COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Hazardous Sites Cleanup Program
Tub Mill Farms and Clearview Farms
Elk Lick Township, Somerset County
Southwest Region

ANALYSIS OF ALTERNATIVES AND PROPOSED RESPONSE

The purpose of this Analysis of Alternatives and Proposed Response document is to outline the decision-making process involved in the selection of the proposed response and to provide a description of the proposed response. This document will be included in the Administrative Record which will be compiled for this response pursuant to Section 506 of the Pennsylvania Hazardous Sites Cleanup Act (HSCA), Act of October 18, 1988, P.L. 756 No. 108, 35 P.S. Section 6020.506.

The Pennsylvania Department of Environmental Protection (DEP) is proposing to conduct a remedial response which includes the proper removal and disposal of, but not limited to, the utility poles and railroad ties. The response would include soil sampling to determine potential contamination on the Site.

I. SITE INFORMATION

A. Site Location and Description

Tub Mill Farms and Clearview Farms, here in identified as the 'Site', is located in Elk Lick Township, Somerset County, Pennsylvania. The Site is split between two tax parcels. The first parcel, Tub Mills Farms, is Tax Parcel ID No. S14-012-009-00, here in identified as 'Parcel A', located off of Spring Rd (State Route 669) and is 122 acres, with approximately 11 acres containing potentially hazardous material. The second parcel, Clearview Farms, is Tax Parcel ID No. S14-007-046-00, here in identified as 'Parcel B', located off Oak Dale Rd and is 390 acres, with approximately 10 acres containing the potentially hazardous material.

The Site is located 1-2 miles west of West Salisbury, PA. Parcel A is situated less than 0.5 miles south of the Tub Mill Run and northwest of the Casselman River. Parcel B is situated less than 0.5 miles south of the Tub Mill Run River and north of an unnamed tributary of Tub Mill Run River. Within Parcel A, there are 2 mine drainage basins adjacent to the pile of, but not limited to, utility poles. The Old Tub Mill Mine is located on Parcel A. Coal was mined from the Elk Lick, Barton, Harlem, and Lower Bakerstown coal seams. The mine appears to have ceased operations around 2010 based on historical images.

B. Site History

Several investigations have been performed by DEP's Waste Management Program (WM). Inspections conducted between 1995 to 2016 revealed continued violations of the PA Solid Waste Management Act and Clean Streams Law. The inspections noted that the Site was

processing, transferring, and disposing of, but not limited to, utility poles and railroad ties without a valid permit. An Administrative Order (AO) was issued on August 13, 2002, to address the violations. The AO required Tub Mill Farms to cease the acceptance and transportation of waste to the Site. Subsequent inspections by the DEP's Waste Management Program identified that the site was in violation of the AO with the acceptance of new utility poles transported to the Site. A Consent Order and Agreement (CO&A) was signed on October 27, 2014, to address the removal of all utility poles and railroad ties within 6 years. In October 2016, DEP's Bureau of Investigation (BOI) took samples of the utility poles, railroad ties, and soil on the site. Analyses, shown in Table 1 and Table 2 below, indicate that hazardous chemicals, as identified in 40 CFR, have leached into the soil. Multiple visits to the Site in 2022 confirmed that the utility poles and railroad ties are still present in violation of the CO&A. The Site remediation responsibility was transferred from WM to HSCA due to the determination that the remediation was outside the original responsible party's financial means. The DEP signed a Response Justification Document (RJD) on May 23, 2023, officially documenting that further response action is appropriate for the Site.

C. Threat of Release of Hazardous Substances

Utility poles and railroad ties are not considered hazardous waste, but leachate from the wood preservative treatment is. There are three main types of heavy-duty wood preservatives, chromated arsenicals, creosote, and pentachlorophenol, used for treating wood of utility poles and railroad ties. In 2008, the U.S. EPA risk assessment for registered pesticides of chromated arsenicals, creosote, and pentachlorophenol had human health risks, but could remain in use provided certain mitigation efforts were taken. In 2019, a draft risk assessment identified chromated arsenicals and creosote to pose an environmental risk. In 2022, the U.S. EPA issued a final registration review decision requiring the cancellation for pentachlorophenol's use due to the risks outweighing its benefits and proposed additional mitigation measures for chromated arsenicals and creosote.

