COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS SITES CLEANUP PROGRAM
Newberry Township PFC Site
Newberry and Fairview Townships, York County, Pennsylvania

STATEMENT OF DECISION

The Commonwealth of Pennsylvania, Department of Environmental Protection (DEP) files this statement of decision in accordance with Section 506(e) of the Pennsylvania Hazardous Sites Cleanup Act, Act of October 18, 1988, P.L. 756 No. 108 (HSCA), Section 6020.506.

The selected response for the Newberry Township PFC Site (Site) will consist of a prompt-interim response to address the threat posed by exposure of residents and businesses to water-supplies contaminated with per- and polyfluoroalkyl substances (PFAS, previously PFC) above Pennsylvania's established maximum contaminant levels (MCLs). This action is taken to protect the public health, safety and welfare. The selected response may not be the final action taken at the Site.

I. SITE INFORMATION

A. Site Location and Description

The Site is located in northern Newberry Township and southern Fairview Township, York County, Pennsylvania. The Site is found on the USGS 7.5-minute topographic map for the Steelton, Pennsylvania, quadrangle. The Site is loosely bounded to the west by Fishing Creek, to the north by Big Spring Road and Valley Road to the east by the Susquehanna River and to the south by Fishing Creek. The approximate Site center is 40° 09' 25" north latitude and -76° 49' 59" west longitude. The Site includes a mix of residential, commercial, and light-industrial properties. Demand for drinking water is met through private wells, springs and public water; the latter via groundwater and surface-water withdraws.

At the present time, the source(s) of the PFAS contamination has not been identified. The total area encompassed by the groundwater and surface-water contamination has not been determined. The Pennsylvania Department of Environmental Protection (DEP) has sampled private, commercial, and public-supply wells, monitor wells, springs, streams, and ponds since 2019. The sampling has identified 13 residential/commercial and 2 public-supply wells/springs that exceed the current Pennsylvania MCLs of 14 and 18 nanograms per liter (ng/L) which is equivalent to parts per trillion (ppt) for Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS), respectively. The PFOA and PFOS concentrations in the residential/commercial wells/springs ranged from 0.47 to 37.8 and 0.50 to 101.6 ng/L, respectively. For public-supply wells, PFOA ranged from 2.4 to 12.0 and PFOS from 4.2 to 160 ng/L.

B. Site History

In 2018, a resident of Newberry Township tested his public-supplied water for PFAS. The impetus for this sampling was the presence of PFAS at Harrisburg International Airport. The

resident was concerned that PFAS may have contaminated the township's public-supply wells. Testing at a private laboratory indicated that the public-supplied water exceeded the Health Advisory Levels (HAL) of 70 ng/L which the U.S. Environmental Protection Agency (EPA) established for PFOA and PFOS in May 2016. This non-regulatory advisory was based upon then currently available health impacts of ingesting these two PFAS compounds. At the time the private resident collected the water samples, no MCL existed for any PFAS compound.

The results of the resident's sampling for PFAS were transmitted to Suez Water (Suez Water was bought out by Veolia in January 2022) and to DEP. On April 16, 2019, DEP and Suez Water sampled nine supply-wells and two Entry Points for the Suez Water distribution system. The samples were analyzed for six PFAS compounds. Two of the Suez Water supply wells contained water that exceeded the HAL.

In June 2019, Suez Water also began construction of treatment facilities that utilized activated charcoal at the wells most impacted by PFAS to reduce concentrations below the HAL. In August 2019, DEP began an investigation to evaluate the concentration and distribution of PFAS in surface water, and groundwater via private wells, monitor wells and springs in Newberry Township. In 2020, the same multi-tiered sampling effort continued and, based upon results, the study area expanded into Fairview Township. Multi-tiered sampling continued in 2021, 2022, and 2023. In 2022, sampling was extended to include the Fairview Township South Plant Waste Water Treatment Plant (WWTP) including effluent, influent, digester, biosolids and pumping stations.

The total area encompassed by the groundwater and surface-water contamination has not been determined at this time. It appears there is wide-spread contamination impacting much of the study area and there are probable multiple sources. Further investigation to determine the source or sources and extent of contamination is being conducted.

