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March 8, 2012

Elizabeth B. Lukowski
Remedial Bureau C, 11th Floor
NYSDEC
625 Broadway
Albany, NY 12233•7014

RE: Addendum to the FS Report
Penn Yan Former MGP Site
Village of Penn Yan, Yates County, New York
NYSDEC Site No. 8-62-009

Dear Ms. Lukowski:

On June 30, 2010, AECOM, Inc. (AECOM) submitted the draft Feasibility Study (FS) Report for the former manufactured gas plant (MGP) site located in the Village of Penn Yan, New York to you on behalf of NYSEG (New York State Electric & Gas Corporation). On February 24, 2012, NYSEG and AECOM participated in a phone call with you to discuss your comments on the draft report. During that phone call, you requested that we issue an addendum to the FS report to address your comments rather than reissuing the entire report. This letter provides that addendum.

During the phone call, you identified three issues that you want to be addressed, including the following:

- NYSDEC has directed NYSEG to provide a background sediment concentration recalculated using the background sediment data included in the Remedial Investigation Report with samples identified as being near storm water outfalls removed from the data set. Attachment A provides the requested calculations along with revised text for FS Section 2.3.4 describing the results. The text is provided in both redline/strikeout and standard format.
- NYSEG's recommended remedial alternative for the upland portion of the site is Alternative U-2, Excavation of Surface Soil and Visually Impacted Subsurface Soil, Removal of Subsurface Piping, and MNA of Groundwater. This alternative, as described in the FS Report, includes excavation of surface soil in all areas of the site except under portions of the former warehouse/garage concrete slab. NYSDEC has directed NYSEG to further evaluate beneath the concrete slab to determine whether there are soil impacts which require remediation. NYSEG acknowledges that potential impacts beneath the concrete slab will be evaluated during a predesign investigation. This approach is consistent with the current text of the FS Report, so no text revisions are required.

- NYSEG's recommended remedial alternative for the river portion of the site is Alternative S-2, Excavation/Dredging of Visually Impacted Sediment. This alternative, as described in the FS Report, includes excavation or dredging of the top one foot of sediment downstream to the lake level control gates at Main Street. NYSDEC has directed NYSEG to revise the alternative to require excavation or dredging of the top two feet of sediment, unless sediments do not exceed background concentrations. Attachment B provides revised Section 5.4.2, Table 5-8, and Figure 5-4 from the FS report describing NYSEG's proposed approach to addressing this issue. The text is provided in both redline/strikeout and standard format.

If you have any comments or questions about these items, please call me or John Ruspantini.

Regards,

Thomas P. Clark, P.E.
Project Manager

Attachments

cc: Mr. John Ruspantini, NYSEG
Ms. Katherine J. Comerford, NYSDOH

Attachment A

Sediment Background Calculation

2.3.4 Sediment

Sediment samples were collected in the Keuka Lake Outlet as part of the RI fieldwork. Twenty-one (~~20~~21) shallow sediment samples were collected as upstream background samples. An additional 33 shallow sediment samples were collected at locations in the outlet adjacent to and downstream of the former Tar Tank B to the Main Street Bridge. Deeper sediment samples were collected from 23 locations using a vibracore drill. Surface (0-6 inches) sediment samples were analyzed for the following parameters; TCL SVOCs, Total cyanide, Total organic carbon (TOC). The deeper sediment samples collected from the vibracore samplers were analyzed for the following parameters; TCL SVOCs and TOC.

Fifteen out of the 21~~20~~ samples from the upstream area had TPAH14 concentrations greater than the NYSDEC Effects Range Low (ERL) chronic screening criteria of 4 mg/Kg. One sample had a TPAH14 concentration of 81 mg/Kg which is greater than the Effects Range Median (ERM) acute screening criteria of 45 mg/Kg. The highest concentrations of PAHs in the area upstream of the site were detected in samples collected adjacent to storm sewer outfalls which discharge storm water from the urban area of the Village of Penn Yan into the outlet. These concentrations indicate that storm run-off contributes to the elevated PAH levels in the Keuka lake outlet.

The upstream sediment samples were used to calculate a 90th percentile background TPAH17 concentration for the Keuka Lake outlet surface sediments using USEPA's ProUCL statistical software. TPAH17 consists of the TPAH14 compounds with the addition of Benzo(b)fluoranthene, Benzo(k)fluoranthene, and Indeno(1,2,3-cd)pyrene. For the purposes of calculating a representative background number, non-detect samples were assumed to have a concentration of one-half of the detection limit for the compound. Five of the samples; BSD02-06, BSD07-06, BSD10-06, BSD11-06, and BSD18-06; were not used in the background calculations at the direction of DEC because they were collected near stormwater outfalls and believed to be unrepresentative of ambient Outlet sediments For the remaining 16 samples, TPAH17 concentrations range from 6.59 to 257 mg/kg.

