



SDMS DocID

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**EXPLANATION OF SIGNIFICANT DIFFERENCES
SAFETY LIGHT CORPORATION SUPERFUND SITE
OPERABLE UNIT 3
BLOOMSBURG, PENNSYLVANIA**

I. INTRODUCTION AND STATEMENT OF PURPOSE

Site Name: Safety Light Corporation
EPA ID Number: PAD987295276

Site Location: Bloomsburg, Columbia County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency
Region III

Support Agency: Pennsylvania Department of Environmental Protection

The United States Environmental Protection Agency (EPA) selected an early-interim remedy for the Safety Light Corporation (SLC) Superfund Site (Site), Operable Unit (OU) 3, as set forth in an Early-Interim Record of Decision (ROD) issued June 30, 2016 (2016 Early-Interim ROD), hereinafter, "the Selected Remedy."

EPA is issuing this Explanation of Significant Differences (ESD) in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. § 9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.435(c)(2)(i), to document changes to the Selected Remedy and to demonstrate that the revised Selected Remedy complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. The NCP requires publication of an ESD when the differences in a remedial action significantly change but do not fundamentally alter the basic features of the remedy with respect to scope, performance or cost.

This ESD modifies the Selected Remedy by including additional areas for excavation of radionuclide-contaminated soils/debris, which include radioactive discrete objects in the 100-year floodplain and within and immediately adjacent to the abandoned canal on the Site. The basis for this modification is set forth in Section III of this ESD, Description of Significant Differences and the Basis for those Differences.

This ESD is incorporated into the Administrative Record for the Site, in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2), and is available for review as described below in Section IV, Community Involvement.

II. SUMMARY OF THE SITE HISTORY, CONDITIONS AND SELECTED REMEDY

Site History

The Safety Light Corporation (SLC) Superfund Site (Site) is located at 4150-A Old Berwick Road, South Centre Township, Columbia County, Pennsylvania, approximately six miles east of Bloomsburg and six miles west of Berwick. The Site is approximately ten acres and formerly contained numerous radioactively-contaminated buildings/structures, which have been demolished and removed. Other contaminated areas, including lagoons, dumps, and an abandoned canal currently remain on-Site. Most of the Site is currently enclosed by fencing.

The Site was most recently operated by SLC, which ceased manufacturing operations in approximately December 2007. When operating, SLC made lighting products with radioactive material (tritium) as the energy source under two licenses formerly administered by the Nuclear Regulatory Commission (NRC), now administered by the Pennsylvania Department of Environmental Protection (PADEP). The licenses, which expired on December 31, 2007, were License Number 37-00030-02 for the characterization and cleanup of contaminated facilities, equipment, and land from past activities, and License Number 37-00030-08 for the use of byproduct material to make exit signs. Tritium (H-3) was used by SLC in the production of luminous signs and dials, paints, gas chromatograph foils, and accelerator targets. SLC also held a license administered by PADEP (License Number PA-0166) for the radium contamination at the Site and for sealed calibration and/or reference radium sources up to 10 millicuries. This license expired on March 31, 2008.

Historic activities at the Site varied over time and involved the use of a number of different radionuclides. The Site had also been used for metal finishing and plating. Site operations involved a variety of radionuclides, chemicals, fuel oil, solvents, and heavy metals.

During Site operations, an unused canal adjacent to the Susquehanna River was divided into a series of lagoons and dump sites. The canal was used for the disposal of sewage, liquid waste (including silver plating wastes and anodizing solutions), low-level radioactive waste, radium-226 contaminated ductwork, radionuclide-contaminated debris (such as radium dials and possibly strontium deck markers). Wastes generated at the Site included solid and liquid waste streams contaminated with radioactive materials, including radium-226, strontium-90, cesium-137, and tritium. These waste materials were disposed of in multiple areas of the Site throughout the years.

The Site was proposed for the NPL on September 23, 2004, and listed as final on the NPL on April 27, 2005, making it eligible for long-term cleanup under the Superfund program.

EPA has issued several Removal Action Memoranda for the Safety Light Site. These Action Memoranda are included in the Administrative Record for the Site. Further detailed information

regarding the various EPA Removal Actions undertaken at the Site may also be found at www.epaossc.org/safetylight.

