Section E
Corrective Action

Section E — Corrective Action

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E-1 Explanation of Significant Differences

Section E — Corrective Action
WAC 173-303-645; 64620; -806(4)(a)(xxiii)

Unless otherwise specified, the definitions set forth in Chapter 70A.300 RCW, Chapter 173-303 WAC, Chapter 70A.305 RCW, and Chapter 173-340 WAC, undertaken in whole or in part to fulfill the requirements of WAC 173-303-64620, shall control the meanings of the terms used in this section of the Resource Conservation and Recovery Act (RCRA) permit application. Additional or modified definitions are included at the beginning of the overall document.

1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

1.1. Active SWMUs

1.1.1. The Permitted Unit (Hazardous Materials Building Z-1255) is the only active SWMU at the Ross Complex and is used solely for the consolidation and storage of waste prior to off-site shipment for disposal.

1.2. Inactive SWMUs and AOCs

1.2.1. Four pre-existing interim status hazardous and toxic waste management units used to consolidate and store waste were certified "clean closed" in January 1996 pursuant to WAC 173-303 and 40 CFR Part 265.

1.2.2. Inactive SWMUs, shown in Figure E-1, were previously addressed under the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) pursuant to a Federal Facilities Agreement signed in 1993. The Ross Complex was remediated and subsequently delisted from the CERCLA National Priority List on September 23, 1996 (61 FR 49690).

1.2.3. In October 1993, the Environmental Protection Agency (EPA) also evaluated the Facility for corrective action under the RCRA Facility Assessment (RFA) process. The scope of the RFA was narrowed to an examination of SWMUs and AOCs that were not being addressed under the CERCLA program. The RFA report recommended "No Further Action" on all AOCs and on all but one SWMU. This remaining SWMU (an alleged leaking drum noted in a 1987 Toxic Substances Control Act inspection) has since been determined to require no further action.

2. Ongoing Reviews

2.1. Five-Year Review

2.1.1. The Ross Complex is subject to statutorily required five-year reviews under CERCLA. The five-year review notifications and reports shall be provided to the Department of Ecology (Ecology) at the same time these notifications and/or reports are provided to EPA.

2.1.2. After reviewing information obtained from the next five-year review, and subsequent five-year reviews, Ecology reserves the right to require BPA to submit, for its review and approval, a plan to conduct corrective action to ensure that the facility continues to comply with the corrective action requirements under WAC 173-303 as a result of information obtained from that five-year review.

2.1.3. Approved corrective action plans will be incorporated into this Part B permit in accordance with the modification procedures under WAC 173-303-830.

2.1.4. The first 5-year review was conducted in 1999 and determined that continued groundwater monitoring was not necessary due to the low levels of groundwater contaminants (nearly at or well below the MCL) and the lack of on-site or nearby off-site users. Groundwater would not be subject to future five-year reviews.

2.1.5. The most recent 5-year review was conducted in March 2024. This was the sixth Five-Year Review and focused on the continued adequacy of institutional controls applicable to the Fog Chamber Dump Trench Areas 1 and 2, Cold Creek Fill, Ross Substation/Capacitor Yard and the Wood Pole Storage Area East. The review concludes that the remedies for both Operational Units A and B remain protective of human health and the environment and institutional controls remain in place.

2.2. Explanation of Significant Differences

2.2.1. The EPA finalized an Explanation of Significant Differences (ESD) for the Ross Complex on January 18, 2001, as required by the federal CERCLA program. The ESD is an administrative mechanism to ensure effective long-term implementation, maintenance, and monitoring of institutional control requirements for individual SWMUs for which contamination remains on site. A copy of the Permitted Unit ESD is provided in Attachment E-1, Explanation of Significant Differences.

2.2.2. Prior to terminating or revising any requirement or condition in the ESD, BPA shall notify Ecology and request a corresponding modification of the permit under the permit modification system in WAC 173-303-830(4).

2.2.3. The Institutional Control Monitoring Report and all other notifications and reports required in the ESD shall be provided to Ecology at the time these notifications/ reports are provided to EPA.

2.2.4. After reviewing the information obtained from these notifications/reports, Ecology will determine if a permit modification is necessary based on the information and/or recommended actions provided in these notifications and/or reports.

2.3. Notification Requirement prior to Construction

2.3.1. In compliance with WAC 173-303-810(14)(a), BPA will give notice to the Ecology in writing as soon as possible of any planned physical alterations or additions to the Permitted Unit. Such physical alterations or additions will require a permit modification.

2.3.2. Institutional controls are being relied upon to protect human health and the environment at five locations at the Ross Complex: the Fog Chamber Dump Areas #1 and #2, the 230 kV Capacity Yard, and the Cold Creek Fill Area. Controls have been implemented that include preventing changes to the land use of these areas, notification to EPA and Ecology prior to any land development or redevelopment of these areas, ensuring all land restrictions run with the land if the property is no longer Federally owned, and requiring a dig permit for any excavation activities on the Ross Complex to ensure institutional control areas are not impacted. Further details on notifications requirements and land restrictions in the Explanation of Significant Differences found in Attachment E-1.

3. Releases and Corrective Actions

3.1. Past Releases

3.1.1. Releases prior to CERCLA Delisting of the Permitted Unit were evaluated and remediated as described in Section 1.2.

3.1.2. Releases and corrective actions that occurred at the Permitted Unit following CERCLA Delisting and prior to issuance of the Dangerous Waste Permit in 2011 were evaluated in the previous permit application and no new AOCs or SWMUs were identified.

