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Transmitted Via Federal Express

March 2, 2004

Mr. Michael Nalipinski U.S. Environmental Protection Agency EPA New England One Congress Street, Suite 100 Boston, Massachusetts 02114-2023

Re: GE-Pittsfield/Housatonic River Site
Newell Street Area II (GECD450)
Supplemental Sampling Proposal to Support Future Removal Design/Removal Action Activities

Dear Mr. Nalipinski:

On August 12, 2003, the General Electric Company (GE) submitted a Supplemental Pre-Design Investigation Report (Supplemental PDI Report) for the Newell Street Area II Removal Action Area (RAA) to the U.S. Environmental Protection Agency (EPA). That document presented the results of supplemental sampling activities performed by GE to satisfy certain remaining pre-design sampling requirements, and to support the performance of evaluations concerning the need for and scope of soil remediation actions to address PCBs and the other constituents listed in Appendix IX of 40 CFR 264 (excluding pesticides and herbicides), plus benzidine, 2-chloroethyl vinyl ether, and 1,2-diphenylhydrazine (Appendix IX +3) in soil. The Supplemental PDI Report also noted that GE would proceed with preliminary Removal Design/Removal Action (RD/RA) evaluations for the purpose of assessing the need for and type of additional data to support more detailed RD/RA evaluations and to determine the extent of potential remediation actions, and that if these evaluations indicate the need for additional sampling, GE would propose such sampling. In a letter dated October 2, 2003, EPA provided conditional approval of the Supplemental PDI Report and directed GE to perform those preliminary evaluations and, if additional data are required, to submit a proposal for the necessary additional sampling.

In accordance with the Supplemental PDI Report and EPA's conditional approval letter, GE performed preliminary RD/RA evaluations to assess the need for additional sampling at Newell Street Area II so as to complete the evaluations of the need for and extent of soil remediation actions to achieve the soil-related Performance Standards for PCBs and other Appendix IX+3 constituents. The results of that evaluation, including the identification of several proposed soil sampling and analysis activities, were provided to EPA in draft form on January 30, 2004, and were subsequently discussed at a technical meeting among EPA, the Massachusetts Department of Environmental Protection (MDEP), and GE on February 23, 2004.

This letter describes the preliminary evaluations performed by GE and includes a proposal for certain additional soil sampling to satisfy the identified data needs, taking into account the discussions at the February 23, 2004 meeting with EPA and MDEP. Three figures were developed as a supplement to this letter. Figure 1 shows the proposed additional sampling locations for PCBs, while Figures 2 and 3 depict the additional

sampling locations for certain non-PCB constituents for the 0- to 1-foot and 1- to 3-foot depth increments, respectively.

I. Additional PCB Soil Sampling to Characterize Utility Corridors

As indicated in the Supplemental PDI Report, the soil investigations performed by GE were generally sufficient to satisfy the pre-design soil characterization requirements established in the Statement of Work for Removal Actions Outside the River (SOW). In addition, that report noted there were sufficient PCB data to characterize the subgrade utility corridors. However, the subsequent performance of site survey activities (e.g., identification of exact locations of property lines) and the aforementioned preliminary evaluations have resulted in the identification of additional soil characterization data needs for certain subgrade utilities. Specifically, since the submittal of the Supplemental PDI Report, performance of site survey activities has resulted in a slight shifting of the previously identified locations of certain utilities and, therefore, the corresponding 50-foot wide bands used to identify the data that will be used for characterization of the soils associated with such utilities. The locations of the main utilities within Newell Street Area II (i.e., the sanitary sewer lines located along Sackett Street, within the City of Pittsfield property bordering the western boundary of Parcel J9-23-8, and along the northern portion of the RAA parallel to the Housatonic River), as determined by the recent survey, are presented on Figure 1, along with 50-foot wide bands centered along each utility. To determine if sufficient PCB data exist to perform the required utility corridor evaluations, GE reviewed the existing PCB data to ensure that: (1) soil samples are distributed at one location per 100 to 150 linear feet within an approximate 50-foot wide band centered on each utility, and (2) soil sample data are available to the depth of the utility bedding.