EPA organized the work at the Site into three operable units (OUs):

- Operable Unit One (OU-1): Safety Light Buildings and Structures
- Operable Unit Two (OU-2): Ground Water
- Operable Unit Three (OU-3): Soils, Sediments, and Surface Water

The OU-1 Remedial Action is complete and documented in the “*Final Remedial Action Completion Report; Operable Unit-1*,” dated September 2015, and issued by EPA on November 23, 2015. The OU-2 Remedial Investigation/Feasibility Study (RI/FS) is being performed by EPA. A final response action for OU-2 will be determined by EPA when the RI/FS is complete. The OU-3 RI/FS is currently ongoing and will require additional data evaluation and field activities prior to finalizing the OU-3 RI/FS Report. However, sufficient information had been evaluated to support a Selected Remedy in an Early-Interim ROD for the West Dump, West Lagoon, East Dump, and East Lagoon areas of OU-3 to mitigate potential threats to human health and the environment. The remainder of OU-3 will be addressed by future response actions when the OU-3 RI/FS is complete. The final remedy will be documented in a final ROD for OU-3.

Site Conditions OU-3

Radiation surveys performed with on-Site instrumentation and off-Site laboratory analysis of samples indicate that the Site is contaminated with numerous hazardous substances listed at 40 C.F.R. §302.4, primarily radionuclides such as cesium-137, strontium-90, radium-226, lead-210, tritium, and non-radionuclides such as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), arsenic, cadmium, and chromium, among others. The Site soils contaminated with significant concentrations of radionuclides are considered principal threat wastes (PTW).¹ In addition to non-radionuclide and radionuclide-contaminated soils, items buried on-Site include radioactively-contaminated duct work and other contaminated items that had either been returned to the Site by their customers or were manufactured at the Site. Extremely high-activity radiologically-contaminated items (up to 27,000 disintegrations per minute (dpm) transferable alpha contamination) have been discovered buried within several inches of the ground surface of the flood prone lagoons/dumps during past removal actions.

¹ Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. They include liquids and other highly mobile materials or materials having high concentrations of toxic compounds. No “threshold” level of toxicity/risk has been established to equate to “principal threat.” However, where toxicity and mobility of source material combine to pose a potential risk of 1E-03 or greater, generally treatment alternatives should be evaluated (*A Guide to Principal Threat and Low Level Threat Wastes*, OSWER 9380.3-06FS).

The Site is located on a terrace and floodplain on the north bank of the Susquehanna River. High-activity radiologically-contaminated sources found on or near the ground surface at the Site pose a long-term threat of release of hazardous substances if these items are uncovered by environmental conditions, including but not limited to flooding. The Site has experienced flooding in the past above the 100-year floodplain, during which several radioactively-contaminated buildings, prior to demolition under OU-1, were flooded. Following Tropical Storm Lee in 2011, EPA determined that contamination had migrated from the West Dump to an adjoining residential property (prompting a Removal Action in the West Dump) and that further flooding could release additional hazardous substances, primarily the above-described radionuclides, into the environment. The assessment of the Site, including the lagoons and dumps, identified items such as gamma and beta sources, radium painted dials and other miscellaneous manufacturing waste materials, within a few inches of the current surface. The West Dump, West Lagoon, East Dump, and East Lagoon contain high levels of soil contamination. Soils and radioactive discrete objects may become mobile in flood conditions and may cause unacceptable exposures to the public. Flooding may also cause the migration of non-radionuclide and radionuclide-contaminated soil from the lagoons and dumps to other areas of the Site and cause further impacts to Site soils.

Trespassing has been documented several times at the Site, and both residents and trespassers may become exposed to hazardous substances located at the Site if further action is not taken. Some of the highest levels of radionuclide soil contamination and concentration of radiological discrete objects/items are in the West Dump, West Lagoon, East Dump, and East Lagoon areas of the Site.

Selected Early-Interim Remedy for OU-3

EPA issued an Early-Interim ROD for OU-3 on June 30, 2016, to address contamination in the West Dump, West Lagoon, East Dump, and East Lagoon portions of the Site. The major components of the remedy selected by EPA in that ROD included the following:

