

September 28, 2022

Ms. Tiffani L. Doerr, PG  
Evergreen Resource Management Operations  
2 Righter Parkway, Suite 120  
Wilmington, DE 19083

Re: Letter of Technical Deficiency  
Ecological Risk Assessment AOIs 1 through 9  
Former Philadelphia Refinery  
eFACTS PF No. 780190  
3144 West Passyunk Avenue  
City of Philadelphia  
Philadelphia County

Dear Ms. Doerr:

The Department of Environmental Protection (DEP) has received and reviewed the June 30, 2022 document titled “Ecological Risk Assessment: Areas of Interest 1 through 9” (report), received on June 30, 2022 for the property referenced above. The report was prepared by Stantec Consulting Services, Inc. (Stantec) and submitted to DEP in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2), and it constitutes a Risk Assessment Report as defined in Chapter 3.

The procedures and regulations set forth in Act 2 must be followed in order for your site to qualify for the liability protection provided by the Act. Upon initial review, DEP finds the submission is technically deficient and the following items are needed to complete your submission:

1. The botanical survey did not address the potential for suitable habitat or occurrences of Threatened or Endangered fauna at the site, which could affect the designation of Exceptional Value Wetlands. Evaluation of Exceptional Value Wetlands is required by 25 Pa. Code Section 250.311(a)(2) as referenced by Section 250.402(c).
2. The ecological risk assessment did not adequately evaluate ecological receptors as required by 25 Pa. Code Sections 250.402(c), 250.404(a), and 250.602(a). The sediment samples used in the risk assessment do not adequately represent the exposures to the receptors identified in the risk assessment. Sediment samples collected from appropriate locations for fish and turtle habitats from onsite water bodies should be included in this risk assessment. In addition, grab or discrete sampling from more than one location from the media of concern is necessary to characterize the point concentrations for exposure. Discrete sampling of Schuylkill River sediments, Mingo Creek basin sediments, and other water body sediments is needed.

3. The data and risk calculations are not presented clearly or accurately as required by 25 Pa. Code Sections 250.402(c), 250.404(a), 250.602(a), and 250.604(b). There were multiple references to modeling of volatile organic compound (VOC), polycyclic aromatic hydrocarbon (PAH), and lead concentrations in the report but there were no results or tables to substantiate this claim. In addition, there are general statements in the report regarding volatilization of VOCs reducing probability of concentrations in surface water or lead concentrations in sediments that are unlikely to result in impact to species of concern. These assumptions need to be evaluated through data collection and risk characterization.
4. A toxicity assessment and description of toxicity factors was not included as required by 25 Pa. Code Sections 250.402(c) and 250.602(a). The report includes a qualitative toxicity assessment instead of a quantitative assessment.
5. Screening procedures used were inconsistent with guidelines outlined in DEP's Technical Guidance Manual and requirements in 25 Pa. Code Sections 250.402(a), 250.404(a), and 250.602(a). Screening should be performed using either the highest reporting limit or the highest detected concentration, whichever is higher. Alternative screening values were referenced in the ecological risk assessment, including from the Ontario Ministry of the Environment; however, DEP recognizes the Environmental Protection Agency's BTAG screening tables and soil screening levels. Alternative screening methods can be considered with clear explanation of input parameters, references for assumptions and calculations performed. The description, assumptions, and calculations for the Ontario Ministry of the Environment screening levels were not sufficiently presented to allow for consideration.
6. All potential exposure pathways need to be identified for identified ecological receptors as required by 25 Pa. Code Section 250.404(a). More detail is needed to justify why the dermal pathway for the red bellied turtle was insignificant and further explanation is needed for why select routes of exposure may screen out from further quantitative evaluation.
7. The ecological risk assessment relies on the groundwater fate and transport model to estimate exposure concentrations; however, not all constituents of potential ecological concern (COPECs) were included in the fate and transport model (25 Pa. Code Sections 250.402(a), 250.404(a), 250.602(a), and 250.604(b)). In addition, the fate and transport model did not project concentrations to all water bodies onsite, so a combination of modeling and direct sampling of surface water bodies is needed.
8. The ecological risk assessment did not calculate a concentration level of constituents of potential ecological concern at which the environment is protected, as required by 25 Pa. Code Sections 250.409 and 250.606. A qualitative assessment was described in the report, but the risk characterization should be quantified for each COPEC, or class of COPECs where appropriate, and for each route of exposure for each species of concern.

9. The uncertainty in this report was not discussed thoroughly and it lacks detailed site-specific sources of uncertainty as required by 25 Pa. Code Section 250.602(f).

In addition to the above referenced deficiencies, the following clarifications are requested:

- It is unclear if the March 9, 2020 “Ecological Risk Assessment for Hickory Shad, Shortnose Sturgeon, and Atlantic Sturgeon in the Schuylkill River Adjacent to the PES Philadelphia Refining Complex, Areas of Interest 1 through 9” was shared with the Pennsylvania Fish and Boat Commission.
- Clarification is needed to understand how Evergreen plans to address ecological risk assessment obligations required by 25 Pa. Code Sections 250.402(c) and (d), 250.404(b) and 250.409(1) for future site conditions. DEP understands that HRP’s redevelopment plans for the initial redevelopment phases are not final; for example, the future status of the onsite water bodies is unknown. DEP expects that future Act 2 submittals will address risks to ecological receptors posed by remedial activities. Evaluation of new conditions might be addressed in site cleanup plans or might require submittal of supplemental risk assessment reports.
- A discussion of routes of exposure for species of concern was included in the report. References supporting the basis for the routes of exposure are requested to support that all routes of exposure have been evaluated.

Please address the above summarized technical deficiencies within 60 days. If the deficiencies noted above are corrected and a report resubmitted to DEP within 60 days, it will not be necessary to resubmit report review fees, resend the municipal notice, or republish the public notice. Please include a copy of this correspondence with any resubmission to confirm to DEP staff that an administrative completeness check is not necessary. If the corrected report is resubmitted later than 60 days from the date of this letter, the resubmitted report will need to include the appropriate fees and proofs of municipal and public notices.

We look forward to assisting you in the remediation of this property and encourage you to contact us throughout this process. If you have any questions or need further information regarding this matter, please contact Lisa Strobridge by email at [lstrobridge@pa.gov](mailto:lstrobridge@pa.gov) or by telephone at 484.250.5796.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board  
Rachel Carson State Office Building, Second Floor  
400 Market Street  
P.O. Box 8457  
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800.654.5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at <http://ehb.courtapps.com> or by contacting the Secretary to the Board at 717.787.3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

**IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717.787.3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.**

**IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.**

Sincerely,

*Ragesh R Patel*

Ragesh R. Patel  
Regional Manager  
Environmental Cleanup and Brownfields

cc: Mr. Cullinan, PE, Evergreen  
Ms. Jennifer Menges, Stantec  
Mr. Joseph Jeray, Hilco  
Ms. Rainford, City of Philadelphia Department of Public Health  
Mr. Bilash, U.S. EPA  
Mr. Brown, P.G.  
Mr. Staron, P.G.  
Ms. Strobridge, P.G.  
Mr. Glass, Esq.  
Ms. Specht  
Mr. Smith  
Mr. Sinclair  
Mr. Serrat  
Ms. Bass