Technical Assistance Services *for* Communities
GE-Pittsfield/Housatonic River Site
Comments on Upland Disposal Facility (UDF) Pre-Design Investigation (PDI) Summary Report
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Technical Assistance Services for Communities (TASC)
Comments on GE-Pittsfield/Housatonic River Site – UDF PDI Summary Report, August 2023

Introduction

This document provides TASC comments on the GE-Pittsfield/Housatonic River, Rest of River – Upland Disposal Facility (UDF) Final Pre-Design Investigation (PDI) Summary Report for UDF Area (UDF PDI Summary Report). This document is for the Berkshire Regional Planning Commission (BRPC), the Town of Lee, the City of Pittsfield and other entities to use as they develop comments to share with the U.S. Environmental Protection Agency (EPA). TASC does not make comments directly to EPA on behalf of communities. This document is funded by EPA's TASC program. The contents do not necessarily reflect the policies, actions or positions of EPA.

Pursuant to the Revised Resource Conservation and Recovery Act (RCRA) Permit Modification (Revised Final Permit) issued by EPA to the General Electric Company (GE) on December 16, 2020, for the Rest of River (ROR) portion of the GE-Pittsfield/Housatonic River site, GE is required to conduct a remedial action for the ROR. The selected ROR remedial action includes a provision for GE to construct and utilize a UDF at the former Lane site for the disposal of certain sediments and soils removed as part of the remedial action.[1] The PDI Work Plan for the UDF was submitted to EPA on November 24, 2021, in accordance with the Final Revised Statement of Work (SOW). It included descriptions of desktop, field and laboratory-based activities necessary to acquire information for design of the UDF. Additional requirements for the PDI were in EPA's February 25, 2022, conditional approval letter for the PDI Work Plan. More requirements for the Final PDI Summary were in EPA's April 18, 2023, conditional approval letter for the Interim PDI Data Summary. This document, the UDF PDI Summary Report, builds

[1] The former Lane site is a 75-acre property that was formerly part of an active sand and gravel quarry. GE acquired the property from The Lane Construction Corporation in April 2021.

on the Interim PDI Data Summary and presents data and information obtained during implementation of the PDI activities through June 2023. Additional PDI activities are ongoing and are planned to be completed in late 2023. The results of those activities will be presented in an addendum to this UDF PDI Summary Report. The UDF Final Design Plan is due 60 days after EPA approval of the Final PDI Summary.

Summary

The August 2023 UDF PDI Summary Report has five sections:

- Introduction.
- Site Background and Historical Site Data Summary.
- Pre-Design Investigation and Data Summary and Evaluation.
- Schedule and Addendum.
- References.

The purpose of the UDF PDI Summary Report is to describe the investigations conducted through June 2023 and the acquired data that will support engineering evaluations and detailed planning and design of the UDF. In general, the PDI activities and investigations included an assessment of the habitat at the parcel; a survey of existing site features, subsurface conditions, groundwater and soils; weather monitoring; and a cultural resource assessment and intensive archaeological survey of selected areas within the GE parcel.

The UDF Support Area will be defined in the UDF Final Design Plan. The final PDI groundwater sampling event to test for environmental quality is scheduled for fall 2023. The results of the groundwater sampling will be included in the addendum to the UDF PDI Summary Report.

TASC Comments

TASC reviewed the UDF PDI Summary Report to determine if it meets the requirements set forth in the SOW, the Revised Final Permit and EPA's 2022 conditional approval letter for the PDI Work Plan. In addition, TASC revisited previously provided comments generated from the review of:

1. GE-Pittsfield/Housatonic River Site Pre-Design Investigation Work Plan for Upland Disposal Facility (December 2021).
2. GE-Pittsfield/Housatonic River Site – UDF Conceptual Design Plan (December 2022).
3. GE-Pittsfield/Housatonic River Site – UDF Pre-Design Investigation Interim Data Summary (December 2022).

TASC's review of the UDF PDI Summary Report focused on the application of UDF design performance standards as described in the SOW and the Final Revised Permit. The performance standards are dependent on measured and modeled groundwater elevations. These levels are critical to the design and capacity of the UDF to keep the contained polychlorinated biphenyl (PCB)-contaminated waste from coming in contact with groundwater. Enough groundwater

information has been obtained to understand an annual trend in groundwater levels and to begin the design of the UDF.