C. Threat of Release of Hazardous Substances

The compounds identified above are considered "contaminants" or "hazardous substances" as those terms are defined by Section 103 of HSCA, 35 § 6021.103, and Section 9601 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S. Code § 9601.

On January 14, 2023. the Pennsylvania Environmental Quality Board amended Chapter 109 (§ 109.202 amended under section 4 of the Pennsylvania Safe Drinking Water Act) by setting maximum contaminant level goals and MCLs for PFOA and PFOS of 14 and 18 ng/L, respectively. Exposure to concentrations of PFOA and PFOS above the MCL poses a threat to human health when ingested in water.

Statutory authority under section 4 of the Pennsylvania Safe Drinking Water Act (35 P.S. § 721.4), grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and section 1920-A of the Administrative Code of 1929 (71 P.S. § 510-20), authorizes the Board to promulgate rules and regulations necessary for the performance of the work of DEP.

PFAS represents a chemical family of more than 6,000 compounds that includes PFOA and PFOS and are considered emerging contaminants as they are potentially linked to a number of adverse health effects, including high cholesterol, developmental effects including low birth weight, liver toxicity, decreased immune response, thyroid disease, kidney disease, ulcerative colitis and certain cancers, including testicular cancer and kidney cancer.

PFAS are a large class of man-made synthetic chemicals created in the 1930s and 1940s for use in industrial and manufacturing applications. PFAS have been widely used for their unique properties that make products repel water, grease and stains, reduce friction and resist heat. PFAS are found in industrial and consumer products such as clothing, carpeting, upholstery, food packaging, non-stick cookware, fire-fighting foams, personal care products, paints, adhesives, metal plating, wire manufacturing and many other uses. Because of their unique chemical structure, PFAS readily dissolves in water, are mobile, highly persistent in the environment and bioaccumulate in living organisms over time.

II. RESPONSE CATEGORY

DEP proposes a prompt-interim response at this Site to protect public health and safety. This determination is based upon the following conditions which exist at the Site: (1) The continued release and/or presence of PFOA and/or PFOS in the groundwater and (2) The actual human exposure to contaminated water via ingestion. A prompt-interim action is justified in order to remove the exposure risks posed by PFOA and PFOS in the groundwater serving certain residential/commercial water supplies. This plan does not address active remediation of the groundwater contamination because plume sources and boundaries have not been identified and in-situ treatment for PFAS is not currently available. After implementation of this response action, further investigation and evaluation will be required to assess the possibility of groundwater remediation.

Interim response actions are defined under HSCA as a response, that generally "does not exceed 12 months in duration or $2,000,000 in cost." 35 P.S. § 6020.103. An interim response may exceed these limitations when there is an "immediate risk to public health, safety or welfare or the environment." The technologies and equipment needed for a point of entry treatment (POET) system are readily available and installation could be completed in one to two days. Delivery of bottled water is readily implemented by obtaining the services of a bottled water company. Sampling of residential water supplies in the area of the Site will continue to determine any additional residential exposure to the contaminated groundwater. A site investigation will be conducted to determine the source of contamination, extent of contamination, and if further response actions may be necessary.

III. CLEANUP STANDARDS

This response is not a final remedial response pursuant to Section 504 HSCA. 35 P.S. § 6020.504 and, therefore, is not required to meet standards that apply to a final remedial response. Further investigation has been initiated to determine the source(s) and extent of the groundwater, surface water and soil contamination. Additional response actions may be needed to achieve a complete and final cleanup for the Site.

Pursuant to the Pennsylvania Safe Drinking Water Act and the Safe Drinking Water Regulations promulgated thereunder, DEP has established standards, known as Maximum Contaminate Levels (MCLs) that specify the maximum permissible levels of contaminants in finished water

produced by public water-supplies. 25 Pa. Code §§ 109.103. 109.202. MCLs are numerical limits for selected contaminants such that their presence in drinking water-supplies does not pose adverse effects to users. The MCLs for PFOA and PFOS are 4 ng/L, respectively. See 25 Pa. Code § 109.202(a)(4)(ii). MCLs are also used to establish cleanup standards for groundwater under the Pennsylvania Land Recycling and Environmental Remediation Standards Act and its attendant regulations contained in 25 Pa Code Chapter 250. The site-specific standard for groundwater pursuant 25 Pa. Code §250.403. requires that "[d]rinking water use of groundwater shall be made suitable by at least meeting the primary and secondary MCLs at all points of exposure." See 25 Pa. Code 250.403(c). The site-specific standard for groundwater not only provides for its current use but also applies to its probable future use. 25 Pa. Code 250.403(b). This site-specific standard may be achieved via identification of any potential current and future exposure pathways for human receptors, and by use of engineering and institutional controls to eliminate the pathways identified. See 25 Pa. Code § 250.404 (discussing pathway identification and elimination).