Based on this review, GE has identified two areas along existing sanitary sewer lines where additional PCB data are needed to characterize the soils in those utility corridors. Specifically, GE proposes to collect additional samples for PCB analysis at the following locations (shown on Figure 1) and depth increments to supplement existing PCB data:

Sample ID	Depth Increment (ft.)		
NS-29A	0 to 1, 1 to 3, 3 to 6, 6 to 10, 10 to 15		
RAA13-1	6 to 10		

II. Additional Delineation-Related Sampling for Non-PCB Constituents

GE has completed preliminary evaluations for both PCBs and other Appendix IX+3 constituents for each parcel/evaluation area and relevant depth increment at Newell Street Area II, except for the GE-owned Newell Street parking lot area, to assess the need for and extent of soil remediation and the need for and scope of additional sampling to assist in delineating specific samples subject to soil remediation. For the GE-owned parking lot area (as identified on the attached figures), the applicable Performance Standards set forth in the CD and the SOW, as clarified in a letter from GE to EPA dated July 16, 2001, allow GE to install a 1-foot vegetative engineered barrier over the existing pavement and soil, except that such a barrier is not necessary in discrete portions of this area where the average PCB concentrations are below the Performance Standards applicable to recreational areas, so long as the effectiveness of the barrier is not impaired by discontinuities in the barrier. Based on a preliminary review of the data for the parking lot area, GE currently anticipates that that area will most likely be completely covered by the 1-foot vegetative engineered barrier. As such, GE has not included this area in its evaluations of the data to assess the need for additional sampling. If, during development of the Conceptual RD/RA Work Plan, GE determines that it would be appropriate to omit certain portions of the parking lot area from the engineered barrier, GE will assess the need for additional delineation sampling in those portions of the parking lot and, if necessary, will propose such additional sampling to EPA.

The specific areas subject to the preliminary evaluations conducted to date, together with a notation as to their ownership and whether they will be subject to a Grant of Environmental Restriction and Easement (ERE) or a Conditional Solution under the Consent Decree (CD), are as follows:

- Parcel I9-7-1 (GE-owned will have ERE)
- Parcel J9-23-1 (GE-owned will have ERE)
- Parcel J9-23-2 (owned by City of Pittsfield will have ERE)
- Parcel J9-23-3 (GE-owned will have ERE)
- Parcel J9-23-4 (private owner subject to Conditional Solution)
- Parcel J9-23-5 (GE-owned will have ERE)
- Parcel J9-23-6 (owned by utility subject to Conditional Solution)
- Parcel J9-23-8 (owned by utility subject to Conditional Solution)
- Parcel J9-23-12 (wooded area) (GE-owned will have ERE)
- City of Pittsfield property (City-owned will have ERE)

Each of these parcels/evaluation areas is considered recreational under the CD and SOW, so that the Performance Standards applicable to soil in recreational areas apply.

The preliminary evaluations conducted for PCBs were based on the spatial averaging procedures described in Attachment E to the SOW. These evaluations indicate that soil remediation actions will be necessary to address PCBs at each of the above-listed parcels/evaluation areas, and that the existing PCB data are sufficient to complete the RD/RA evaluations and determine the scope of the required remediation actions. These evaluations were conducted to identify preliminary soil-related remediation actions to address PCBs.

For other Appendix IX+3 constituents, the preliminary evaluations were consistent with the procedures outlined in Attachment F to the SOW, and took into account the preliminarily identified remediation actions to address PCBs in soils. The preliminary Appendix IX+3 evaluations generally included the following procedures for each relevant parcel/evaluation area and depth increment:

For dioxins and furans, total Toxicity Equivalency Quotient (TEO) concentrations were calculated for all samples using the Toxicity Equivalency Factors (TEFs) developed by the World Health Organization (WHO), as specified in the SOW. The maximum TEQ concentration for each relevant evaluation area and depth increment was then identified and compared to the applicable Preliminary Remediation Goal (PRG) specified in the SOW for dioxin/furan TEQs. For the recreational properties at this RAA, those PRGs are 1 ppb for the top foot of soil and 1.5 ppb for the 1- to 3-foot depth increment. In addition, based on an EPA request, the maximum dioxin/furan TEQ level in the 0- to 3-foot depth increment at properties that will not have EREs has been compared to a TEQ level of 1 ppb and the maximum TEQ level in the 3- to 15-foot depth increment has been compared to a TEQ level of 20 ppb (even though these comparison levels are not Performance Standards specified in the SOW). Where the maximum TEQ level for a given area and depth increment exceeded the applicable PRG (or other comparison level), the 95% upper confidence limit on the mean (95% UCL) of the TEQ data for that area and depth increment was calculated and compared to the PRG (or other comparison level). If either the maximum TEO concentration or the 95% UCL is less than the PRG (or other comparison level), it was assumed that no remediation will be necessary to address dioxins/furans. If the area and depth increment contains one or more discrete TEQ levels above the PRG (or other comparison level) and the 95% UCL also exceeds the PRG (or other comparison level), then it was assumed that remediation may be necessary to address the TEQ levels. In that case, the need for additional sampling for dioxins/furans was considered to delineate the extent of such remediation.