TASC identified comments associated with the monitoring design (the need for more thorough monitoring upgradient within areas unaffected by the UDF) and groundwater quality data analysis. Specific TASC comments are:

1. The next document deliverables following this UDF PDI Summary Report will include an addendum to the Final PDI Summary (to include the fall 2023 groundwater monitoring results) and the UDF Final Design Plan. The Final PDI Summary addendum will incorporate data gathered in fall 2023 and any adjustments accommodating comments and review of the previous deliverables. The UDF Final Design Plan will present the final engineering design of the UDF. TASC previously commented (TASC review of the UDF Conceptual Design Plan and UDF PDI Interim Data Summary, December 2022) that community members may want to ask GE to provide a comprehensive presentation of the final proposed design to the public. Community members may also want to request that GE provide a response to comments in the UDF Final Design Plan for the community to track and understand how their previous concerns were addressed or why they were not addressed. An interactive public meeting will benefit the community and GE by providing a forum to actively discuss UDF design aspects of particular concern. Since significant, outstanding UDF components are unknown (e.g., placement of Support Area features and possible monitoring components to capture Support Area features), it seems particularly important to discuss and describe the UDF footprint in its entirety to the community. Topics of concern and interest may include, but are not limited to, Support Area design and monitoring, air monitoring and per- and polyfluoroalkyl substances (PFAS) in groundwater.

   Given the important concerns that the public has regarding design of the UDF, the community may want to ask EPA if GE could provide a presentation at a public meeting describing the UDF final design, and if it would be appropriate for GE to incorporate a response to community comments within the UDF Final Design Plan. The public meeting would allow for an exchange between GE and the community so that GE could understand community questions and concerns and address them in the UDF final design.

2. The SOW, on pdf page 47, describes the essential elements required for the UDF PDI Summary Report within Section 4.2.2.2 Pre-Design Investigation Summary Report. A component of the required document is an understanding of the UDF Support Areas, which have yet to be identified. The identification of the location and use of the Support Areas is essential to understand if the designed and ongoing monitoring efforts currently included in the UDF PDI Summary Report are complete and would be expected to capture the potential impacts attributable to these areas.

   The community may want to ask EPA if the absence of understanding the Support Areas location and function represents a significant gap in understanding if the ongoing monitoring is sufficient to capture all future UDF impacts.

3. The 2022 EPA conditional approval letter for the PDI Work Plan identifies outstanding items to be addressed as part of continued UDF monitoring and design efforts. Item #36, on pdf page 7 of the letter, describes the need for GE to discuss with EPA if the deep borings advanced to at least 910 feet indicate the presence of any potential confining or restrictive layers and if there is a need for additional deep borings to better understand the geological setting beneath the UDF. As per information provided in the UDF PDI Summary Report, on pdf page 25, the restrictive or confining layer of underlying marble bedrock occurs at depths ranging from 909.5 feet at MW-2022-3 to about 957.5 feet at MW-2022-1. However, the conceptual location of the bedrock layer is shown to be at elevations greater than 957.5 feet (refer to Figure 7, pdf page 301). In addition, the document does not describe whether the other encountered subsurface geologic layers (silt, clay – shown in Figures 7 and 8, pdf pages 301 and 302) would be expected to be restrictive or confining layers.

   The community may want to ask EPA if the requests presented in item #36 of the 2022 conditional approval letter have been met in order to thoroughly understand the presence or absence of confining or restrictive layers in the subsurface. Moving forward, the community may want to ask EPA to ask GE to provide additional detail in terms of how items in EPA's conditional approval letter have been addressed and to add more detail about the geology.

4. TASC has raised several questions related to the status of the adjacent gravel quarry (Northeast Paving, a division of Eurovia Atlantic Coast, LLC). The UDF PDI Summary Report indicates that the adjacent property retains active mining operations. The document states "westerly ponds (contained within the Eurovia property) remain in active use as part of the gravel pit operation ongoing…" (pdf page 20) and "greenish color of the pond water, which reflects the suspended silts and clays consistent with the use of the pond for settling as part of that operation" (footnote five, pdf page 21). It is not clear if GE intends to manage the overlapping ponds (fill in certain ponds for the construction of the consolidation area) or if GE will work cooperatively with the landowner to maintain the ponds for gravel operations.