3.1.3. Releases and corrective actions that have occurred since the 2011 issuance of the Permit are listed in Table E-1.

3.2. Release Notification

3.2.1. BPA must continuously consider and evaluate information regarding releases, suspected releases, or potential releases of hazardous substances, including dangerous waste and dangerous constituents as defined by WAC 173-303-64610(4), at the corrective action facility. Corrective action facility refers to all operational areas within the Ross Complex property boundary.

3.2.2. BPA must notify Ecology, in writing, of any newly identified SWMU(s), newly discovered releases from previously identified or newly identified SWMU(s), and newly discovered AOC(s) at or from the corrective action facility, no later than 15 days after discovery.

3.2.3. BPA must provide information specified in WAC 173-303-806(4)(a)(xxiii) Requirements for Solid Waste Management Units and 806(4)(a)(xxiv)(A) Requirements for Known Releases.

3.2.4. BPA is not required to notify Ecology of a newly identified satellite accumulation area or of a generator's less than 90-day accumulation area unless there is a release or the potential for a release from these areas.

3.3. Corrective Action

3.3.1. After receiving notification of any newly discovered releases at the corrective action facility, Ecology will determine whether BPA must fulfill corrective action responsibilities as required by WAC 173-303. Any such corrective action will be incorporated into the permit by a permit modification. The actions taken must meet or exceed all substantive RCRA corrective action requirements, the state Hazardous Waste Management Act, and the state Dangerous Waste Regulations.

3.3.2. To ensure that corrective action will be conducted as necessary to protect human health and the environment, BPA must conduct corrective action in a manner that is consistent with the following provisions of Chapter 173-340 WAC:

- As necessary to select a cleanup action in accordance with WAC 173-340-360, WAC 173-340-351 State Remedial Investigation and Feasibility Study
- WAC 173-340-360 Cleanup Action Requirements
- WAC 173-340-400 Cleanup Action Implementation
- WAC 173-340-410 Compliance Monitoring Requirements
- WAC 173-340-420 Periodic Site Reviews
- WAC 173-340-440 Institutional Controls
- WAC 173-340-700 through 173-340-760 Cleanup Standards

Table – Section E

Table E-1
Ross Complex Significant Spills March 2011–2025

Date	Material	Quantity	Description	Cleanup Procedures	Cleanup Level Achieved	Report
2/16/2011	Diesel	1 gal	Spilled container of diesel fuel on upper floor of turbine room.	Absorbents used to pick up diesel.	Surface clean	No
6/13/2012	Hydraulic fluid	3 gal	Hydraulic system failure at visitor entry gate to complex	Kitty litter and absorbent pads used to clean up spill.	Surface clean	No
2/3/2012	Mineral oil	16 oz	Leak from a valve on an oil filter trailer	Absorbents used to pick up as much oil as possible.	Surface clean	No
2/9/2012	Mineral oil	2 gal	Overfill during oil transfer.	Sorbent pads	Surface clean	No
8/23/2012	Hydraulic fluid	<1 gal	Ruptured hydraulic line on material handler at IRC	Sorbent pads used to clean up oil	Surface clean	No
11/2/2012	Metal cutting fluid	0.5 gal	Leak from bin containing metal cuttings from machine shop into a catch basin. Spill confined to one catch basin	Absorbents place on concrete and asphalt and in catch basin. Remaining fluid and sediment removed from catch basin for disposal.	Samples of catch basin sediment and contaminated water collected for waste determination. Water and sediment non-hazardous.	Report to Doug Stoltz, WDOE
1/18/2013	Hydraulic fluid	15 gal	Hydraulic hose failed during testing of power take off on truck.	Spilled fluid was contained on gravel parking area. Approximately 1-2 inches of contaminated soil was removed.	All visibly stained soil was removed from the spill area.	Yes, ERTS 638767
1/28/2013	Hydraulic fluid	5 gal	Hydraulic hose failure near heavy machinery and equipment shop	Absorbent pads and booms placed under truck which captured most of the spill	Surface clean	Yes, Curt Piesch WDOE
7/24/2013	Motor oil	2 gal	Failed o-ring on high pressure line from oil pump at heavy equipment maintenance garage	Kitty litter on asphalt	Surface clean	No