- The remainder of the non-PCB constituents were evaluated using the following general procedures for each evaluation area:
 - First, the maximum concentrations of all detected constituents were compared to the EPA Region 9 PRGs for those constituents in residential soils (as set forth in Exhibit F-1 to Attachment F to the SOW) or to surrogate PRGs established or approved by EPA. Any constituent whose maximum concentration was below the applicable PRG was eliminated from further consideration.
 - Second, for all constituents retained after that PRG screening step, the average constituent concentrations in each relevant depth increment were compared to the corresponding Method 1 soil standards specified in the Massachusetts Contingency Plan (MCP) or, for certain constituents for which Method 1 soil standards do not exist, to Method 2 soil standards derived using the procedures specified in the MCP.
 - Third, where one or more constituents had average concentrations exceeding the MCP Method 1 (or Method 2) soil standards, it was assumed that an area-specific risk assessment would be conducted, in accordance with the SOW, as part of the detailed RD/RA evaluations. In an effort to gauge the likely results of the area-specific risk assessment, risk-based concentrations (RBCs) were back-calculated for certain key constituents based on the same exposure and toxicity assumptions that will be used in the area-specific risk assessments (i.e., the assumptions prescribed in the SOW). For example, for lead, the RBCs used are 1,313 ppm for the 0- to 1-foot and 1- to 3-foot (or 0- to 3-foot) depth increments (based on a child recreator scenario), and 6,000 ppm for the 0- to 15-foot depth increment [based on the MCP Upper Concentration Limit (UCL) for lead, which have been approved by EPA for use at the Newell Street Area I RAA. For the seven carcinogenic polycyclic aromatic hydrocarbons (PAHs) benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h) anthracene, indeno(1,2,3-cd)pyrene, and chrysene – a preliminary RBC (PRBC) has been developed for those PAHs as a group, for application to the depth increments in the top 3 feet of soil. That PRBC is expressed in terms of total toxicity equivalents of benzo(a)pyrene [B(a)P equivalents] since, in an area-specific risk assessment, these PAHs are evaluated through the use of Cancer Slope Factors that are adjusted by application of Relative Potency Factors (RPFs) based on their assumed potency relative to benzo(a)pyrene. The PRBC for depth increments in the top 3 feet of soil at these recreational areas is 4 ppm B(a)P equivalents, based on the child recreator scenario. For the 0- to 15foot depth increment, the MCP UCLs have been used, since those UCLs would be applied to that depth increment in an area-specific risk assessment.

The average concentrations of the relevant constituents were then compared to these RBCs, PRBCs, and UCLs to evaluate whether the area-specific risk assessment might eliminate the need for remediation actions to address these constituents. For example, to apply the PRBC for the seven carcinogenic PAHs, the average concentrations of these PAHs for the relevant depth increment were adjusted through the use of the same RPFs described above to derive a total B(a)P equivalent concentration for that depth increment, and the resulting total B(a)P equivalent concentration was compared to the PRBC. If that concentration is well below the PRBC (and there are no other carcinogenic constituents with significantly elevated levels), then it was concluded that the area-specific risk assessment will most likely find no exceedance of the cancer-risk Performance Standard specified in the SOW (an excess lifetime cancer risk of 1 x 10⁻⁵). However, if the total B(a)P equivalent concentration is close to or above the PRBC, then it was assumed that the area-specific risk assessment may find an exceedance of that Performance Standard under existing conditions.

In cases where these preliminary evaluations indicate that additional soil remediation (beyond the remediation required to address PCBs) will likely be necessary to address certain non-PCB constituents, the need for additional sampling for such constituents to delineate the extent of such additional remediation was considered.

Performance of these preliminary Appendix IX+3 evaluations has resulted in the identification of several parcels/evaluation areas and depth increments where additional remediation, beyond the remediation necessary to address PCBs, will likely be required to achieve the applicable Performance Standards specified in the SOW for certain non-PCB constituents. The following discussion presents a summary of the parcel-specific evaluations that led to an identification of additional data needs; it identifies samples for which such additional remediation may be appropriate and the supplemental investigation activities proposed to determine the extent of such additional remediation. Only those preliminary evaluations that create additional delineation data needs are summarized below. Other parcels/evaluation areas and depth increments may contain samples that have constituent concentrations greater than the corresponding Method 1 soil standards and risk-based comparison criteria and that will not be fully addressed by the PCB-related remediation. However, the limits of the remediation actions to address such samples, if necessary, will be determined using currently existing data.