   The community may want to ask EPA if the status of the adjacent quarry could be thoroughly and accurately depicted throughout the document (whether it is currently in use or not). Potential conflicts to future quarry use or closure (such as the use of pond surface water levels as an indirect measure of groundwater levels) should be acknowledged and discussed to ensure that future potential changes in the mining operation do not affect the validity of the UDF groundwater monitoring network.

5. TASC discussed the need for mitigation area identification and incorporation into UDF design plans during review of the UDF Conceptual Design Plan during previous document reviews. This document indicates that continued monitoring up until the production of the final design is planned and states (pdf page 21, footnote six), "As indicated in the habitat assessment report in Appendix C, the impacts on the identified resource areas from the construction and operation of the UDF and UDF support facilities

will be evaluated further and, to the extent that mitigation for the loss of resource areas is required, mitigation option will be addressed in the UDF Final Design Plan, along with any additional data collection necessary for such mitigation." Once again, TASC suggests the need to identify possible mitigation areas during this period of ongoing monitoring since the information would capture seasonal considerations that influence important mitigation area features such as stormwater pathways, species occurrence and migration patterns and other possible habitat characteristics (vegetation diversity and density).

The community may want to ask EPA if seasonal monitoring for future mitigation area considerations is included as part of the continued field efforts to be accomplished until (and perhaps beyond) the production of the Final UDF Design Plan. In addition, the community may want to ask the EPA if it is appropriate for GE to proactively incorporate mitigation planning as part of the forthcoming UDF Design Plan.

6. The measured groundwater elevations (Table 6A, pdf page 182) and the modeled groundwater elevations using the Frimpter Method (Table 6B, pdf page 183) yield levels routinely greater than the permit performance standard threshold of 950 feet above mean sea level. This is allowable as per the permit standards that state "if the seasonally high groundwater elevation is determined to be higher than 950 feet above mean sea level, the maximum elevation of the landfill consolidation area may be increased by the number of feet that is the difference between the seasonally high groundwater elevation and 950 feet above mean sea level in order for the UDF to have a maximum capacity of 1.3 million cubic yards" (pdf pages 59 – 60 of the Revised Final Permit). The difference between the seasonally high groundwater elevation and 950 feet (referred to as difference values) varies by monitoring well/piezometer location. Estimated difference values (example calculated value for MW-2022-1S from Table 6B (pdf page 183) of 975.85 – 950 = 25.85 ft) occur from a minimum of 3.9 feet above mean sea level (MW-2022-4S) to a maximum of 27.85 feet above mean sea level (MW-2022-1S) (Table 6B). These results reveal a very dynamic groundwater system, which highlight several questions and concerns as follows:

   - It is important to know the conservative elevation for the bottom of the UDF that will contain the waste within the performance standard requirement of 20 acres at a level of 15 feet above the highest groundwater elevation. It is also important to understand how this conservative elevation will affect the maximum elevation (defined as 1,099 feet to be adjusted based on the estimated elevated groundwater level – described in the permit on pdf pages 59-60, 5.a.(2)(b)) that will be required to accommodate this design.

   - The highest groundwater levels occur in the northeast area of the GE parcel, which is considered upgradient and would capture background or groundwater conditions unaffected by UDF influences. Creation of a landfill feature may cause the groundwater flow pathway (from the northeast to the southwest) to diverge, thereby creating new/affected groundwater pathways. It is important to be sure that the planned monitoring well field will capture these potentially new groundwater pathways.

The community may want to ask EPA if the dynamic groundwater levels will affect the usable amount of UDF area available that will meet UDF performance standard requirements, and if the groundwater monitoring design network will be able to identify effects of the UDF on groundwater flow pathways (which may in turn, influence the monitoring well field design).

7. The document, on pdf page 29, states that wells MW-2022 1S and 1D were found to be of limited use and will be replaced. These wells yielded the highest levels of groundwater and co-occur within an area with the highest bedrock levels. In addition, PFAS results for groundwater samples were detected at levels greater than the Method 1 groundwater standards (pdf pages 189-190 for 1D, and 197 – 198 for 1S) used to determine potential environmental effects resulting from contaminated groundwater discharging to surface water (referred to as GW-1 and GW-3 standards, described on pdf page 35 of the document). Furthermore, the area where these wells occur is upgradient of the consolidated area of the UDF; therefore, the water quality provides a measure of pre-UDF disturbance. All of these conditions exemplify the importance of maintaining monitoring wells in this location. If GE plans to install a replacement well or wells, this effort should be accomplished in the very near future to continue to capture upgradient groundwater quality conditions. In addition, if GE plans to install a new well to replace MW-2022 1S and 1D, it is recommended that the soils be characterized (similar to the monitoring wells soils analysis performed during the PDI) to include PFAS analysis to assist with the delineation of possible PFAS contamination.