1. Site Preparation - Mobilize and setup support facilities, remove vegetation, and establish soil erosion and sediment controls. Regularly inspect and maintain erosion and sediment controls during vegetation clearance, soil excavation and stockpiling, waste loading, backfilling, and regrading operations, until excavation and backfilling is complete and a gravel protective cover is established at the West Dump, West Lagoon, East Dump, and East Lagoon to minimize erosion.
2. Soil Excavation - Excavate all materials including soils/debris and radioactive discrete objects from the West Dump, West Lagoon, East Dump, and East Lagoon in the approximate area of concern depicted in Appendix C (Figures 4 to 7).² Continue vertical excavation until ground water or the native soil interface (the point at which fill material meets the native soil surface) is encountered, whichever occurs first, or to the maximum extent practicable based on Site or excavation conditions. Excavation depths are

² Appendix C of the "Early-Interim Record of Decision; Operable Unit Three; Safety Light Corporation Superfund Site; Bloomsburg, Pennsylvania" dated June 30, 2016.

expected to range from approximately 4 to 16 feet below ground surface (bgs). The total in-situ volume of material designated for removal is approximately 5,978 cubic yards.

3. Post-Excavation Sampling – Collect post-excavation samples from the floor and side walls of each excavation area, prior to backfilling and regrading, to determine and document the concentration of radionuclide and non-radionuclide soil contamination that may remain in-place. Conduct gamma walkovers of the excavated areas prior to backfilling to assess any remaining radiological activity.
4. Package all excavated material as radioactive waste and load into intermodal containers (IMCs) for shipment to disposal sites. Transfer excavated material by licensed vendors in accordance with transportation regulations to an off-Site facility as described in #5, below.
5. Waste Disposal - Dispose off-Site, at a Nuclear Regulatory Commission (NRC) licensed radioactive waste facility, and in accordance with Section 121(d)(3) of CERCLA, 42 U.S.C. § 121(d)(3), and Section 300.440 of the NCP, 40 C.F.R. §300.440, all materials excavated pursuant to item #2 above. Certain waste materials (including, but not limited to, dials and some discrete objects) may also exhibit chemical hazardous waste characteristics requiring treatment (e.g., stabilization) prior to permanent disposal. Such waste materials shall be sampled and analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) pursuant to the Resource Conservation and Recovery Act (RCRA) to determine if they exhibit hazardous waste characteristics. For those waste materials that fail TCLP, such treatment shall be performed at the off-Site licensed radioactive waste facility to render such materials non-hazardous prior to disposal at that licensed facility.
6. Site Restoration – Backfill excavated areas with clean material derived from an off-Site borrow source. Backfill material shall meet Pennsylvania Criteria for Management of Fill specifications for chemical constituents, as certified through laboratory analysis. Regrade excavated areas to approximate original contours, ensuring appropriate Site drainage. Install and place geotextile and a layer of gravel, with a minimum thickness of 12 inches, on disturbed surfaces of the West Dump, West Lagoon, East Dump, and East Lagoon as a protective cover to minimize erosion.

EPA entered into a Superfund State Contract with the Commonwealth of Pennsylvania on August 4, 2016. The OU-3 interim remedial action commenced on August 12, 2016, and is presently ongoing.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

The 2016 Early-Interim ROD required the excavation and off-Site disposal of non-radionuclide and radionuclide-contaminated soils/debris, including discrete objects, from the West Dump, West Lagoon, East Dump, and East Lagoon located within the abandoned canal and within the 100-year floodplain. This early-interim remedial action commenced in August 2016 and is presently ongoing at the Site.

A removal assessment was conducted in November 2016 which included an electromagnetic (EM) survey, gamma-walkover, test pit/boring installations, radiation survey, and soil sampling. Based on the assessment data, additional areas within the abandoned canal and/or 100-year floodplain with elevated levels of radioactivity and radionuclide-contaminated soils/debris were identified. A number of borings and test pits revealed the presence of elevated radioactivity in surface and subsurface soils, and laboratory analysis of soil samples revealed individual radionuclide soil concentrations above site-specific soil risk-based screening levels (RSLs) in the 2016 Early-Interim ROD.

This new assessment information was then compared to surface soil and soil boring analytical data collected within the canal and/or 100-year floodplain during the OU-3 remedial investigation (OU-3 RI) to determine if the elevated radionuclide concentrations detected during the assessment were co-located with the OU-3 RI soil sampling locations. In general, EPA determined that the highest levels of radionuclide contamination detected during the assessment were co-located with areas identified during the OU-3 RI. Therefore, EPA has determined that these additional areas within the abandoned canal and/or 100-year floodplain require excavation. The radionuclide soil contamination in these areas are subject to the same migration potential as described in the 2016 Early-Interim ROD for the West Dump, West Lagoon, East Dump, and East Lagoon located within the same abandoned canal and 100-year floodplain. Soils and radioactive discrete objects may become mobile in flood conditions and may cause unacceptable exposures to the public. Flooding may also cause the migration of non-radionuclide and radionuclide-contaminated soil from these areas of the Site and cause further impacts to Site soils.