Parcels J9-23-3 and J9-23-4

The preliminary Appendix IX+3 evaluations for Parcels J9-23-3 and J9-23-4 indicate that each of these properties contains one sample which has a dioxin/furan TEQ concentration exceeding the applicable PRG and which warrants additional delineation to determine the extent of the exceedances. Those samples are the 1- to 3-foot samples from RAA13-A86 on Parcel J9-23-3 (2.8 ppb) and from RAA13-B87 on Parcel J9-23-4 (also 2.8 ppb), both of which exceed the PRG of 1.5 ppb. In addition, the 95% UCL of the TEQ data for the 1- to 3-foot or 0- to 3-foot depth increments (as applicable) at each of these parcels exceeds the applicable PRG. As a result, GE is proposing to collect the following samples (shown on Figure 3) for dioxin/furan analysis to assist in determining the limits of remediation to address the dioxin/furan TEQ levels in the 1- to 3-foot samples from locations RAA13-A86 and RAA13-B87:

Sample ID	Depth Increment (ft.)	<u>Analyses</u>
J9-23-3-SB-3	1 to 3	Dioxins/Furans
J9-23-3-SB-4	1 to 3	Dioxins/Furans
J9-23-8-SB-4	1 to 3	Dioxins/Furans
J9-23-8-SB-9	1 to 3	Dioxins/Furans

Parcel J9-23-6

The preliminary Appendix IX+3 evaluations for Parcel J9-23-6 indicate that this parcel contains one sample—the 0- to 1-foot sample at location RAA13-3—which has a dioxin/furan TEQ concentration (3.3 ppb) above the PRG of 1 ppb and which also causes the 95% UCL of the TEQ data for the 0- to 1-foot depth increment to exceed that PRG. This sample location will not be fully addressed by the PCB-related remediation on Parcel J9-23-6. As a result, GE is proposing to collect the following sample (shown on Figure 2) for dioxin/furan analysis to assist in determining the limits of additional remediation to address the dioxin/furan TEQ level in the 0- to 1-foot sample from location RAA13-3:

Sample ID	Depth Increment (ft.)	<u>Analyses</u>
J9-23-6-SS-1	0 to 1	Dioxins/Furans

Parcel J9-23-8

The preliminary Appendix IX+3 evaluations for Parcel J9-23-8 indicate that this parcel contains several samples which have dioxin/furan TEQ levels above the applicable PRGs. For the 0- to 1-foot depth increment at this parcel, no additional delineation is necessary. However, for the 0- to 3-foot depth increment, certain samples from the 1- to 3-foot depth increment have TEQ levels above the PRG of 1.5 ppm which warrant additional delineation. In addition, the 95% UCL of the TEQ data for the 0- to 3-foot depth increment at this parcel (which will not be subject to an ERE) exceeds the PRG of 1.5 ppb for the 1- to -3-foot depth and the comparison criterion of 1 ppb for the 0- to 3-foot depth. Based on the preliminary evaluations, GE has determined that the samples driving these exceedances are the 1- to 3-foot samples from locations RAA13-B90 (43 ppb) and RAA13-Z90 (9 ppb). As a result, GE is proposing to collect the following samples (shown on Figure 3) for dioxin/furan analysis to assist in determining the limits of remediation to address the dioxin/furan TEQ levels in the 1- to 3-foot samples from locations RAA13-B90 and RAA13-Z90:

<u>Sample ID</u>	Depth Increment (ft.)	<u>Analyses</u>
J9-23-8-SB-5	1 to 3	Dioxins/Furans
J9-23-8-SB-6	1 to 3	Dioxins/Furans
J9-23-8-SB-7	1 to 3	Dioxins/Furans

City of Pittsfield Property (Sanitary Sewer Easement)

