UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

PECO Energy Company
Penrose Avenue Facility

Penrose & Lanier Ave,
Philadelphia, PA 19145

EPA ID # PAD 987279890

Prepared by
RCRA Corrective Action Branch 2
Land, Chemicals and Redevelopment Division
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List of Acronyms

AR	Administrative Record
COC	Constituent of Concern
EPA	Environmental Protection Agency
FDRTC	Final Decision Response to Comments
GPRA	Government Performance and Results Act
MCL	Maximum Contaminant Level
MSC	Medium Specific Concentration
PADEP	Pennsylvania Department of Environmental Protection
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the PECO Energy Company-Penrose Avenue Facility (PECO) located in Philadelphia, Pennsylvania (hereinafter referred to as the Facility or Site). EPA's proposed remedy for the Facility consists of compliance with and maintenance of land-use and groundwater use restrictions to be implemented through institutional controls. This SB highlights key information relied upon by EPA in proposing its remedy for the Facility.

The Facility is subject to EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. (Corrective Action Program). The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and hazardous constituents that have occurred at their property. The Commonwealth of Pennsylvania (Commonwealth) is not authorized for the Corrective Action Program under Section 3006 of RCRA. Therefore, EPA retains primary authority in the Commonwealth for the Corrective Action Program.

EPA is providing a thirty (30) day public comment period on this SB. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended.

Information on the Corrective Action program as well as a fact sheet for the Facility can be found by navigating https://www.epa.gov/hwcorrectiveactionsites/contact-information-corrective-action-hazardous-waste-clean-ups-delaware.

The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section 8, Public Participation, below, for information on how you may review the AR.

Section 2: Facility Background

2.1 Introduction

The PECO Energy-Penrose Ave. Facility is a 7.8-acre property at Penrose and Lanier Aves in the City of Philadelphia. The area is heavily industrialized and is dominated by refinery and oil handling operations. The Site is bound by a service road to the west, railroad tracks to the south, Penrose Avenue to the north, and Camden Iron to the east. Approximately 200 yards

south of the Site, opposite the railroad tracks, is the Schuylkill River. The Facility location map is included as Figure 1.

Between February 20, 1946 and March 25, 1975, a portion of the Penrose Ave. Site was operated by the Penn Central Railroad. On March 25, 1975 the Atlantic Richfield Company acquired this portion of the property. The Atlantic Richfield Company acquired the remainder of the property on February 12, 1976 from Gulf Corporation. At approximately the same time, PECO purchased the entire 7.8-acre property from the Atlantic Richfield Company. Ownership history prior to 1946 is unknown.

PECO originally purchased the property for future use. The Site was intended to be used for a PECO substation if future electrical demands in the area were to increase. Currently, PECO is using the Site are for a roadbed and excavation material sorting area.

In November 1989, PECO leased the property to Colonial Salvage and Scrap Company (Colonial) for use as a disposal/storage area for construction debris, demolition debris, scrap metal, roll-offs, and truck trailers. On May 5, 1990, USEPA conducted an inspection of a portion of the property in response to illegal dumping reported by the Philadelphia Fire Department. Actions and investigations subsequent to this inspection are discussed in further detail in the following section of this SB.

Section 3: Summary of Environmental Investigations

3.1 Environmental Investigations and Remediation

On May 5, 1990 USEPA was informed of the presence of drums stored in two roll-off containers in an unsecured lot along Penrose Avenue. The drums were originally found by the Philadelphia Fire Department and were noted to be in poor condition. Many were reportedly leaking. The approximately 50-60 drums were determined to contain waste solvents, waste paints, waste oils, and polychlorinated biphenyls (PCBs).

On May 11, 1990 USEPA issued an Administrative Order to PECO which required PECO to conduct certain removal actions at the Site. On January 31, 1992, upon satisfactory completion of the work required by the Administrative Order, EPA issued a memo considering the Penrose Ave. Site Administrative Order closed.

Soils

During the first stage of field work accomplished between May and September 1990, a total of 99 containers were restaged in a secure manner, sampled, analyzed, classified, and transported off-site for disposal. A 24-hour security guard was posted at the Site and the Site was enclosed with barricades for security. Of the 99 containers, 44 drums were classified as nonhazardous, 40 were hazardous, 2 were regulated for PCBs, and 13 were RCRA empty drums.