Table E-1
Ross Complex Significant Spills March 2011–2025

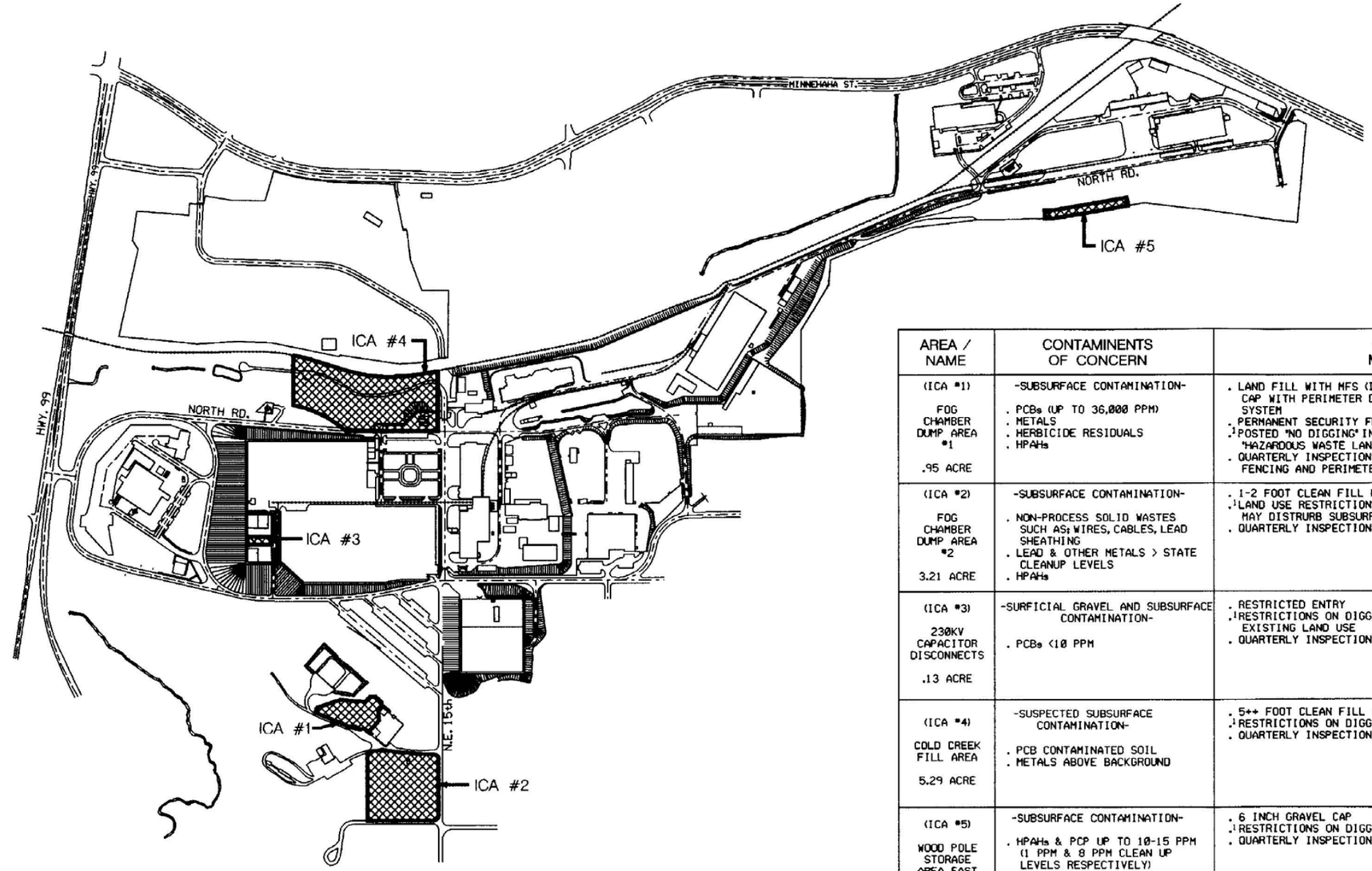
Date	Material	Quantity	Description	Cleanup Procedures	Cleanup Level Achieved	Report
10/7/2014	Battery Acid	1 gal	Acid from fractured battery, Z-1255 bldg	Acid neutralized and containerized	pH paper and visual	No
11/13/2014	Battery Acid	5 gal	Acid from fractured battery, Z-1255 bldg	Acid neutralized and containerized	pH paper and visual	No
12/8/2014	50/50 water/glycol	2 gal	Failed radiator hose from private vehicle	Sorbents applied	Visual	No
12/31/2014	Hydraulic fluid	<1 gal	Fitting gap allowed leak	Sorbents and wipe down of crane surfaces	Visual and source removal	Yes, ERTS 653804
1/15/2015	Hydraulic fluid	<1/4 cup	Non-BPA truck on property	Kitty litter	Surface clean	No
3/5/2015	Mineral oil, ND	100 gal	OT2 tank to East of UTK overfilled with ND mineral oil	Containment vault oil layer vacced out; sorbents applied for residual	Sheen-free containment vault surface	No
3/16/2015	Diesel	1 quart	Fuel island nozzle discharge during fueling	Spill removed with kitty litter	Surface clean	No
4/22/2015	Urethane paint	1 gal	Paint can spilled during transport near PSB	Kitty litter applied to asphalt spill area	Saturated kitty litter collected in 8 gal H70229 drum	No
5/2/2015	Mineral oil	1/2 gal	Mineral oil spilled to impervious surface Z-669 area	Sorbents and dry sorb applied to removed liquid	All liquid removed used sorbents placed in IWS-144 drum	No
7/1/2016	Compressor oil	<1 gal	Compressor oil from ruptured container that bounced off forklift during transport	Sorbents applied to remove liquid from asphalt	Surface clean	No