Trespassing has been documented several times at the Site, and both residents and trespassers may become exposed to hazardous substances located at the Site if further action is not taken. Some of the highest levels of radionuclide soil contamination and concentration of radiological discrete objects are located in the abandoned canal and 100-year floodplain areas of the Site.

Soil analytical results for the removal assessment may be found in the "*Southern Site Assessment Completion Report; Safety Light Corporation Site*" dated June 2017. Complete analytical results for soil sampling conducted during the OU-3 RI may be found in the "*Revised Draft Remedial Investigation Report; Safety Light Corporation; Operable Unit 3; Soils, Surface Water, and Sediment*" dated June 2014. Both documents are located in the Administrative Record.

In order to prioritize the additional areas for excavation, test pit/boring locations that had one or more soil samples that exceeded a 1E-03 cancer risk (e.g., PTW wastes) for radionuclides and lie within the abandoned canal and/or 100-year floodplain were identified. Analytical and radioactivity survey results for the removal assessment and OU-3 RI locations that exceeded a 1E-03 cancer risk for at least one radionuclide are presented in Table 1 and Table 2, respectively. Figure 1 shows those test pit/boring locations that exceeded a 1E-03 cancer risk for at least one radionuclide. Therefore, EPA has determined to excavate the areas surrounding each additional test pit/ boring location identified in Tables 1 and 2, as depicted in Figure 1. The areas surrounding boring locations SU16-2, SU16-9/SU16-9A, and B05 in Figure 1 have already been excavated under the current scope of the 2016 Early-Interim ROD and do not require additional

excavation. The total estimated volume of radionuclide-contaminated soil/debris requiring additional excavation is approximately 998 cubic yards. Excavation and off-site disposal of this additional radionuclide-contaminated soil/debris is not expected to exceed the original Early-Interim ROD estimated capital cost of \$9,068,000.

These additional areas for excavation will be remediated in accordance with the performance standards set forth in the 2016 Early-Interim ROD, which remains protective and continues to meet ARARs in accordance with 40 C.F.R. § 300.430(f)(1)(ii)(B)(1) and (2). This modification to the 2016 OU-3 Selected Remedy does not fundamentally alter the basic features of the 2016 OU-3 Selected Remedy with respect to scope, performance, and cost.

A final cleanup remedy for OU-3 will be addressed in a future response action when the OU-3 remedial investigation/feasibility study (RI/FS) is completed. The final remedy for OU-3, including the floodplain areas, will be documented in a Final ROD for OU-3.

IV. COMMUNITY INVOLVEMENT

This ESD and the information upon which it is based will become part of the Administrative Record in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2). A public notice will be published in the *Press Enterprise* in August 2017, to announce the availability of this ESD for review in the Administrative Record for the Site in accordance with Section 300.435(c)(2)(i) of the NCP, 40 C.F.R. § 300.435(c)(2)(i). The Administrative Record includes the documents that formed the basis for EPA's decision. The Administrative Record is available for public review on the internet at: <https://semspub.epa.gov/src/search> and at the following locations:

Bloomsburg Area Public Library
225 Market Street
Bloomsburg, PA 17815
(570) 784-0883

U.S. EPA Region III
6th Floor Docket Room
1650 Arch Street
Philadelphia, PA 19103
(215) 814-3157

Questions concerning EPA's action and requests to review the Administrative Record should be directed to:

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SUPPORT AGENCY REVIEW

In accordance with Section 300.435(c)(2) of the NCP, 40 C.F.R. § 300.435(c)(2), EPA has notified PADEP of the modifications to the Selected Remedy described in this ESD. PADEP

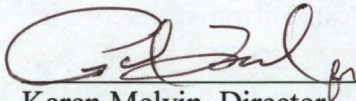
supports the modifications to the cleanup as set forth herein as documented in PADEP's letter to EPA dated June 12, 2017 (included with this ESD as Attachment 3).