Samples of waste from the drums confirmed the presence of several hazardous substances including lead, PCBs, semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs) such as 1,1,1-trichloroethane, chloroform, 1,1-dichloroethane, and 1,1-dichloroethene.

Removal activities continued on August 9 and 10, 1990 when a total of 40 soil samples from 20 soil borings were collected. The shallow samples were collected between 0 and 0.5 feet and analyzed for Target Compound List (TCL) Metals, TCL Base Neutrals (BN), PCBs, and TCL Pesticides. The deeper samples were collected from depths below visible contamination. All deep samples were collected from within the first 5 feet due to auger refusal. The deeper samples were analyzed for TCL Volatiles. Ten samples that were identified as possibly being contaminated with a petroleum like substance were analyzed for Total Petroleum Hydrocarbons (TPH).

The investigation area was divided into three distinct areas. Area I was the former secure container storage area. A total of 24 soil samples from 12 borings were collected from this area. Area II was an area along the chain link fence previously used to stage containers. Five borings were installed in this area with a total of 10 samples were collected. Area III was the low-lying area. The remaining six samples were collected from 3 borings advanced beneath the former location of 3 empty 55-gallon containers.

Table 1 below provides the analytical results of the 40 soil samples described above. The reports submitted on the removal activities performed at this Site used the PADEP Act 2 Direct Contact Medium Specific Concentrations (MSCs) for Non-Residential Soil in a Used Aquifer to assess the environmental conditions. These MSCs are within EPA's Regional Screening Levels (RSLs) risk range of 10-4 and 10-6 and are appropriate to evaluate the effectiveness of the remedial actions.

Table 1

Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
Area I	0.0-0.5 feet	Aluminum	190,000	7,000 – 10,000
		Arsenic	53	8.4 – 14.0
		Barium	8,200	120 – 240
		Beryllium	320	0.210 – 0.750
		Cadmium	38	1.0 – 6.7
		Calcium		1,900 – 53,000
		Chromium	190	26 – **380**
		Copper	36,000	43 – 84
		Cobalt	22	9.2 – 11.0
		Iron	190,000	14,000 – 60,000
		Lead	450	110 – 310
		Magnesium		370 – 5,300
		Mercury	10	0.24 – 2.8

Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
		Nickel	650	18 – 33
		Potassium		890 – 2,000
		Selenium	26	Not Detected – **880**
		Sodium		200 – 410
		Vanadium	14,000	20 – 200
		Zinc	12,000	210 – 430
		Methylene Chloride	0.5	4.0 B – 100 B
		Acetone	1,000	Not Detected – 29 B
		1,1,1-Trichloroethane	20	Not Detected – 4.0 J
		Total Base Neutrals		15.34 – 109.33
	4.0-4.5 feet	TPHC		41 – 1,300

Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
Area II	0.0-0.5 feet	Aluminum	190,000	5,500 – 6,800
		Arsenic	53	6.3 – 9.8
		Barium	8,200	68 – 140
		Beryllium	320	0.24 – 0.8
		Cadmium	38	0.79 – 1.4
		Calcium		1,600 – 14,000
		Chromium	190	16 – 100
		Copper	36,000	39 – 51
		Cobalt	22	7.1 – 16.0
		Iron	190,000	11,000 – 20,000
		Lead	450	120 – 160
		Magnesium		1,300 – 3,800
		Mercury	10	0.12 – 0.51
		Nickel	650	16 – 20
		Potassium		520 –720
		Selenium	26	0.65 – 1.8
		Sodium		190 – 220
		Vanadium	14,000	13 – 59
		Zinc	12,000	160 – 250
		Methylene Chloride	0.5	2 B – 79 B
		Acetone	1,000	Not Detected – 14 B
		Total Base Neutrals		8.06 – 42.86
	4.0-4.5 feet	TPHC		Not Detected - 360
Area III	0.0-0.5 feet	Aluminum	190,000	3,100 – 3,700
		Arsenic	53	7.8 – 10.0
		Barium	8,200	57 – 120
		Beryllium	320	0.24 – 0.33
		Cadmium	38	Not Detected – 1.1

Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
		Calcium		1,000 – 1,300
		Chromium	190	16 – 31
		Copper	36,000	40 – 48
		Cobalt	22	3.7 – 4.9
		Iron	190,000	11,000 – 17,000
		Lead	450	160 – 200
		Magnesium		570 – 920
		Mercury	10	0.23 – 0.34
		Nickel	650	18 – 26
		Potassium		230 – 360
		Selenium	26	0.73 – 1.3
		Sodium		150 – 200
		Vanadium	14,000	13 – 28
		Zinc	12,000	160 – 160
		Methylene Chloride	0.5	16 B – 21 B
		Acetone	1,000	17 B – 25 B
		2-Butanone		Not Detected – 6 J
		Total Base Neutrals		15.34 – 109.33

B – Analyte was detected in laboratory blank.
J – Analyte detected below quantification limit. Reported value is estimated.
Bold – Exceedance of PADEP Act 2 MSCs for Non-Residential Soil in a Used Aquifer.

Also, during this time, a geophysical survey of the subsurface was performed, looking for buried metal materials and drums. Test pits were excavated and sampled in anomaly areas. Scrap metal material and empty drums were found. Sampling of the 16 test pits showed contaminants were below MSCs.

Risk Assessment

On October 8, 1991, PECO submitted an Assessment of Potential Risk for the Penrose Avenue Site. The Assessment identifies that the investigations resulted in removal of all drums and debris from the surface soils and the soil samples collected from the Site were biased as they were collected from the most heavily contaminated areas as evidenced by staining.

The contaminants of concern for the Site, as identified by the drum sampling and soil sampling, include VOCs and metals including chromium, cadmium, mercury, vanadium, zinc, and beryllium. Of these, only chromium and selenium are above MSCs, as seen on Table 1. These are relatively immobile contaminants which are unlikely to leave the Site. The future use of the Site was evaluated as an industrial property. The risk analysis concluded that the potential risks to possible receptors were within acceptable limits.

Groundwater

The 1991 Site Characterization and Remediation Project and the 1991 Assessment of

Potential Risk show the surface and subsurface soils at the Site contain chromium and selenium above MSCs. These contaminants are relatively immobile and unlikely to have reached groundwater or leave the Site due to groundwater flow.

As there are no groundwater wells on the Site to directly measure the groundwater quality beneath the Site. However, adjacent to the PECO Site, the Sunoco site is addressing its own groundwater plume with a system that includes a monitoring well network that nearly surrounds the PECO Site. The Sunoco system monitors groundwater that leaves the Sunoco site (and enters the PECO Site) as well as enters the Sunoco site (and leaves the PECO Site). Data from this monitoring system shows no contaminants above RSLs are crossing between the two facilities. Therefore, although there are no groundwater wells on the PECO Site, the environmental conditions entering and leaving the Facility have been well characterized and are under continued monitoring.

3.2 Environmental Indicators

Under the Government Performance and Results Act (GPRA), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each Facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility met both of these indicators on March 31, 2020.

Section 4: Corrective Action Objectives

EPA's Corrective Action Objectives for the specific environmental media at the Facility are the following:

1. Soils

EPA has determined that PADEP Act 2 Direct Contact Medium Specific Concentrations for Non-Residential Soil in a Used Aquifer are protective of human health and the environment provided that the Facility is not used for residential purposes. There are two contaminants in Facility soil, chromium and selenium, which are above their respective MSCs. A Risk Assessment determined that with the intended industrial usage of the property, the potential risks to possible receptors were within acceptable limits. Therefore, EPA's Corrective Action Objective for Facility soils is to control exposure to the hazardous constituents remaining in soils.

2. Groundwater

Although the groundwater in the area generally does not meet standards for potable use and there are no residential potable wells in the area, there are no municipal prohibitions to such wells. As such, EPA has determined that as there is a potentially future complete pathway to groundwater beneath the Facility. As such, EPA's Corrective

Action Objective for Facility groundwater is to control exposure to contaminants remaining in the groundwater above potable standards.

Section 5: Proposed Remedy

1. Soils

Because some contaminants remain in Facility soils at levels which exceed residential use, EPA's proposed decision requires the compliance with, and maintenance of, the following use restrictions:

A. The Facility shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes, unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the Facility provides prior written approval from EPA for such use.