Table E-1
Ross Complex Significant Spills March 2011–2025

Date	Material	Quantity	Description	Cleanup Procedures	Cleanup Level Achieved	Report
8/8/2016	Diesel	1/2 gal	Inadvertent spill at fuel island. Drained to containment	Kitty litter applied to asphalt spill area. Containment emptied	Visual	No
2/13/2017	Mineral oil	25 gal	Valves associated with 10K gal AST not closed over the weekend; coupling leak allowed slow leak of mineral oil onto containment apron.	Un-tanking tower and Substation Maintenance personnel used open and closed drums to dispose of oil in sorbents and water, respectively.	Repeated inspections of sediment vault West of HMB did not show any sheen making its way out of OWS2	No
9/12/2017	Hydraulic Fluid	1 gal	Hydraulic Lift Piston on Mulch truck sprang leak	Over-dug spilled area and disposed of in drums	Visual	No
12/19/2018	Gasoline	1/4 gal	Spill resulted from a someone illicitly siphoning gasoline from a parked personal vehicle	Kitty litter was applied, swept up, and containerized into a 55 gallon drum that was sent to HMB for disposal	Visual	No
2/4/2019	Diesel	snail trail, approx. 1 quart	Leak off FedEx vehicle	Kitty litter	Visual	No
5/3/2022	Mineral oil w/ 500 ppm PCB	3 gal	Bushing potential device leaked onto asphalt upon inspection after arriving at Ross for disposal	Sorbents pads and kitty litter were used for cleanup. Affected asphalt was saw cut, removed, and properly disposed of	Oil and underlying asphalt removed	No

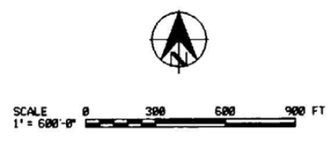
Figure – Section E

Figure – Section E



AREA / NAME	CONTAMINENTS OF CONCERN	CONTROL MEASURES	SEE FIG#
(ICA #1) FOG CHAMBER DUMP AREA #1 .95 ACRE	-SUBSURFACE CONTAMINATION- . PCBs (UP TO 36,000 PPM) . METALS . HERBICIDE RESIDUALS . HPAHs	. LAND FILL WITH MFS (IMPERVIOUS) ENGINEERED CAP WITH PERIMETER DRAINAGE COLLECTION SYSTEM . PERMANENT SECURITY FENCE AROUND AREA .[1]POSTED "NO DIGGING" INSIDE OF FENCE, "HAZARDOUS WASTE LANDFILL" OUTSIDE FENCE . QUARTERLY INSPECTIONS OF CAP, PERIMETER FENCING AND PERIMETER DRAINAGE CLEANOUTS	FIG #1
(ICA #2) FOG CHAMBER DUMP AREA #2 3.21 ACRE	-SUBSURFACE CONTAMINATION- . NON-PROCESS SOLID WASTES SUCH AS; WIRES, CABLES, LEAD SHEATHING . LEAD & OTHER METALS > STATE CLEANUP LEVELS . HPAHs	. 1-2 FOOT CLEAN FILL MATERIAL COVER .[1]LAND USE RESTRICTIONS ON ACTIVITIES WHICH MAY DISTRURB SUBSURFACE CONTAMINATION . QUARTERLY INSPECTIONS	FIG #1
(ICA #3) 230KV CAPACITOR DISCONNECTS .13 ACRE	-SURFICIAL GRAVEL AND SUBSURFACE CONTAMINATION- . PCBs <10 PPM	. RESTRICTED ENTRY .[1]RESTRICTIONS ON DIGGING AND NO CHANGE IN EXISTING LAND USE . QUARTERLY INSPECTIONS	FIG #2
(ICA #4) COLD CREEK FILL AREA 5.29 ACRE	-SUSPECTED SUBSURFACE CONTAMINATION- . PCB CONTAMINATED SOIL . METALS ABOVE BACKGROUND	. 5++ FOOT CLEAN FILL CAP .[1]RESTRICTIONS ON DIGGING . QUARTERLY INSPECTIONS	FIG #3
(ICA #5) WOOD POLE STORAGE AREA, EAST .47 ACRE	-SUBSURFACE CONTAMINATION- . HPAHs & PCP UP TO 10-15 PPM (1 PPM & 8 PPM CLEAN UP LEVELS RESPECTIVELY)	. 6 INCH GRAVEL CAP .[1]RESTRICTIONS ON DIGGING & LAND USE . QUARTERLY INSPECTIONS	FIG #4

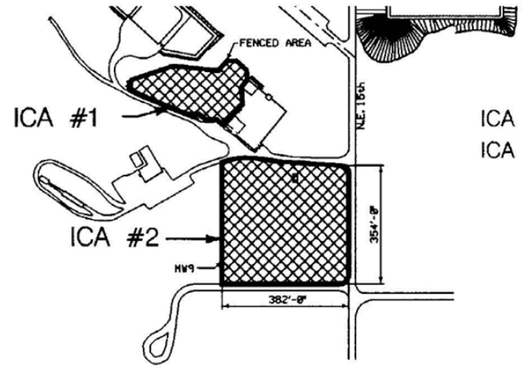
[1]CONTACT BUILDING & GROUNDS MANAGER, OR ROSS ENVIRONMENTAL COORDINATOR PRIOR TO DISTURBING ANY SOIL.



