Plutonium Drum Storage Building	1	Building demolished Slab has low level contamination
2731-ZA	Container Storage Building	1	Building demolished Slab has low level contamination
2734--ZL	Hydrogen Fluoride Facility	1	Residual chemical contamination
2735-Z	Bulk Chemical Storage Tanks	1	Residual chemical contamination and tank jacket contains asbestos
2736-Z	Plutonium Storage Building	1	Building demolished Slab not currently contaminated
2736-ZA	Plutonium Storage Ventilation Structure	1	Building demolished Slab not currently contaminated
2736-ZB	Plutonium Storage Support Facility	1	Building demolished Slab has low level contamination
2736-ZC	Cargo Restraint Transport Dock	1	Building demolished Slab has low level contamination
291-Z-1	Stack	3	Low level contamination
291-Z	Ventilation Fan Building and Associated Ductwork	3	Will contain gram quantities of contamination

1 Notes:

2 ¹ Facilities are classified into the following groups:

- 3 • Group 1—Building slabs
- 4 • Group 2—Structures that may require periodic access for surveillance
- 5 • Group 3—Below grade structures with void spaces no entry planned

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Surveillance and Maintenance Plan for the Plutonium Finishing Plant Complex

Prepared for the U.S. Department of Energy
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