IV. APPLICABLE, RELEVANT AND APPROPRIATE REQUIREMENTS

The following standards, requirements, criteria, or limitations are legally applicable or relevant and appropriate (ARARs) under the circumstances presented by the Site. Additional ARARs will be considered for any final response actions at this Site.

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 stie. 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.

ARARs

The Pennsylvania Constitution, Article 1, Section 27.

Land Recycling and Environmental Remediation Standards Act, Act of May 19, 1995, P.L. 4, No. 1995.2, 35 P.S. Section 6026.101 et. seq. (Act 2).

Administration of the Land Recycling Program, 25 Pa. Code Chapter 250, Subchapter D (Site-specific Standards).

Subchapter D – Site-specific Standard
- Section 250.402 – Human health and environmental protection goals
- Section 250.403 – Use of groundwater
- Section 250.404 – Pathway identification and elimination

The Pennsylvania Solid Waste Management Act, Act of July 7, 1980, P.L. 380, No. 97, as amended, 35 P.S. Sections 6018.101 et. seq.

Residual Waste Management Regulations (Article IX, Chapters 287 – 299).

Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, 35 P.S. Sections 721.1 et. seq.

Chapter 109 – Safe Drinking Water
- Section 109.201 – Authority
- Section 109.202 – State MCLs and treatment technique requirements

Pennsylvania Hazardous Sites Cleanup Act, Act of October 18, 1988, 35 P.S. 6020-101 et. seq.

Pennsylvania Uniform Environmental Covenant Act, Act of December 18, 2007. 27 Pa. C.S. Sections 6501 et. Seq.

TBCs

Guidance for Commonwealth-Funded Water Supply Response Actions, November 21, 2015 (262-5800-001)

Standard Operating Procedure for the Hazardous Sites Cleanup Program, HSCA Handbook, January 2022.

V. ANALYSIS OF ALTERNATIVES

Alternative 1. No Action

This alternative was developed as a baseline against which other remedial alternatives can be compared. This alternative involves taking no action to remove, remediate, or contain the contaminated groundwater or reduce threats to human health at the Site. Risks posed by ingestion of water from contaminated private-water supplies would remain. This alternative would not comply with ARARs for groundwater contamination. Alternative 1 is feasible and implementable. There is no cost to DEP for Alternative 1.

Alternative 2. Provision of Bottled Water and Institutional Controls

Currently, 13 private residential/commercial wells/springs that exceed one or both MCLs for PFAS have been identified. Of these 13 impacted properties, 6 are supplied bottled water by a regulated facility in accordance with the Solid Waste Management Act (SWMA) and 2 have refused bottled water. For the remaining 5 properties under this alternative, DEP would furnish commercial bottled water. As the investigation continues, additional properties with residential/commercial wells/springs may be identified that exceed one or both MCLs for PFAS. If such a situation occurs, DEP would also provide bottled water to each of these impacted private-well/spring owners.

Alternative 2 would reduce the risk posed by ingestion of water above the MCL. This alternative would reduce the negative health impact of using the contaminated groundwater for private water-supplies and thus provide increased protection of human health. The alternative does not eliminate all PFAS risk as the supplier of bottled water is not currently required to test for PFAS or reduce PFAS concentrations. DEP would sample and analyze the source of the bottled water once per year for PFAS.

DEP will continue to provide bottled water throughout the course of the Site investigation. Should this alternative be selected as a final response action, then the property owners would be responsible for the continued cost and supply of bottled water. In addition, DEP would implement activity and use limitations (AULs) either through environmental covenants or administrative orders. Environmental covenants or administrative orders would be placed on deed records that would alert new property owners, and prospective property purchasers, of the health risks for continued use of contaminated private water-supplies. Contamination would remain in the underlying aquifer and would continue to pose threats to groundwater users. This alternative would comply with the applicable requirements of the Site-specific cleanup standard under the Land Recycling and Environmental Remediation Standards Act requiring institutional controls.