Official Use Only

Figure E-1
Waste Unit Locations
HazMat Building Part B Permit Renewal Application
Ross Complex

FIGURE #1

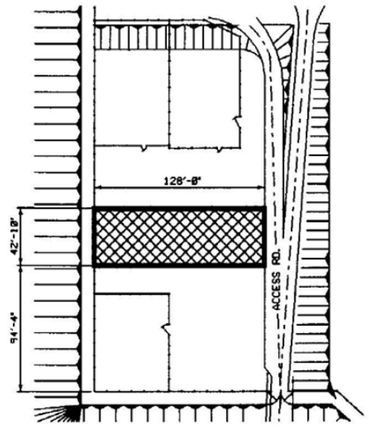


ICA #1 (.95 ACRE)
ICA #2 (3.21 ACRE)

ICA #1 & #2 FOG CHAMBER DUMP AREAS 1 & 2

SCALE: 1" = 400'

FIGURE #2

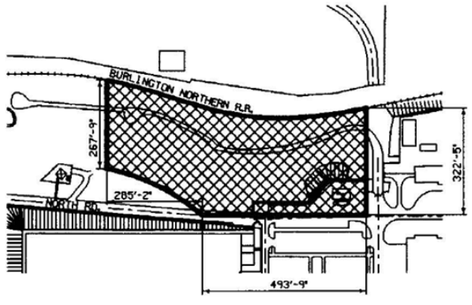


ICA #3 (.13 ACRE)

ICA #3 230KV CAPACITOR YARD DISCONNECTS

SCALE: 1" = 100'

FIGURE #3

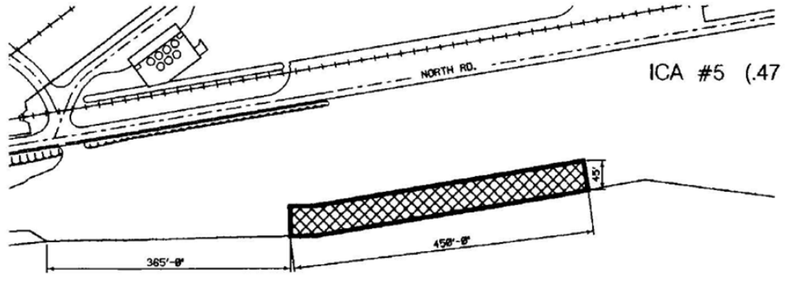


ICA #4 (5.29 ACRE)

ICA #4 COLD CREEK FILL AREA

SCALE: 1" = 400'

FIGURE #4



ICA #5 (.47 ACRE)

ICA #5 WOOD POLE STORAGE AREA, EAST

SCALE: 1" = 200'

Official Use Only

Figure E-1
Waste Unit Locations - Detail
HazMat Building Part B Permit Renewal Application
Ross Complex

Attachment – Section E

Attachment E-1
Explanation of Significant Differences

Bonneville Power Administration
ESD
WA1891406349

EXPLANATION OF SIGNIFICANT DIFFERENCES for the Bonneville Power Administration Ross Complex Vancouver, Washington

INTRODUCTION

This document presents an Explanation of Significant Differences (ESD) for two Records of Decision (RODs) for the BPA Ross Complex. The Bonneville Power Administration (BPA), the United States Environmental Protection Agency (EPA), and the Washington State Department of Ecology (WDOE) signed these RODs. The RODs addressed by the ESD are:

1. OUA ROD, May 6, 1993, addressing surface contamination
2. OUB ROD, September 29, 1993,addressing groundwater and contamination at depth.

This ESD, prepared in accordance with Section 117(c) of CERCLA and 40 CFR 300.435(c)(2)(I), documents significant differences to the selected remedies in the RODs. In summary, this ESD clarifies the institutional control requirements for individual sites within these RODS as well as establishes the general requirements that BPA's Ross Complex will undertake to ensure effective institutional controls for these individual sites. The WDOE supports the need for this ESD.

This ESD will become part of the Administrative Record for the Ross Complex. The Administrative Record is located at 5411 NE Hwy. 99; Vancouver; Washington, (360) 418-2554. This ESD will also be available at the Information Repository at the Vancouver Regional Library located at 1007 East Mill Plain Blvd., Vancouver, Washington (360) 695-1566

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS AND SELECTED REMEDY

The BPA Ross Complex is an active 250-acre installation located in Clark County Washington. The site is located approximately 2.7 miles north of the Columbia River and 1.7 miles east of Vancouver Lake. The site is bordered to the north by Cold Creek Canyon, a Burlington Northern Railroad right-of-way, NE Minnehaha Street and to the east and south by a residential neighborhood. Burnt Bridge Creek borders the site to the southwest and west. Highway 99 and Interstate 5 borders the site to the west. The two streams, which border the site, flow into Vancouver Lake.

The site is an active facility that has been owned and operated by BPA since 1939 to coordinate the distribution of hydroelectric power generated by the Federal Columbia

River Power System to regions throughout the Pacific Northwest. Since it's construction, the Site has provided research and testing facilities, maintenance and construction operations, and waste storage and handling operations for BPA. Maintenance activities at the Ross Complex have routinely involved handling transformer oils containing polychlorinated biphenyls (PCBs), and organic and inorganic compounds associated with the storage of preserved wood transmission poles, paints, solvents, and waste oils. Testing and laboratory activities include the use of heavy metals (such as mercury) and other organic and inorganic compounds.

The site was listed on the National Priorities List (NPL) in November 1989 based on the presence of volatile organic compounds (VOCs) in groundwater and the Site's proximity to the City of Vancouver's drinking water supply. As a result of the listing, and pursuant to a Federal Facility Agreement (FFA) signed by BPA, EPA and WDOE on May 1, 1990, BPA conducted a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS was conducted to determine the nature and extent of contamination at the site and to evaluate alternatives for the clean up of contaminated areas. The RI field investigation began in the summer of 1991 and included the collection and chemical analysis of surface and subsurface soil, water, sediment, and groundwater samples.