VI. AFFIRMATION OF STATUTORY DETERMINATION

Considering the changes that have been made to the Selected Remedy under this ESD, EPA believes that the Selected Remedy for the Site, as modified, satisfies the CERCLA Section 121 requirements: 1) to be protective of human health and the environment; 2) to comply with Federal and more stringent State applicable or relevant and appropriate requirements (ARARs); 3) to be cost effective; and 4) to utilize permanent solutions or alternate treatment technologies or resource recovery technologies to the maximum extent practicable.

VII. SIGNATURE

This ESD modifies the Selected Remedy, as set forth in the 2016 Early-Interim ROD, to include additional areas for excavation of radionuclide-contaminated soils/debris which include radioactive discrete objects in the 100-year floodplain and within and immediately adjacent to the abandoned canal on the Site. The performance standards and ARARs in the 2016 Early-Interim ROD are not modified by this ESD.



Karen Melvin, Director
Hazardous Site Cleanup Division

AUG 24 2017

Date

ATTACHMENT 1

FIGURES

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Legend

- Property Boundary
- Fence
- Road
- Location of Historical Canal
- Geoprobe Locations
- ▲ Test Pit Locations

- RI Boring
- Canal Locations
- RI Boring Locations

Imagery - ESRI, Bing Mapping Service, 2013
Note: All buildings previously removed.

Coordinate System:
WGS84 UTM Zone 18N Feet

0 200
Feet

Safety Light Corporation Site
South Centre Township
Columbia County, Pennsylvania

Figure 1
Geoprobe and Test Pit
Locations

TDD#: W501-15-07-009
Contract: EP-53-15-02
Modified: 5/10/2017



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ATTACHMENT 2

TABLES

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TABLE 1 (CONTINUED)
TEST PIT/BORING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		TP-12			TP-14		TP-HS01		TP-HS02	
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	2.5'- 3.0'	4.5'- 5.0'	0.0'- 0.5'	5.5'- 6.0'	0.0'- 0.5'	2.5'- 3.0'	0.0'- 0.5'	2.0'- 2.5'
Strontium (total) ⁽³⁾	0.066	66.0	ND	0.708	ND	3.28	97.7	ND	13.2	23.0	7.39
Americium - 241	0.049	49.0	ND	0.581	ND	ND	ND	ND	ND	19.0 R	ND
Cesium - 137	0.047	47.0	0.211	254.0	3.44	ND	ND	381.0	50.7	10.3	7.36
Lead - 210	0.0077	7.7	2.51	297.0	40.3	0.568	ND	20.5	6.24	8230.0	814.0
Radium - 226	0.0064	6.4	1.05	280.0	20.0	0.830 U	0.707 J	39.5	8.10	10300.0	580.0
Thallium - 204	2.1	2100	ND	ND	ND	ND	ND	ND	ND	213 U	ND
Activity			350 µR/hr			9-10 µR/hr @ ground surface		210 µR/hr @ ground surface		5.9 mR/hr @ ground surface	
Comments			Corrugated metal pipe @ 2' bgs; gray and black fine-grained material below pipe					Silty soils; activity 150-200 µR/hr from ground surface to 3.0' bgs		Slag, trash, rusted metal, ash-like material to > 3.0' bgs. Activity 3- 5mR/hr consistently in test pit	

TABLE 1
TEST PIT/BORING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		TP-4			TP-8		TP-9		TP-10		TP-11 ⁽²⁾
	1E-06 ⁽¹⁾	1E-03	0.0'-0.5'	3.0'-3.5'	4.5'-5.0'	0.0'-0.5'	4.5'-5.0'	0.0'-0.5'	5.0'-5.5'	0.0'-0.5'	5.5'-6.0'	
Strontium (total) ⁽³⁾	0.066	66.0	3.38	17.3	8.33	1.56	2.04	0.740 J	1.45 J	1.16 J	4.03	1.1 J
Americium - 241	0.049	49.0	0.119 J	2.80	ND	ND	ND	ND	ND	ND	ND	ND
Cesium - 137	0.047	47.0	2.80	3.75 U	103.0	0.770	186.0	1.52	546.0	2.97	1750.0	44.8⁽²⁾
Lead - 210	0.0077	7.7	2.52	5200.0	124.0	1.21	5.29	0.969 J	9.5	1.16	27.9	1.82
Radium - 226	0.0064	6.4	2.29	8330.0	124.0	1.32	8.08	1.13	11.9	1.24	37.4	3.38
Thallium - 204	2.1	2100	ND	207.0	ND	ND	ND	ND	ND	ND	0.400	ND
Activity			3.2 mR/hr			20-70 µR/hr		180 µR/hr		500 µR/hr		50 µR/hr
Comments			Crushed metal @ 3.5-4.0' bgs: other trash, debris encountered			White-gray ashy material @ 2-5' bgs		Possible crushed drum @ 5.5-6.0' bgs		Crushed drum @ 5.5-6.0' bgs		Mound of soil reported from Vance Walton Property