B. In addition, the Facility shall provide EPA with a coordinate survey as well as a metes and bounds survey, of the Facility boundaries. Mapping the extent of the land use restrictions will allow for presentation in a publicly accessible mapping program such as Google Earth or Google Maps.

2. Groundwater

As there is no direct analysis of Facility groundwater to confirm it meets potable standards, EPA's proposed decision requires the compliance with, and maintenance of, the following use restriction:

A. The Facility shall be restricted to non-potable and non-agricultural uses of groundwater, unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and the Facility provides prior written approval from EPA for such use.

Section 6: Evaluation of Proposed Remedy

This section provides a description of the criteria EPA used to evaluate the proposed remedy consistent with EPA guidance. The criteria are applied in two phases. In the first phase, EPA evaluates three decision threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	EPA's proposed remedy for the Facility protects human health and the environment by eliminating, reducing, or controlling potential unacceptable risk through the implementation and maintenance of use restrictions. Under EPA's proposed remedy, there would be no risk associated with the soil or groundwater as long as the Facility property use remains industrial and the groundwater is not used. Soil sampling showed no exceedances of direct contact industrial screening levels. Therefore, EPA is proposing to restrict land use to commercial or industrial purposes at the Facility and restrict groundwater to non-potable uses.
2) Achieve media cleanup objectives	EPA's proposed remedy meets the media cleanup objectives. The cleanup objective for soils is to contain the hazardous constituents that remain in place and control exposure to those wastes in an industrial land use scenario. The proposed remedy meets this objective through the implementation and maintenance of land use restrictions. The cleanup objective for groundwater is to prevent access to potable uses of groundwater. The proposed remedy meets this objective through the implementation and maintenance of groundwater-use restrictions.
3) Remediating the Source of Releases	In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment and the Facility met this objective. The source of contaminants has been removed from the soil at the Facility, thereby, eliminating, to the extent practicable, further releases of hazardous constituents from on-site soils.

Section 6: Evaluation of Proposed Remedy (continued)

Balancing Criteria	Evaluation
4) Long-term effectiveness	The Facility remains an industrial site and which is expected to remain non-residential. Therefore, the proposed long-term effectiveness of the remedy for the Facility will be maintained by the implementation of use restrictions.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The reduction of toxicity, mobility and volume of hazardous constituents will continue by restricting land uses at the Facility.
6) Short-term effectiveness	EPA's proposed remedy does not involve any activities, such as construction or excavation that would pose short-term risks to workers, residents, and the environment. EPA anticipates that the land use restrictions will be fully implemented shortly after the issuance of the Final Decision and Response to Comments.
7) Implementability	EPA's proposed remedy is readily implementable. EPA proposes to implement the use restrictions through an enforceable mechanism such as an Environmental Covenant, permit or order.
8) Cost	EPA's proposed remedy is cost effective. The costs associated with this proposed remedy have already been incurred and the remaining costs are minimal.
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision and Response to Comments.
10) State/Support Agency Acceptance	PADEP has reviewed and concurred with the proposed remedy for the Facility.

Section 7: Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. Given that EPA's proposed remedy does not require any further engineering actions to remediate soil, groundwater or indoor air contamination at this time and given that the costs of implementing institutional controls at the Facility will be minimal EPA is proposing that no financial assurance be required.

Section 8: Public Participation

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, or electronic mail to Linda Matyskiela at the contact information listed below.

A public meeting will be held upon request. Requests for a public meeting should be submitted to Linda Matyskiela in writing at the contact information listed below. A meeting will not be scheduled unless one is requested.

The Administrative Record contains all the information considered by EPA for the proposed remedy at this Facility. The Administrative Record is available at the following location:

U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Linda Matyskiela (3LD20)
Phone: (215) 814-3420
Fax: (215) 814-3113
Email: Matyskiela.Linda@epa.gov

Attachments:
Attachment A: Index to Administrative Record
Figure 1: Map of Facility

Date: _____ _____

John A. Armstead, Director
Land, Chemicals, and Redevelopment Division
US EPA, Region III

Attachment A: Index to Administrative Record

November 5, 1990 Philadelphia Electric Company Phase I Unknown Drum Disposal and Site Characterization Report

February 25, 1991 Federal On-Scene Coordinator's Report for Penrose Avenue Drum Site

April 22, 1991 Philadelphia Electric Company Phase II Report Site Characterization and Remediation Project