Initially, the RI was designed to address the entire Site but during the summer of 1991, BPA, EPA and WDOE decided that the Site would be divided into two separate operable units (Units A and B) to facilitate the CERCLA process. Operable Unit A Remedial Investigation focused on an evaluation of surface soil contamination at a total of 19 waste units on the site. Operable Unit B Remedial Investigation focused on characterization of subsurface soils at the Fog Chamber Dump Trench Areas 1 and 2 and the Cold Creek Fill Area. The Operable Unit B investigation also included characterization of the shallow perched water table and deep groundwater aquifer beneath the site, and surface water and sediment in Cold Creek and Burnt Bridge Creek.

The Final RI/FS for OUA was issued on May 15, 1992 and the OUA ROD was signed on May 6, 1993. The Final RI/FS for OUB was issued on March 19, 1993 and the OUB ROD was signed on September 29, 1993.

All remedial actions for OUA have been completed. Treatment for PCP contaminated soil from the Wood Pole Storage Yard East was completed on November 30, 1995. PCB contaminated soil was removed from the Capacitor Test Lab in January 1994 and from the Ross Substation and Capacitor Yard in August 1995.

It was determined in the ROD that the remedial action for Operable Unit B would be limited to capping or covering the Fog Chamber Dump, Trench Area 1; the establishment of Institutional Controls at Fog Chamber Dump, Trench Area 2; and continued monitoring of volatile organic compounds in groundwater. Installation of the cap at the Fog Chamber Dump was completed in October of 1994. Groundwater

monitoring was discontinued in April 1996 when results demonstrated that conditions were stable and contaminants were nearly at or below Maximum Contaminant Levels (MCLs). The BPA Ross Complex was delisted from the NPL on September 23, 1996.

The Remedial Action Objectives and the major components of the remedies selected in these RODs are summarized in Attachment A, particularly as they relate to institutional controls and the need for institutional controls. The RODs should be consulted for a full description of the selected remedies.

DESCRIPTION OF THE SIGNIFICANT DIFFERENCE AND THE BASIS FOR THOSE DIFFERENCES

Institutional controls are being relied upon to protect human health and the environment at five locations at the Ross Complex. Where the RODs require institutional controls, the RODs lack detail on the site-specific institutional control including the geographic locations where such controls are required, the objectives of the control or restriction, and a description of the types of restrictions that need to be in place. The RODs are also silent on how these institutional controls will be implemented, maintained and monitored, both while the BPA has control of the property as well as what will happen if the property is transferred to other federal or to private ownership. This ESD clarifies the site-specific institutional control requirements and establishes the procedures for how BPA will implement maintain and monitor these site-specific requirements.

Although these institutional controls have been adhered to and remain protective of human health and the environment, the CERCLA five year review, completed in August, 1999, recommended that BPA develop a strategy to better provide for the long term administration, implementation and maintenance of institutional controls.

Site-Specific Institutional Control Requirements

Attachment B contains the revised site-specific institutional control requirements for every site/remedy listed on Attachment A that includes any form of institutional controls. These revised requirements clarify the geographic location where each IC is required, the objective of the control or restriction, and, as appropriate, a description of the types of restrictions that need to be in place.

In the process of reviewing the RODs for the Ross Complex, the agencies realized that there were two additional sites (Ross Substation Capacitor Yard and Cold Creek Fill) that require institutional controls for short and long term protection of human health and the environment. The remedy selected for these sites in the 1993 RODs had assumed that current and future land uses would be limited, but did not expressly require that those restrictions stay in place. This ESD adds the requirement that those restrictions stay in place. Attachment B also contains the site-specific institutional control requirements for these sites, as well as the reason why these controls are needed.

Facility-Wide Institutional Control Requirements

Attachment C contains the facility-wide institutional control requirements. Together, these facility-wide institutional control requirements establish the procedures and processes the Ross Complex will use to develop, implement, and monitor the site-specific institutional control requirements described above

Together, the remedial requirements described in Attachments B and C should result in remedial actions that improve the short-term and long-term protectiveness to human health and the environment.

The Applicable, Relevant and Appropriate Remedies (ARARs) established in the RODs are not modified by this ESD. This ESD is in furtherance of a new To-Be-Considered requirement, the EPA Region 10 Final Policy on the Use of Institutional Controls at Federal Facilities, May 3, 1999.

Public Participation Activities

The BPA will publish a notice of availability and a brief description of this ESD in the local newspaper, the Vancouver COLUMBIAN.

For more information on this ESD the public may contact Ms. Elaine Stratton, Ross Complex Environmental Coordinator, at (360) 418-2554.

Affirmation of the Statutory Determinations

Considering the new information that has been developed as well as changes that have been made to the selected remedies, the BPA and the EPA believe that:

- The remedies remain protective of human health and the environment,
- The remedies comply with federal and state requirements that were identified in the RODs as applicable or relevant and appropriate to these remedial actions at the time of the original ROD, and
- The remedies are cost-effective.
- In addition, the revised remedies continue to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable for these sites.

Mark W. Maher
Senior Vice President
Transmission Business Line
Bonneville Power Administration

12-7-2000
Date

Michael F. Gearheard for
Director, Environmental Cleanup Office
Environmental Protection Agency, Region 10

1/18/01
Date

ATTACHMENT A

A Summary of the Remedial Action Objectives and Selected Remedial Actions from the RODs at the BPA Ross Complex

OUA ROD, May 6,1993

Three waste units; the Wood Pole Storage Area East, the Ross Substation and Capacitor Yard and the Capacitor Testing Lab were identified as requiring action under CERCLA.