TABLE 1 (CONTINUED)
TEST PIT/BORING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		B03	B04	B05	
	1E-06 ⁽¹⁾	1E-03	10'-15'	5'-20'	0'-5'	5'-10'
Strontium (total) ⁽³⁾	0.066	66.0	4770.0	1610.0	7.29	31.2
Americium - 241	0.049	49.0	ND	ND	1.17	0.0513
Cesium - 137	0.047	47.0	1.54	457.0	8.62	1.26
Lead - 210	0.0077	7.7	11.1	33.1	14.7	3.01
Radium - 226	0.0064	6.4	0.815 J	9.13	25.1	5.33
Thallium - 204	2.1	2100	ND	ND	ND	ND
Activity			14 cpm α 28,137 cpm β	53 cpm α 25,658 cpm β	19 cpm α 1,761 cpm β	
Comments			Silo Area	Silo Area	Boring immediately east of East Lagoon	

Results in picocuries per gram (pCi/g)

Results in bold exceed 1E-03 increased carcinogenic risk

2.5'-3.0' – Depth of sample below ground surface

ND – not detected

(1) Appendix D Table D-2 of the June 30, 2016 Early-Interim Record of Decision

(2) The cesium-137 value does not exceed the respective 1E-03 cancer risk concentration. TP-11 has been identified for excavation because it is a soil mound with a potential erosion risk and co-located with TP-8, TP-9, and TP-10

(3) Cancer risk values are for strontium-90. Concentration values are for total strontium. Based on historical site knowledge and past Site manufacturing processes, total strontium concentration values are indicative of strontium-90

U- The analyte was analyzed for, but not detected above the level of the reported quantitation limit

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte/isomer in the sample

R – The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control (QC) criteria. The analyte may or may not be present in the sample.

TABLE 2
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU16-2			SU16-9/SU16-9A			
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.5'	10.0'- 12.0'	0.0'- 0.5'	0.5'- 2.0'	10.0'- 12.0'	18.0'- 20.0'
Strontium -90	0.066	66.0	0.098 J	2.88 J	0.039 J	1.60 J	0.397 J	7.42 J	0.198 J
Americium – 241	0.049	49.0	0.069 J	0.49 UJ	0.246 UJ	4.34 J	0.224 UJ	0.659 UJ	0.041 UJ
Cesium – 137	0.047	47.0	1.97 J	0.186 UJ	0.140 J	7.46 J	34.3 J	0.132 J	0.018 J
Lead – 210	0.0077	7.7	0.389 J	2.21 J	1.31 J	39.2 J⁽²⁾	3.38 J	0.497 J	0.486 J
Radium – 226	0.0064	6.4	10.9 J	87.9 J	37.1 J	29.9 J	83.7 J	0.776 J	1.17 J
Thallium – 204	2.1	2100	4.5 J	6.0 J	3.0 J	8.5 J	25.8 J	1.8 R	0.4 J
Activity			38,500 cpm @ ground surface 81 µR/hr @ ground surface			34,132 cpm @ ground surface 9 µR/hr @ ground surface			
Comments			Canal			Co-located samples in canal- maximum concentration selected			

TABLE 2 (CONTINUED)
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU16-18				SU16-20		
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.0'	3.0'- 5.0'	10.0'- 12.0'	0.0'- 0.5'	0.5'- 2.0'	6.0'- 8.0'
Strontium -90	0.066	66.0	3.04 J	1.11 J	23.4 J	38.5 J	0.141 J	0.129 R	3.10 J
Americium - 241	0.049	49.0	0.948 J	2.14 J	1.55 UJ	3.06 UJ	0.431 UJ	0.176 UR	2.82 UJ
Cesium - 137	0.047	47.0	25.8 J	53.6 J⁽²⁾	2086 J⁽²⁾	1748 J⁽²⁾	3.79 J	0.379 R	405.0 J⁽²⁾
Lead - 210	0.0077	7.7	4.64 J	14.0 J⁽²⁾	16.2 J⁽²⁾	14.9 J⁽²⁾	1.33 J	0.666 R	16.9 J⁽²⁾
Radium - 226	0.0064	6.4	1.79 J	18.2 J	27.5 J	20.5 J	0.621 J	0.384 R	22.7 J
Thallium - 204	2.1	2100	9.7 J	32.2 J	409.5 ⁽²⁾	197 J ⁽²⁾	2.2 J	0.8 R	235 J
Activity			39,391 cpm @ ground surface 51µR/hr @ ground surface				8.682 cpm @ ground surface 13µR/hr @ ground surface		
Comments			Canal				Canal		