The ProUCL software was then used to perform an outlier test to identify and remove from the evaluation samples that may be atypical of the data set. Three samples were identified as outliers; two upper end (BSD09-06 and BSD12-06) and one lower (BSD08-06). Following the removal of the outlier samples from the data set, the distribution of the data was calculated using ProUCL. The calculated 90th percentile for the background data is 42.6 mg/kg. The output file for ProUCL is attached.

The TOC concentrations for the background sediment samples ranged from 3% to 12% organic carbon. No discernable pattern was evident for the TOC concentrations in the upstream sediment sample area. Total cyanide was not detected in any of the samples in concentrations greater than the laboratory reporting limits.

The shallow samples indicated that visible evidence of MGP-related residuals is present in sediments adjacent to the site to a distance approximately 270 feet downstream of this area. The concentrations of TPAH14 ranged up to 3,900 mg/Kg in the area with MGP-related impacts. Further than approximately 360 feet downstream of Tar Tank B, surface sediment PAH concentrations were found to decrease to be within the anticipated range for the samples collected from the upstream area.

The results of probing downstream at SD24 indicated that a hydrocarbon material is present in an approximately 10-foot square area between Outfalls #17, #18, #19, and #20. When the sediments were probed in this area, blebs of viscous, brown material floated to the water's surface and formed a crust when exposed to air. When this layer was contacted, it did not disperse rapidly like a typical MGP-related hydrocarbon sheen would be expected to. Instead, the crusted-over layer broke up into small blocks of material. The material was observed to have a turpentine-like odor. These results also indicate that some impacts in sediment in the outlet are not related to the MGP site.

TOC ranged in concentration between 1% and 31%. No discernable pattern was observed for the TOC results in the outlet adjacent to the site. Total cyanide was not detected in concentrations greater than the method reporting limits for any of the surface sediment samples.

In general, the results of the PAH analyses for the deeper samples confirm the results of the visual characterization which indicated that significantly elevated concentrations of MGP-related constituents of contamination (COC) do not appear to be present at depths greater than 5 feet below the sediment surface in the area near the site, and that the MGP-impacted zone becomes shallower moving away from this area. The results of the deeper coring provide additional information indicating that the impacts are shallow and are likely due to overflow spills from the site, not from deeper migration from the site to the outlet through the subsurface soils.

TOC concentrations in the deeper sediments ranged from approximately 1% to 4%. Similar to the shallow sediment samples, no discernable pattern was observed for the TOC concentrations.

Sediment sampling results from historical sampling events and the RI are included on Figure 2-10.

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Raw Data Set w/o outfall samples

Sample ID	TPAH17	ln(TPAH17)	
BSD01-06	9.54	2.255493	
BSD03-06	21.9	3.086487	
BSD04-06	23.65	3.163363	
BSD05-06	29.4	3.380995	
BSD06-06	56.5	4.034241	
BSD08-06	6.59	1.885553	Low Outlier
BSD09-06	257	5.549076	High Outlier
BSD12-06	132	4.882802	High Outlier
BSD13-06	20.5	3.020425	
BSD14-06	19.8	2.985682	
BSD15-06	25.9	3.254243	
BSD16-06	43	3.7612	
BSD17-06	21.6	3.072693	
BSD19-06	20.4	3.015535	
BSD20-06	23.9	3.173878	
BSD50-06	41.7	3.730501	

From ProUCL

Summary Statistics for Log-Transformed Full Dataset

NumObs	Minimum	Maximum	Mean	Median	Variance	SD	MAD/0.675	Skewness	Kurtosis	CV
16	1.886	5.549	3.391	3.169	0.791	0.889	0.293	0.933	1.67	0.262

Percentiles for Log-Transformed Full Dataset

NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
16	1.886	2.108	2.992	3.016	3.163	3.731	3.755	4.374	5.016	5.442