The preliminary Appendix IX+3 evaluations indicate that this property contains one sample location, RAA13-G92, at which both the 0- to 1-foot and 1- to 3-foot samples have dioxin/furan TEQ concentrations (9.6 and 49 ppb, respectively) which exceed the applicable PRGs of 1 ppb and 1.5 ppb, respectively. These exceedances will not be fully addressed by the PCB-related remediation, and they cause the 95% UCLs of the TEQ data for the 0- to 1-foot and 1- to 3-foot depth increments to exceed the PRGs. In addition, the preliminary evaluations for this property indicate that there are elevated concentrations of lead in the 0- to 1-foot and 1- to 3-foot depth samples from RAA13-G92 (4,350 and 4,400 ppm, respectively) and in the 1- to 3-foot sample from RAA13-F91 (4,130 ppm) and that, as a result, the average concentrations of lead in both the 0- to 1-foot and 1- to 3-foot depth increments exceed the lead RBC of 1,313 ppm. Based on these evaluations, GE is proposing to collect the following samples (shown on Figures 2 and 3) to assist in determining the limits of remediation to address the elevated dioxin/furan TEQ levels at sample location RAA13-G92 (0-1' and 1-3') and the elevated lead levels at sample locations RAA13-G92 (0-1' and 1-3'):

Depth Increment (ft.)	<u>Analyses</u>
0 to 1	Dioxins/Furans, Lead
1 to 3	Lead
0 to 1, 1 to 3	Dioxins/Furans, Lead
0 to 1, 1 to 3	Dioxins/Furans, Lead
1 to 3	Dioxins/Furans, Lead
	0 to 1 1 to 3 0 to 1, 1 to 3 0 to 1, 1 to 3

III. Summary of Proposed Additional Sampling

The proposed additional soil sampling and analyses are summarized in the following table.

	CI-	Depth	Analysis to be Performed		
Parcel ID	Sample Location	Increment (feet)	PCBs	Dioxins/ Furans	Lead
J9-23-3	J9-23-3-SB-3	1 to 3	***	X	
	J9-23-3-SB-4	1 to 3		X	
	RAA13-1	6 to 10	Χ		-
	J9-23-6-SS-1	0 to 1		X	
a Constitution of the Cons	J9-23-6-SB-2	0 to 1		X	Χ
	J9-23-6-SB-2	1 to 3	-		Χ
J9-23-6	J9-23-6-SB-3	0 to 1		X	Χ
	J9-23-6-SB-3	1 to 3		X	Χ
	NS-29A	0 to 1	Χ		
	NS-29A	1 to 3	Χ		p40 100-
	NS-29A	3 to 6	Х		
	NS-29A	6 to 10	Х		
	NS-29A	10 to 15	Х		
J9-23-8	J9-23-8-SB-4	1 to 3		X	
	J9-23-8-SB-5	1 to 3		X	
	J9-23-8-SB-6	1 to 3		X	
	J9-23-8-SB-7	1 to 3		X	
	J9-23-8-SB-8	0 to 1		X	X
	J9-23-8-SB-8	1 to 3		X	X
	J9-23-8-SB-9	1 to 3		X	THE REAL
	RAA13-E92	1 to 3		X	Χ

Note:

-- = No analysis to be performed.

IV. Proposed Schedule

EPA's conditional approval letter of October 2, 2003 for the Supplemental PDI Report stated that, if GE proposes supplemental sampling to complete the RD/RA evaluations, it should submit the Conceptual RD/RA Work Plan within 2 months from EPA's approval of the supplemental sampling proposal. Given the scope of the proposed sampling, however, GE proposes a modification of that schedule. GE anticipates that it will be able to complete the supplemental sample collection activities described above within approximately 2 weeks of receipt of EPA approval of this supplemental sampling proposal, subject to winter weather constraints. However, due to the large number of dioxin/furan analyses proposed as part of these investigations (14 samples), GE anticipates the analytical data for these samples will be received approximately 6 weeks after sample collection. Thereafter, assuming that the supplemental sampling data are sufficient to complete the RD/RA evaluations and identify the limits of any appropriate remediation actions, it will take approximately 2 months to revise the preliminary PCB and Appendix IX+3 evaluations and complete the Conceptual RD/RA Work Plan. As a result, GE proposes to revise the above-mentioned schedule to submit the Conceptual RD/RA Work Plan to EPA within 4 months of receiving EPA's approval of this supplemental sampling proposal.

Please contact me with any questions or comments you have regarding this proposal.

Sincerely,

Richard Gates

Remediation Project Manager

Attachments

V:\GE_Pittsfield_CD_Newell_St_Area_II\Agreement\ & Proposals/04942196.doc

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Pittsfield Department of Health

Public Information Repositories

GE Internal Repository

Western Massachusetts Electric Company -

(Parcels J9-23-6 and J9-23-8)

^{(*} without attachments)