TABLE 2 (CONTINUED)
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU16-22		
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.0'	10.0'- 12.0'
Strontium -90	0.066	66.0	0.232 J	0.267 J	0.063 R
Americium - 241	0.049	49.0	1.02 UJ	0.23 UJ	0.086 UR
Cesium – 137	0.047	47.0	108 J⁽²⁾	49.0 J⁽²⁾	0.145 R
Lead - 210	0.0077	7.7	3.12 J	2.33 J	0.409 R
Radium - 226	0.0064	6.4	9.48 J	2.30 J	0.289 R
Thallium - 204	2.1	2100	51.7 J	8.4 J	1.0 R
Activity			46,093 cpm @ ground surface		
			41µR/hr @ ground surface		
Comments			Canal		

TABLE 2 (CONTINUED)
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU17-4			SU17-5		
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.0'	6.0'- 8.0'	0.0'- 0.5'	0.5'- 2.0'	6.0'- 8.0'
Strontium -90	0.066	66.0	0.837 J	3.35 J	1.30 J	5.77 J	4.79 J	15.9 J
Americium - 241	0.049	49.0	0.733 UJ	0.243 J	1.01 UJ	0.298 J	2.80 J	0.648 UJ
Cesium - 137	0.047	47.0	0.168 J	2.78 J	0.07 UJ	0.227 UJ	4.94 J	0.063 J
Lead - 210	0.0077	7.7	1.10 J	1.11 J	0.469 J	1.52 J	10.0 J⁽²⁾	0.557 J
Radium - 226	0.0064	6.4	0.983 J	41.4 J	0.539 J	1.06 J	10.0 J	1.58 J
Thallium - 204	2.1	2100	1.1 R	2.6 R	0.6 R	4.9 R	6.4 R	0.8 R
Activity			7,981 cpm @ ground surface 1 µR/hr @ ground surface			10,178 cpm @ ground surface 9 µR/hr @ ground surface		
Comments			Adjacent to canal			Adjacent to canal		

TABLE 2 (CONTINUED)
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU18-6				SU18-7			
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.0'	13'- 15'	14'-16'	0.0'- 0.5'	0.5'- 2.0'	3.0'- 4.0'	6.0'- 8.0'
Strontium -90	0.066	66.0	39.1 J	6.25 J	4.61 J	10.05 J	0.065 UJ	2.43 J	11.9 J	2.06 J
Americium - 241	0.049	49.0	0.643 UJ	0.771 UJ	2.1 UJ	0.219 UJ	0.085 J	1.08 UJ	0.256 UJ	0.643 UJ
Cesium - 137	0.047	47.0	8.11 J	49.0 J⁽²⁾	123 J⁽²⁾	41.0 J ⁽²⁾	0.506 J	86.9 J⁽²⁾	76.1 J⁽²⁾	2.02 J
Lead - 210	0.0077	7.7	1.87 J	6.18 J	35.0 J⁽²⁾	12.8 J⁽²⁾	2.73 J	51.8 J⁽²⁾	1.51 J	6.14 J
Radium - 226	0.0064	6.4	2.79 J	12.0 J	30.4 J	15.9 J	0.680 J	108 J	266 J	9.17 J
Thallium - 204	2.1	2100	4.3 J	20.1 J	32.0 J	17.2 J	0.3 UJ	22.8 J	38.5 J	2.9 J
Activity			35,264 cpm @ ground surface 37 µR/hr @ ground surface				50814 cpm @ ground surface 46 µR/hr @ ground surface			
Comments			Adjacent to canal				Adjacent to canal			