Outlier Range	
IQR	0.715
1.5*IQR	1.0725
Lower Lim	1.9435
Upper Lim	4.8035

Data Set without Outfalls or Outliers

Sample ID	TPAH17	ln(TPAH17)
BSD01-06	9.54	2.255493
BSD03-06	21.9	3.086487
BSD04-06	23.65	3.163363
BSD05-06	29.4	3.380995
BSD06-06	56.5	4.034241
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BSD14-06	19.8	2.985682
BSD15-06	25.9	3.254243
BSD16-06	43	3.7612
BSD17-06	21.6	3.072693
BSD19-06	20.4	3.015535
BSD20-06	23.9	3.173878
BSD50-06	41.7	3.730501

From ProUCL

Summary Statistics for Log-Transformed Full Dataset

NumObs	Minimum	Maximum	Mean	Median	Variance	SD	MAD/0.675	Skewness	Kurtosis	CV
13	2.255	4.034	3.226	3.163	0.196	0.443	0.219	-0.156	1.333	0.137

Percentiles for Log-Transformed Full Dataset

	NumObs	5%ile	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
	13	2.255	2.475	3.004	3.017	3.125	3.349	3.521	**3.752**	3.857	3.999
mg/kg		9.5	11.9	20.2	20.4	22.8	28.5	33.8	**42.6**	47.3	54.5

Attachment B

Revised Alternative S-2
Excavation/Dredging Of Visually Impacted Sediment

5.4.2 Alternative S-2 – Excavation/Dredging of Visually Impacted Sediment

5.4.2.1 Description

Figure 5-4 shows the layout of Alternative S-2. Design elements of the alternative include the following:

- Excavation/dredging of sediment
- Backfill of dredged areas to restore original bathymetry
- Off-site transportation of excavated material to a permitted thermal treatment
- MNR

As part of Alternative S-2, sediment located within the identified limits of sediment impacts upstream of the outlet control structure will be excavated to remove sediment visually impacted by MGP materials. ~~to a depth of at least one foot below the sediment surface. In areas where visual impacts extend deeper than one foot below the sediment surface, the sediments will be excavated until they are visually clean.~~ No impacts have been identified in the clay layer underlying the site, so it appears to serve as a confining layer and will serve as a natural limit of vertical excavation. In areas where there are no visual impacts, sediment will be removed to a depth of no more than two feet below the sediment surface. The final required limits of excavation would be refined based on the results of a pre-design investigation (PDI). If the results of the PDI indicate that concentrations of total PAHs in sediment are less than the established sediment background value of 42.6 mg/kg, the required depth of sediment removal may be reduced. Excavation would be conducted using conventional earth moving equipment. Alternate methods of sediment removal, including mechanical or hydraulic dredging, may be considered during design.

To permit excavation of the impacted materials the flow through the outlet will need to be diverted away from the excavation area. One possible method is to install a temporary watertight sheet-pile cofferdam for approximately 690 feet down the middle of the Keuka Lake outlet channel. Each side of the cofferdam would be closed off with sheet pile as needed to permit excavation while allowing normal flow through the outlet on the other side. After each side is closed off, the standing water will be pumped out of the cofferdam back into the outlet. To permit installation of sheet piling and excavation on the southern half of the outlet, an access road through the village owned park on the southern bank would be required. Special consideration will need to be taken around the abandoned railroad bridge. The bridge may need to be partially or fully demolished to permit cofferdam installation, or materials underneath the railroad bridge may need to be left in place to protect the bridge. Other options for diversion are equally feasible. The actual diversion method will be chosen during the design phase. The method described here will be assumed for the purposes of this FS.

Dewatering and construction water treatment systems would be required to maintain dry conditions during sediment removal and backfill. The dewatering system would consist of pumps installed in sumps in the excavation. Water removed by the system would be piped to the construction water treatment system for removal of organic constituents and then discharged to surface water. Removal and treatment rates would be determined during the pre-design investigation. Cofferdam sheet piles would be sealed with hydrophilic interlock sealant to minimize seepage into the excavation. It is estimated that a 50 gpm treatment system would provide sufficient treatment capacity to maintain a dewatered excavation.

Sediment would be transported to an onsite soil staging area staging for dewatering and/or blending of amendments to reduce soil moisture before leaving the site. Excavated materials would be transported to a permitted thermal treatment facility or landfill. Approximately ~~2,540~~5,080 cubic yards of sediment from the top two feet~~foot~~ over an area of 68,500 square feet would be excavated. An additional 13,170 square feet of sediment would be excavated as deep as the underlying clay layer for an additional ~~2,030~~1,550 cubic yards of sediment. The total quantity of sediment to be excavated and sent off-site for treatment or disposal is estimated to be ~~8,160~~11,670 tons.