Remedial Action Objectives

Reduce potential for occupational exposure by achieving soil cleanup levels specified by Washington State's Model Toxic Cleanup Act (MTCA).

Site	Contaminant	Soil Cleanup Level Specified
Wood Pole Storage Yard	Total HPAHs	1 ppm (MTCA Method A, residential)
—	Pentachlorophenol	8 ppm (MTCA Method B, residential)
Ross Substation and Capacitor Yard	Total PCBs	10 ppm (MTCA Method A, industrial)
Capacitor Test Lab	Total PCBs	1 ppm (MTCA Method A residential)

Selected Remedies

Site	Remedy
Wood Pole Storage Yard	Ex-situ Solid-Phase Bioremediation with enhancements. If cleanup levels could not be met then soils were to be returned to yard, the yard capped and institutional controls applied
Ross Substation and Capacitor Yard	Excavation and off-site disposal. Industrial soil cleanup standard with fencing and deed restrictions
Capacitor Test Lab	Excavation and off-site disposal. Residential soil cleanup standard.

OUB ROD SEPTEMBER 29,1993

Two waste units; the Fog Chamber Dump Trench Area 1 and Fog Chamber DumpTrench Area 2 were identified as requiring action under CERCLA.

Remedial Action Objectives

The remedial action objectives for both OUB sites were:

- To prevent direct contact with contaminated soil
- To prevent future disturbance of contaminated soil
- To prevent surface water infiltration
- To create an area at the Fog Chamber Dump Trench Area that can be used by BPA for storage of heavy equipment

Selected Remedies

Site	Remedy
Fog Chamber Dump Trench Area 1	Installation of MFS cap with institutional controls. Institutional controls will limit access through the use of fencing, deed and land use restrictions
Fog Chamber Dump Trench Area 2	Institutional controls including deed and land use restrictions will be used to restrict land use activities that may disturb subsurface contamination

ATTACHMENT B

Revised Site-specific Institutional Control Requirements

OUA ROD, MAY 6, 1993

Wood Pole Storage Yard East.

This waste unit is located in the northeast corner of the Ross Complex. Of the 2,300 cubic yards of soil excavated from the pole yard, about 700 cubic yards failed to meet the ROD cleanup levels. After treatment, the soils that still exceeded cleanup levels were placed in a thin layer in the southwest corner of the pole yard. A clean cap was then applied over the entire 4.2-acre yard. Institutional controls are required only for the southwest corner of the yard that contains the residual contaminated soils. The institutional control objectives listed below must be met for this portion of the Wood Pole Yard.

- Ensure that the land use for that portion of the yard remains industrial
- Ensure that all disturbed or excavated soil from the site are properly categorized and disposed of, and that workers are protected during any such excavation or disturbance
- Ensure that these restrictions apply now and in the future, even if the Bonneville Power Administration no longer has control of the property
- Ensure that these restrictions will run with the land if the property is no longer federally owned

Comment: These institutional control requirements are needed to ensure site limitations that were assumed during the remedy selection are implemented and maintained.

Ross Substation and Capacitor Yard

This waste unit is located in the central portion of the Ross Complex. The capacitor yard is a small area in the southwestern corner of the substation yard. Due to the electrical hazards involved, the substation is enclosed in a security fence and access to the substation has always been strictly controlled. The Capacitor Yard itself is fenced off from the substation proper. All contaminated soil was removed down to non-detection levels except for a small area that interconnects capacitor banks. In that area, PCB-contaminated soil with up to 10 ppm (industrial cleanup level) was left in place. The institutional control objectives listed below must be met for this portion of the capacitor yard.

- Ensure that land use at the capacitor yard remains industrial
- Ensure that all disturbed or excavated soils at or from the site are properly

categorized and disposed of and that workers are protected during any such disturbance or excavation

- Ensure that these restrictions apply now and in the future, even if the Bonneville Power Administration no longer has control of the property.
- Ensure that these restrictions will run with the land if the property is no longer federally owned.

Comment: These institutional control requirements are needed to ensure use limitations that were assumed during remedy selection.

OUB ROD, SEPTEMBER 29, 1993

Fog Chamber Dump Trench Area 1.

The institutional control objectives listed below must be met at this waste unit which is located in the southeastern corner of the Complex. It is currently fenced and placarded.

- Prevent any disturbance to the cap, except as necessary for authorized O&M cap maintenance activities
- Prevent any current or future land uses that could jeopardize the integrity or life of the cap
- Notify the EPA prior to any development or redevelopment of the landfill site. The object of this notification is to ensure that the agencies concur that the development has been designed to retain the integrity of, and to avoid damage to, the cap
- Ensure that these restrictions apply now and in the future, even if Bonneville Power no longer has control of the property
- Ensure that these restrictions will run with the land if the property is no longer federally owned.

Comment: These IC requirements are to replace the requirement for deed restrictions stated in the 1993 ROD.

Fog Chamber Dump Trench Area 2

The institutional control objectives listed below must be met at this waste unit which is located immediately adjacent to Fog Chamber Dump Trench Area 1. The area is currently placarded.

- Restrict land use to prevent unauthorized soil disturbance.
- If any soils are disturbed, ensure that all disturbed or excavated soils at or from the site are properly categorized and disposed of, and that workers are protected during

any such disturbance or excavation

- Ensure that these restrictions apply now and in the future, even if the Bonneville Power Administration no longer has control of the property
- Ensure that these restrictions will run with the land if the property is no longer federally owned.
- Comment: These institutional control requirements are to replace the requirement for deed restrictions in the 1993 ROD.