The present cost of supplying bottled water under Alternative 2 for an assumed four-person residence is $7,100 (4 x $1,500 + $1,000 + $100). For the five non-SWMA properties the total cost would be $35,500 per year.

Alternative 2	Annual Water Costs	Annual Sampling Costs	Multiplier	Total Costs
Bottled Water	$1,500 / resident		20 x 1 year	$ 30,000
Monitoring		$1,000	5 units x 1 year	$ 5,000
Bottled Water Supplier Analysis		$ 500	1 x 1 year	$ 500

Alternative 3. Installation of Point of Entry Treatment (POET) Systems and Institutional Controls

Under this alternative, POET systems would be installed at homes and businesses that utilize private water-supply wells or springs impacted by contamination above the established MCLs for PFOA and PFOS.

The POET systems consist of a sediment filter, two carbon units in series and an ultraviolet light on the supply line from the contaminated wells or springs. Water pumped from the private wells or springs would be passed through the POET systems at the point of entry into the homes and businesses and remove the PFOA and PFOS to below the MCL. This would effectively remove the risk of ingestion and dermal contact.

Granulated Activated Carbon (GAC) is effective in removing the PFOA and PFOS in the Site groundwater. One potential impact to human health is the potential for bacterial growth on the carbon beds and resultant excess bacterial counts in the treated effluent. This condition will be addressed through periodic replacement of the GAC and the use of an ultra-violet light after the GAC treatment. A filter placed prior to the GAC would reduce the amount of particulates in the water which would enhance the efficiency of the GAC and the ultra-violet light.

DEP will provide bottled water until the POET systems are installed. Once installed, DEP will provide for the continuing operation and maintenance (O&M) of the POET systems throughout the course of the Site investigation. Should this alternative be selected as a final response action, then property owners would be responsible for continued O&M activities. In addition, DEP would implement AULs either through environmental covenants or administrative orders placed on deed records that would alert new property owners, and prospective property purchasers, of the health risks for continued use of contaminated private water-supplies. Notification will be placed on deed records and indicate that DEP has installed a POET system in order to mitigate potential threat to human health from the contaminated water-supply.

This alternative will be protective of human health. This alternative will comply with the applicable requirement that drinking-water use of groundwater meet the MCLs. The exhausted or “spent” carbon will be removed for regeneration or disposal in accordance with applicable regulations.

The present cost of supplying POET systems under Alternative 3, for the known 5 private residential properties with water supplies that exceed the MCLs for PFOA and/or PFOS is approximately $12,500 per year. Initial installation of a POET system is estimated to cost $6,000 per unit. Annual GAC change out and UV-light replacement is estimated at $1,500. Annual sampling and analytical monitoring costs are estimated at $1,000 per system.

Alternative 3	Capital Costs DEP	Annual UV-light and GAC replacement	Annual Sampling Costs	Multiplier	Total Costs
POET Systems	$6,000			5 units	$ 30,000
O&M Costs		$1,500		5 units x 1 year	$ 7,500
Monitoring			$1,000	5 units x 1 year	$ 5,000

VI. SELECTED RESPONSE

DEP has selected Alternative 3 as the prompt-interim response. POET systems will be offered where private-water supplies are determined to have PFAS contamination levels greater than EPA standards established June 25, 2024.

Investigation of the Site will continue to determine the source(s) of contamination, the extent of contamination, and if further response actions are necessary.

VII. MAJOR CHANGES FROM PROPOSED RESPONSE

The response adopted by this SOD differs from the proposed response of the Analysis of Alternatives presented on April 17, 2024. In summary, this SOD differs from the April 17, 2024 Analysis of Alternatives in that it accounts for EPA's lower and more expansive Maximum Contaminant Levels (MCLs) for PFAS. A detailed analysis of this major change is filed in the administrative record.

VIII. RESPONSE TO PUBLIC COMMENTS

DEP's response to public comments concerning the selection of this response action is filed in the administrative record.