Chromated arsenicals (CCA) are a pesticide which includes preservatives containing chromium, copper and arsenic. CCAs pose cancer and non-cancer health risks of concern to workers in wood treatment facilities. CCAs pose risks to aquatic invertebrates and plants. The U.S. EPA warns against reusing CCA treated wood and does not recommend burning any CCA treated wood to avoid inhalation of toxic chemicals. Arsenic has high acute toxicity via oral, dermal, and inhalation. Inorganic arsenic is known to be carcinogenic in humans by the oral and inhalation routes of exposure. Chromium VI has high acute toxicity via the oral, dermal, and inhalation route. Significant acute toxicity from chromium VI can cause death after ingestion. Chromium VI is a significant eye and skin irritant and can be a carcinogenic when inhaled. Under certain circumstances copper, arsenic, and/or chromium can leach from treated wood into the surrounding soil or water.

Creosote is used as a wood preservative made from the distillation of coal tar. Creosote poses cancer and non-cancer health risks of concern to workers in wood treatment facilities who apply the pesticide, but not for those who handle the wood after treatment. Creosote may pose risks to fish and invertebrates when creosote-treated wood is used in aquatic and railroad structures. The U.S. EPA warns against burning creosote treated wood to avoid inhalation of toxic chemicals.

Creosote has a moderate acute toxicity and moderate eye irritant. Creosote has been shown to exert positive mutagenic effects in vitro and is a B1 carcinogen. Creosote has a variable chemical composition, with over 100 different chemicals, and is applied with different viscosity levels, depending on use for railroad ties or utility poles. Creosote contains Polycyclic Aromatic Hydrocarbon (PAHs), most of which are non-soluble in water. Two PHAs, Benzo(a)pyrene and benzo(k)fluoranthene, show resistance to biodegradation. One study showed that due to the rapid depletion of oxygen under aerobic conditions, anaerobic biodegradation of PAHs can take place due to denitrifying, sulfate-reducing, and methanogenic bacteria.

Pentachlorophenol (PCP) is used as a wood preservative and pesticide. PCP poses cancer and non-cancer health risks of concern to workers in wood treatment facilities. Exposure (and therefore risk) to individuals living near PCP-treated utility poles is expected to be minimal. PCP is highly toxic to aquatic non-target organisms and honeybees, and slightly toxic to avian species, but has expected limited exposure. The U.S. EPA warns against burning creosote treated wood to avoid inhalation of toxic chemicals. The Risk Assessment & Science Support Branch/Antimicrobials Division Science Chapter for the Reregistration Eligibility Decision Document (RED) for Pentachlorophenol (1999) stated that the average leach rate varies between 1.76E-4 and 6.33E-3 mg pentachlorophenol/kg leachate/in^2 surface area/day. PCP tends to attach to organic sediment, binding more strongly in acidic soils while more mobile in neutral to basic soils. PCP can be transported to surface water and become a drinking water hazard. PCP is acutely toxic to moderately toxic to birds, moderately toxic to small mammals, and highly toxic to aquatic life with known bioaccumulation.

Hazardous substances, such as naphthalene have been identified within the soil, utility poles, and railroad ties posing potential contamination. Medium-Specific Concentrations (MSC) for arsenic have been identified above Statewide health standards. The current/or potential threats to human health or welfare is the direct contact of the contamination to persons entering the area where the material is being stored or from the inhalation of hazardous chemicals if the piles are burned. The current/or potential threat that could adversely affect the environment is contamination of the soil, groundwater, and surface water from the material leachate. The Site had a fire in November 2010, during which 4-acres of land, railroad ties, junk, and debris burned releasing hazardous chemicals into the air.

II. RESPONSE CATEGORY

DEP proposes an interim response at the Site to protect public health and the environment. DEP's response action is based upon the release of hazardous substances found at the Site. DEP has the authority to conduct an interim response action as defined in Section 103 of HSCA, 35 P.S. § 6020.103, to alleviate the threat to public health and safety caused by the leaching of and direct contact of hazardous material from the railroad ties and utility poles. The proposed response will cost less than $2M and take less than one year to implement.

III. CLEANUP STANDARDS

This proposed response is not a final remedial response pursuant to Section 504 of HSCA and therefore is not required to meet the cleanup standards which apply to final remedial responses. Additional response action may be required to achieve a complete and final cleanup for the site.