Cold Creek Fill

The Cold Creek Fill area is located in the central portion of the Complex just North of the Ross Substation. This area consists of an engineered fill that has been continually compacted and graded over time with soil obtained from construction projects on the Complex. Based upon results in the RI it was determined that the existing conditions at this location were protective of public health and the environment, therefore remedial action was not necessary. Existing conditions included only limited isolated soil contamination between 5 and 25 feet below ground surface; relatively immobile contamination potential due to the types of contaminants; low permeability characteristics of the fill and access restricted by fencing and topographic considerations. The area is currently placarded at the entry gate.

To ensure that conditions that lead to the No Further Action determination do not change over time the following institutional control objectives are being added:

- Restrict land use to prevent soils from being disturbed.
- If disturbance of the soils becomes necessary, ensure that all disturbed or excavated soils at or from the site are properly categorized and disposed of, and that workers are protected during any such disturbance or excavation
- Ensure that these restrictions apply now and in the future, even if the Bonneville Power Administration no longer has control of the property
- Ensure that these restrictions will run with the land if the property is no longer federally owned.

Comment: These institutional control requirements are needed to ensure use limitations that were assumed during remedy selection are implemented and maintained.

ATTACHMENT C

Facility-wide Institutional Control Requirements

The Bonneville Power Administration (BPA)-Ross Complex has recently developed a comprehensive facility-wide approach for establishing, implementing, enforcing, and monitoring institutional controls at the facility. This approach contains procedures that will apply equally to BPA and contractor personnel who might undertake, approve or plan for any work on the Complex that might affect the future land use of these restricted areas. This facility-wide approach requires that:

- All CERCLA waste units containing any residual contamination will be clearly delineated and mapped. New facility maps will be prepared highlighting those locations subject to institutional controls. These maps will be logged into the engineering map vault at BPA headquarters and included in internal web pages for both the Environmental and Transmission Business Lines of BPA.
- Any digging, for any purpose, anywhere on the Complex by either BPA personnel or contractors, will require prior coordination with Ross Facilities Management. Facilities Management will be responsible for coordinating the dig permits. This will give us the broader assurance that an excavation will not threaten underground utilities.
- All areas that are governed by institutional controls will be permanently placarded. These signs will give notice that no digging is to take place without a dig permit.
- EPA and WDOE will be notified prior to any sale or lease of any property subject to institutional controls. Similarly, EPA and WDOE approval will be sought prior to any change in land use designation or restriction that may affect those areas subject to institutional controls.
- The existing Pollution and Abatement Clearance Process will be used as a means of coordination across business lines. The PAC process typically requires an environmental evaluation prior to excavation. The Project Manager or proposing office will be responsible for initiating the PAC request. The PAC report, issued by Pollution Control and Abatement through Facilities Management, will serve as the dig permit.
- The Environmental Coordinator for the Ross Complex will inspect all those locations subject to institutional controls on a quarterly basis as part of BPA's internal appraisal program. Those findings will be documented in an annual monitoring report to EPA.
- The Environmental Coordinator will immediately report any anticipated change in land use to EPA and WDOE.

- The Environmental Coordinator for the Ross Complex will serve as the point-of-contact with EPA on matters relative to CERCLA.

Within six months of signature of this ESD, the BPA Ross Complex will submit to EPA a monitoring report on the status of its institutional controls. The BPA will then submit an updated Institutional Control Monitoring Report to EPA at least annually thereafter. After the facility's comprehensive facility-wide approach is well established and the facility has demonstrated its effectiveness, the frequency of future monitoring reports may be modified subject to approval by EPA. The Institutional Control Monitoring Report at a minimum must contain:

1. a description of how the Ross Complex is meeting the facility-wide institutional control requirements;
2. a description of how the Complex is meeting the Operable Unit-specific objectives, including results of visual field inspections of all areas subject to Operable Unit specific restrictions;
3. an evaluation of whether or not all the Operable Unit specific and facility-wide institutional control requirements are being met;
4. a description of any deficiencies and what efforts or measures have been or will be taken to correct problems.

EPA review of the Institutional Control Monitoring Report will follow existing procedures for agency review of documents.

The BPA Ross Complex will notify EPA immediately upon discovery of any activity that is inconsistent with the Operable Unit-specific institutional control objectives for the site, or of any change in the land use or land use designation of a site addressed under item A (I). The facility will work together with EPA to determine a plan of action to rectify the situation. However, in the event the facility believes the activity creates an emergency situation, the facility can respond to the emergency immediately upon notification to EPA and need not wait for EPA input to determine a plan of action. The facility will also identify what went wrong with the institutional control process, evaluate how to correct the process to avoid future problems, and implement these changes after consulting with EPA.

The BPA Ross Complex will notify EPA at least six (6) months prior to any transfer, sale or lease of any property subject to institutional controls so that EPA can be involved in discussions to ensure that appropriate provisions to maintain effective institutional controls are included in the conveyance documents. If it is not possible for the facility to provide six month notification, then EPA will be notified as soon as possible but no later than 60 days prior to the transfer, sale or lease of any property subject to institutional controls.

The BPA Ross Complex will not delete or terminate any institutional control unless EPA has concurred in the deletion or termination.