IX. DEP APPROVALS

FOR THE COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

10/30/2024

Robert DiGilarmo, Director
South Central Region

Date

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Hazardous Sites Cleanup Program
MAJOR CHANGES FROM PROPOSED RESPONSE
NEWBERRY TOWNSHIP PFC SITE
October 30, 2024

Maximum Contaminant Levels

DEP has, on June 25, 2024, accepted the EPA's lower and more expansive Maximum Contaminant Levels (MCLs) for PFAS. MCL values for PFOA and PFOS have decreased; and Hexfluoropropylene Oxide (HFPO) Dimer acid (Gen-X), Perfluorobutane Sulfonic acid (PFBS), Perfluorohexane Sulfonic acid (PFHxS), and Perfluorononaoic acid (PFNA) were added. The updated values are summarized in the table below:

Updated PFAS Summary Table							
Regulated Substance	**CASRN**	**Used Aquifers**				**Nonuse Aquifers**	
		TDS ≤ 2500		**TDS > 2500**			
		R	**NR**	**R**	**NR**	**R**	**NR**
HFPO (aka Gen-X)	13252-13-6	10	10	1000	1000	10	10
PFBS	375-73-5	2000	2000	200000	20000	2000	2000
PFHxS	108427-53-8	10	10	1000	1000	10	10
PFNA	72007-68-2	10	10	1000	1000	10	10
PFOS	1763-23-1	4	4	400	400	4	4
PFOA	335-67-1	4	4	400	400	4	4

In addition to meeting the individual MSC, if more than one of the following four compounds (Gen-X, PFBS, PFHxS, PFNA) are detected at any concentration in a sample, a Hazard Index (HI) must be calculated using the equation below. The HI MSC is met in this case by maintaining a rolling average HI of less than one for the most recent four quarters of samples utilizing the equation:

$$HI = \frac{C_{Gen\text{-}X}}{10} + \frac{C_{PFBS}}{2000} + \frac{C_{PFNA}}{10} + \frac{C_{PFHxS}}{10}$$

Where All concentrations are in nanograms per liter (ng/L)

$C_{Gen\text{-}X}$ = concentration of Gen-X
C_{PFBS} = concentration of PFBS
C_{PFNA} = concentration of PFNA
C_{PFHxS} = concentration of PFHxS

Analysis Of Alternatives

Based upon the lower EPA MCLs the number of properties impacted and the cost of supplying POET systems under Alternative 3 has increased. For the approximately 60 private residential or business properties with water supplies that exceed the MCLs the annual cost is estimated to be $102,000 per year. Initial installation of a POET system is estimated to cost $6,000 per unit. Annual O&M consisting of GAC change out and UV-light replacement is estimated at $1,700. Annual sampling and analytical monitoring costs are estimated at $1,000 per system.

Alternative 3	Capital Costs DEP	Annual UV-light and GAC replacement	Annual Sampling Costs	Multiplier	Total Costs
POET Systems	$6,000			60 units	$ 360,000
O&M Costs		$1,700		60 units x 1 year	$ 102,000
Monitoring			$1,000	60 units x 1 year	$ 60,000

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Hazardous Sites Cleanup Program
RESPONSE TO PUBLIC COMMENTS
NEWBERRY TOWNSHIP PFC SITE
October 30, 2024

DEP provided a public comment period concerning the prompt-interim response at the Newberry Township PFC site (Site). Written comments were accepted during the comment period which extended from December 30, 2023 to June 14, 2024 and oral comments (no written comments were received) were presented at the public hearing conducted on April 17, 2024 at the Crossroads Middle School Auditorium. DEP has compiled all comments, criticisms, and new data received during the comment period or at the public hearing, from the following individual.

Identification Number/Commentator
1. Kimberly Markey
580 Old York Road
Etters, PA 17319

COMMENT 01:
I feel that we should have the option of the state hooking us up to public water because of this problem It's never going to go away unless we have public water, as I see it. That's it. (1)

RESPONSE 01:

Public Water was not an alternative in the April 17, 2024 Analysis of Alternatives.

The proposed response action is directed as a prompt-interim response with the goal of providing alternative water supply to properties impacted by contamination. A response that implemented connections to public water would be protective of human health, but would not meet the cost and duration requirements of a prompt-interim response.