   The community may want to ask EPA if installation of the proposed replacement well for wells MW-2022-1S and 1D will occur in the near future to capture a continuum of groundwater quality characterization. Since PFAS results for groundwater samples are being investigated by Massachusetts DEP, and these chemicals were detected at levels greater than the Method 1 groundwater standards, it could be important to analyze the soils from installation of the new well for PFAS in addition to the standard suite of soil quality chemical analysis.

8. Table 6A of the UDF PDI Summary Report provides groundwater elevation monitoring results for monitoring wells Lee Landfill wells, piezometers and two surface water features (MP-1, Gravel Pond and MP-2, Housatonic River). The results in the table capture one year of monitoring including one month of temporal overlap (June). Comparison of the measured groundwater levels between June 2022 and June 2023 show a decrease in groundwater levels for all wells measured. The decreases range from 0.04 feet to 10.41 feet. The results highlight the importance of continued monitoring to capture additional, seasonal/annual trends in the groundwater level data. The document, on pdf page 36, states that the final groundwater sampling event to test for environmental quality is scheduled for fall 2023. It is unclear if groundwater level monitoring will continue. While the amount of information captured to date represents a robust dataset from which to draw conclusions regarding trends, this divergence of data in one year demonstrates the need to continue monitoring. The document, on pdf page 11, indicates that additional field activities are ongoing but does not mention if these include continued groundwater

level monitoring. In addition, text provided on pdf page 30 states "the monitoring wells may remain in service for continued monitoring" indicating that it is unknown how future monitoring will be accomplished.

The community may want to ask EPA if groundwater level monitoring will be collected in fall 2023 and if it will continue during and after the UDF construction to capture year-to-year trends.

9. Figures 7 and 8 depict the geological cross section profiles for transects A – A' and B – B' that traverse the GE parcel. Results shown in Figure 7 depict a bedrock marble layer with a surface elevation of about 960 feet to 965 feet above mean sea level. The groundwater levels within this area also range in the highest measured levels across the GE parcel (highest measured groundwater elevations in May 2023 for MW-2022-1S at 973.15 feet above mean sea level and MW-2022-1D at 972.89 feet above mean sea level) and are likely in relation to this geological feature. The bedrock feature and elevated groundwater levels may pose issues for the design of the UDF in regard to being able to achieve the UDF performance standards.

   The community may want to ask EPA if the bedrock and groundwater levels in the eastern area of the proposed consolidation area will pose concerns for the UDF design.

10. Figures 9 through 21, on pdf pages 303 through 315, depict measured groundwater elevations by sampling effort (June 2022 through June 2023). Several observations were noted for these figures as follows:

    - The boundary of the consolidation area (bold dashed line) needs to be added as a feature to the legend.
    - The figures show that the upgradient or the highest groundwater levels occur to the north/northeast. It is important to continue to characterize upgradient/background groundwater quality through the duration of UDF use and post-closure. There appears to be spatial gaps in this upgradient area that may benefit from additional monitoring wells. Specifically, this includes two areas: 1) there are no monitoring wells between MW-2022-1S/1D and MW-2022-7, and 2) between MW-2022-7 and MW-84-1. There are two piezometers (PZ-2022-8 and PZ-2022-7) in this area; however, as stated in the document, on pdf page 30, "prior to UDF construction, the piezometers will be abandoned in place." In addition, the Support Areas may be placed in this area and should be monitored closely as there is the potential for spills of contaminated materials. *Additional monitoring wells in these two areas should be considered.*
    - It is also important to recognize that wells MW-2022-1S and 1D, PZ-2022-8, PZ-2022-7 and MW-84-1 are valuable for future upgradient monitoring of the consolidation area and the potential support areas that have yet to be defined. The document, on pdf page 30, states that MW-2022-1S and 1D are to be replaced. Well MW-84-1 is associated with the Lee Landfill; therefore it is unknown if GE has access to or intends to use this well in the future. *The continued use of these wells for monitoring should be acknowledged.*
    - The pond that overlaps the GE parcel and the adjacent quarry area (located between MW-2022-3 and MW-2022-4 and is sampled for surface water levels at site MP-1,

shown in Figure 6 pdf page 300) demonstrates to be a groundwater sink (an area where groundwater is moving toward) as shown in the repeated groundwater contours for each map. This indicates that this pond may be a useful surface water quality monitoring feature for PCB analysis in the future after the UDF is in use. *The use of the pond's surface water for future PCB monitoring should be considered.*