IV. APPLICABLE, OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law, that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a state Site. The "applicability" determination is a legal one and implies that the remedial action or the circumstances at the site satisfy all the jurisdictional prerequisites of a requirement.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a state site, address problems or situations sufficiently similar to those encountered and their use is well suited to the particular site.

The determination of relevant and appropriate relies on professional judgment. A requirement can be judged by comparing several factors, including the characteristics of the remedial action, the hazardous substances in question, or the physical circumstances of the site, with those addressed in the requirement. It is also helpful to look at the objective and origin of the requirement.

A requirement that is determined to be relevant and appropriate must be complied with to the same degree as if it were applicable. However, there is more discretion by DEP in this determination. It is possible for only part of a requirement to be considered relevant and appropriate, the rest being dismissed, if judged not to be relevant and appropriate in a given case.

Non-promulgated or non-regulatory documents (health advisories, guidance, proposed regulations), issued by the state or federal government, are not considered ARARs and are referred to as "to be considered" requirements or TBCs. TBCs are evaluated along with ARARs and are considered appropriate in the absence of a specific ARAR or where ARARs are not sufficiently protective in developing cleanup goals. A TBC identified for the action must be complied with to the same degree as if it were applicable.

The following standards, requirements, criteria, or limitations are legally applicable, or relevant and appropriate under the circumstances presented by the site.

- The Hazardous Sites Cleanup Act, Act of October 18, 1988, P.L. 756, No. 108, as amended, 35 P.S. §6020.101, *et seq.*

- The Solid Waste Management Act, Act of July 7, 1980, P.L. 380, No. 97, as amended, 35 P.S. § 6018.101 *et seq.*
    - Hazardous Waste Management Regulations, Article VII, Chapters 260a-270a, including incorporated parts of 40 CFR 260-270.

- The Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1995, P.L. 4, No. 1995-2, 35 P.S. § 6026.101, et seq. ("Act 2")
  - Section 303 of Act 2, 35 P.S. § 6026.303 outlines the establishment of Statewide health standards and medium specific concentrations (MSCs) for all mediums, including soil.
  - Regulations promulgated under Act 2, 25 Pa. Code Chapter 250 - Administration of Land Recycling Program.
    - Subchapter C. Statewide Health Standards - Title 25 Chapter 250.301.
    - Subchapter G. Demonstration of Attainment - Title 25 Chapter 250.701 and Postremediation Care Attainment 25 Pa. Code § 250.708.
    - Appendix A - Provides Medium Specific Concentrations of various contaminants.

- The Clean Streams Law, Act of June 22, 1937, P.L. 1987, No. 394, as amended, 35 P.S. §§691.1-691.1001.

V. ANALYSIS OF ALTERNATIVES

Alternative 1. No Action

This alternative consists of taking no action to remove the potentially hazardous material consisting of, but not limited to, utility poles and railroad ties from the Site.

Compliance with ARARs:

This Alternative does not comply with Section 501(a) of HSCA because the potentially hazardous material would remain on the site and the release of hazardous substances would continue to be a threat to human health and the environment.

Cost Effectiveness:

There is no cost associated with this Alternative.

Alternative 2. Removal and Proper Disposal

This alternative consists of removing the potentially hazardous material consisting of, but not limited to, utility poles and railroad ties, and contaminated soils from the Site. After removal of utility poles and railroad ties, soil from below where the material was sitting, at the minimum, will be sampled to identify the extent of any soil contamination. Removal of contaminated soil will be assessed based on residential statewide health standard values and feasibility for the removal to that standard.

Compliance with ARARs:

This alternative will comply with all the listed ARARs above, which includes, but is not limited to, addressing the threat of release of hazardous substances and the proper handling and disposal of all waste.

Cost Effectiveness:

The estimated cost for this alternative is less than two million dollars.

VI. PROPOSED RESPONSE

The proposed selected alternative is Alternative 2: Removal and Proper Disposal.

VII. DEP APPROVALS

FOR THE COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Eric A. Gustafson Digitally signed by Eric A. Gustafson
Date: 2024.07.30 13:57:23 -04'00'

Eric Gustafson, Regional Director _____ Date