TABLE 2 (CONTINUED)
REMEDIAL INVESTIGATION SAMPLING LOCATIONS EXCEEDING 1E-03 RISK

Radionuclide	Cancer Risk		SU18-8			SU19-6		
	1E-06 ⁽¹⁾	1E-03	0.0'- 0.5'	0.5'- 2.0'	6.0'- 8.0'	0.0'- 0.5'	0.5'- 2.0'	5.5'-7.5'
Strontium -90	0.066	66.0	0.161 J	0.543 J	0.978 J	0.124 J	0.157 J	0.571 J
Americium - 241	0.049	49.0	0.78 UJ	0.159 UJ	0.613 UJ	0.494 UJ	0.627 UJ	0.148 UR
Cesium - 137	0.047	47.0	0.101 J	2.62 J	1.84 J	35.5 J	146 J⁽²⁾	0.291 R
Lead - 210	0.0077	7.7	1.13 J	2.20 J	1.83 J	1.84 J	2.43 J	0.170 R
Radium - 226	0.0064	6.4	0.905 J	8.33 J	2.31 J	0.896 J	3.83 J	0.480 R
Thallium - 204	2.1	2100	2.9 J	1.5 J	1.3 J	6.9 J	42.9 J	1.4 R
Activity			13,445 cpm @ ground surface 19 µR/hr @ ground surface			31,357 cpm @ ground surface 19 µR/hr @ ground surface		
Comments			Adjacent to canal			Adjacent to canal		

Results in picocuries per gram (pCi/g)

Results in bold exceed 1E-03 increased carcinogenic risk

2.5'-3.0' – Depth of sample below ground surface

ND – not detected

(1) Appendix D Table D-2 of the June 30, 2016 Early-Interim Record of Decision

(2) Decay corrected data

U- The analyte was analyzed for, but not detected above the level of the reported quantitation limit

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte/isomer in the sample

R – The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control (QC) criteria. The analyte may or may not be present in the sample.

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ATTACHMENT 3
PADEP CONCURRENCE



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

NORTHCENTRAL REGIONAL OFFICE

June 12, 2017

Ms. Karen Melvin, Director
Hazardous Sites Cleanup Division
United States Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Safety Light Superfund Site
Explanation of Significant Difference
Letter of Concurrence
South Centre Township
Columbia County, PA

Dear Ms. Melvin:

The Pennsylvania Department of Environmental Protection (Department) has reviewed the draft Explanation of Significant Differences (ESD) for the Safety Light Superfund Site (Site). The draft ESD was forwarded to the Department on June 5, 2017.

This ESD was prepared to provide the public with an explanation of proposed modifications to the components of the Early-Interim Record of Decision (ROD) remedy, to summarize the information that supports the modifications, and to affirm that the Selected Remedy, as revised by this ESD, complies with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR SUCH DIFFERENCES

The United States Environmental Protection Agency ("EPA") is issuing this proposed ESD to explain modifications to the remedy selected in EPA's Early-Interim ROD, dated June 30, 2016, for the Site. This ESD modifies the 2016 Early-Interim ROD to add additional areas for excavation of radionuclide-contaminated soils/debris, which include radioactive discrete objects in the 100-year floodplain and within and immediately adjacent to the abandoned canal on the Site. By adding these additional areas of excavation, this ESD changes, but does not fundamentally alter, the remedy selected in the 2016 Early-Interim ROD with respect to scope, performance, or cost. Therefore, a ROD Amendment is not necessary under the NCP.

The Department hereby concurs with the EPA's ESD with the following conditions:

The Department will be given the opportunity to concur with the decisions related to future Remedial Actions to assure compliance with the Department's cleanup ARARs and design specific ARARs.

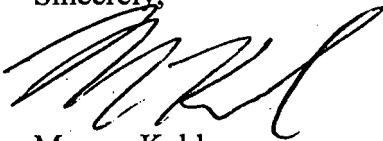
This concurrence with the selected remedial actions is not intended to provide any assurance pursuant to CERCLA Section 104(c)(3), 42 U.S.C. Section 9604(c)(3).

The Department reserves the rights and responsibilities to take independent enforcement actions pursuant to state and federal law.

This letter documents the Department's concurrence with EPA's draft ESD for the Safety Light Superfund Site.

Thank you for the opportunity to comment and concur on this EPA ESD. If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,



Marcus Kohl
Director
Northcentral Regional Office

cc: File (thru Sinclair)
Central Office (Ryan Kostival)
John Banks, EPA