- The figures were developed with the use of modeling to infer groundwater level contours. It seems that this same method could shade or outline the area within each map that meets UDF construction performance standards in order to visualize the amount of area available for UDF construction. *The revision of these figures to incorporate a modeled UDF consolidation area footprint based on performance standard compliance should be considered.*

The community may want to ask EPA the following questions:

Since characterization of upgradient/background groundwater quality is an important measure for the future UDF groundwater characterization, should the upgradient monitoring well field be bolstered to include two additional monitoring wells between the MW-2022-1S and 1D replacement well and MW-2022-7, MW-2022-7 and MW-84-1? In addition, it is important to recognize the existing wells (the replacement well for MW-2022-1S and 1D, MW-2022-8 and MW-84-1) need to continue to be used for monitoring.

Given the monitoring results shown to date, it is apparent that the pond associated with MP-1 is a possible groundwater sink. As such, the surface water quality measurements of PCBs may be appropriate to measure UDF effectiveness in the future. Would it be appropriate to continue monitoring this pond and to include surface water (and sediment and porewater, preferably) for PCB content?

Could Figures 9 through 21 be amended to include a modeled footprint of the appropriate area that meets UDF construction performance standards?

11. TASC previously commented on the discrepancies noted between chemical analysis results shown in the comparative GE and EPA Quality Testing Split Results. The purpose of collecting split samples is to verify the accuracy and precision of sample collection and analysis. To date the results provided within GE documents have summarized these results in general narrative terms. For instance, in Section 3.3.2, on pdf page 27, which describes soil testing for environmental quality, the document states "the data from EPA's split samples are generally similar to the results from GE's samples" (in reference to results provided in Table 4B). On review of Tables 4B and 7B the following observations are:

    - PCB analysis in soils (Table 4B, pdf pages 168-180) varies significantly between GE and EPA. GE detection limits range from 0.19 milligrams per kilogram (mg/kg) to 0.30 mg/kg, while EPA detection limits are an order of magnitude lower (ranging from 0.035 mg/kg to 0.051 mg/kg). EPA's lower detection limits represent a more stringent analysis method and should be relied on and used for future monitoring by GE.

- The suites of analytes vary between GE and EPA (Tables 4B and 7B). For instance, EPA did not analyze all of the gathered samples for PCBs (entire Aroclor series) or volatile organic chemicals, while GE omitted certain analytes within a given suite. GE and EPA need to more accurately coordinate their split sample analysis suites to be able to compare results consistently.
- PCB analysis in groundwater (Table 7B, pdf pages 288-290) varies significantly between GE and EPA. GE detection limits are all 0.0005 milligrams per liter (mg/L) while EPA's range from 0.00048 mg/L to 0.001 mg/L. It would be more appropriate if the methods EPA and GE relied upon could be more comparable.

The use of split analysis of sampled media will be of particular value and importance when the UDF becomes active. The issues shown in the incomparability between the split sample analysis should be acknowledged and addressed prior to UDF monitoring when waste materials management procedures are in place.

The community may want to ask EPA if the discrepancies in the GE and EPA split sample analysis will be addressed prior to UDF monitoring when the UDF is active, or if the current level of precision is adequate and meets the requirements in the quality assurance project plan for this project.

12. Table 7A-1, on pdf pages 189 to 196, provides a summary of the groundwater environmental quality testing results. The analytical testing is robust and includes suites of chemicals of interest to the community including dioxins and PFAS. Dioxins are detected in the surface soil fraction of soils gathered during the PDI (Table 4A, pdf pages 53-167). These concentrations are likely typical of industrial soils. Dioxins were generally not detected in groundwater; however, continued monitoring of groundwater for these chemical constituents would help understand if these chemicals are migrating from the soil to the groundwater. Continued monitoring of these same suites of chemicals (dioxins and PFAS) is extremely valuable to the community and would assist in understanding soil-to-groundwater relationships in the UDF area.

    The community may want to ask EPA if the groundwater monitoring can continue to include the suites of analysis listed in Table 7A-1 (particularly in reference to the dioxins and PFAS chemicals).

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