October 8, 1991 Assessment of Potential Risk for the Penrose Avenue Site

January 31, 1992 USEPA Memo regarding Close-out of Penrose Avenue Site UAO

October 2003 Final Environmental Indicator Inspection Report for PECO Energy Co. Penrose Ave. Site
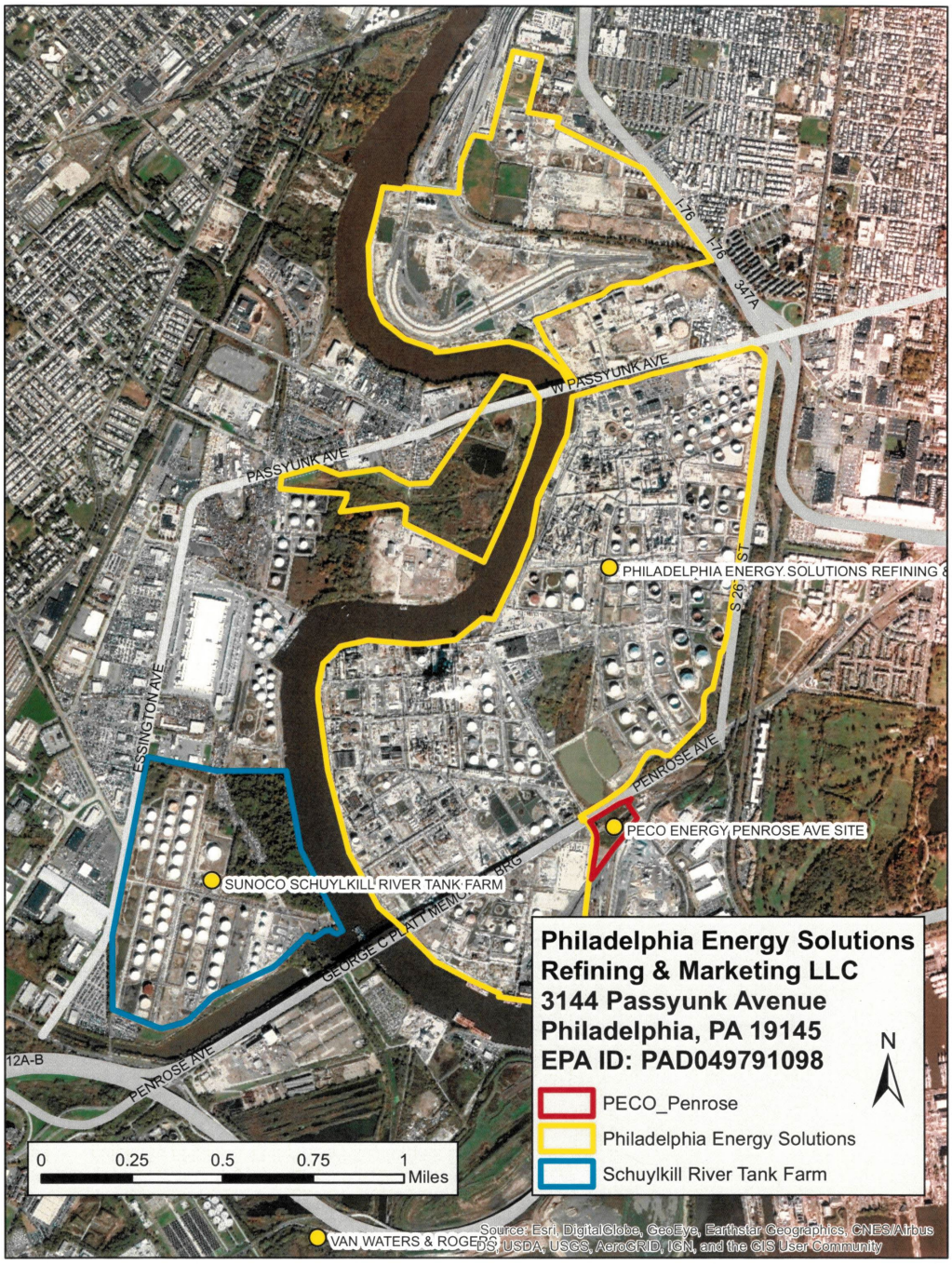
Figure 1: Map of Facility