When sediment removal is complete, excavation areas would be backfilled to original grade with clean imported fill. Fill material will be chosen to provide appropriate habitat for benthic organisms. The cofferdams and access road along the south will be removed, and the park and trail will be restored to their original condition with landscaping and planting.

The proposed scope of activities for alternative S-2 would result in removal of all NAPL impacted sediment and the sediment with the most significant PAH impacts. Exposure levels of the remaining COCs will be reduced by a decrease in concentration in the near-surface sediment zone through placement of clean backfill. Monitored Natural Recovery would be implemented to document COC concentrations in the near-surface sediment zone post construction.

OM&M activities which would be required once site construction is completed would include the following:

- Annual sediment sampling for two years and at year five. Samples would be analyzed for COC to demonstrate long-term trends of surface sediment contaminant concentrations. After the initial two year period, the required analyses would be re-evaluated.
- Status report once per year until cleanup objectives have been reached.

5.4.2 Alternative S-2 – Excavation/Dredging of Visually Impacted Sediment

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Figure 5-4 shows the layout of Alternative S-2. Design elements of the alternative include the following:

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- Status report once per year until cleanup objectives have been reached.

AECOM

Table 5-8
Alternative S-2 Capital Cost
NYSEG - Penn Yan Former MGP Site - Penn Yan, New York
Revised March 1, 2012

Alternative S-2 – Excavation/Dredging of Shallow Sediment and Visually Impacted Sediment, Placement of Backfill, and MNR								
Prime Contractor Costs					20%			
Task ID	*Task Descr.*	*Unit*	*Quantity*	*Bare Cost*	*Contingency*	*Total Cost*	*Unit Rate*	*%*
1	*Mobilization*	*LS*	*1*	*$382,800*	*$76,560*	*$459,360*	*$459,360*	*18%*
2	*Site Fencing and Erosion Control*	*LF*	*1,500*	*$27,750*	*$5,550*	*$33,300*	*$22*	*1%*
3	*Odor Control Foam Consumables*	*MO*	*2*	*$23,360*	*$4,672*	*$28,032*	*$14,016*	*1%*
4	*Excavation Shoring*	*SF*	*33,820*	*$1,223,700*	*$244,740*	*$1,468,440*	*$43*	*56%*
5	*Excavation Dewatering*	*Week*	*8*	*$40,000*	*$8,000*	*$48,000*	*$6,000*	*2%*
6	*Excavation & Material Handling*	*CY*	*6,630*	*$302,500*	*$60,500*	*$363,000*	*$55*	*14%*
7	*Backfill and Site Restoration*	*CY*	*6,630*	*$185,970*	*$37,194*	*$223,164*	*$34*	*9%*
				$2,186,080	*$437,216*	*$2,623,296*		*100%*
Other Contracts & Purchases					20%			
Task ID	*Task Descr.*	*Unit*	*Quantity*	*Bare Cost*	*Contingency*	*Total Cost*	*Unit Rate*	*%*
1	*Waste Disposal*	*Ton*	*12,034*	*$1,095,049*	*$219,010*	*$1,314,058*	*$109*	*100%*
				$1,095,049	*$219,010*	*$1,314,058*		*100%*
Oversight Costs					20%			
Task ID	*Task Descr.*	*Unit*	*Quantity*	*Bare Cost*	*Contingency*	*Total Cost*	*Unit Rate*	*%*
1	*Temporary Facilities*	*MO*	*3*	*$9,800*	*$1,960*	*$11,760*	*$3,920*	*2%*
2	*Air Monitoring and Health and Safety*	*Weeks*	*12*	*$140,000*	*$28,000*	*$168,000*	*$14,000*	*24%*
3	*Personnel*	*Man Hours*	*1,969*	*$428,403*	*$85,681*	*$514,084*	*$261*	*74%*
				$578,203	*$115,641*	*$693,844*		*100%*
Grand Total						*$4,631,198*		

NO	DRWN	DATE	REVISION	CHKD	DATE	APPVD	DATE
7							
6							
5							
4							
3							
2							
1							
0							

AECOM

AECOM Environment
250 APOLLO DR.
Chelmsford, MA 01824
www.aecom.com

PENN YAN WATER STREET
FORMER MGP SITE
PENN YAN, NEW YORK

PROJ. NUMBER: 60149563

DATE: 02/29/12

ALTERNATIVE S-2 - EXCAVATION/DREDGING OF VISUALLY IMPACTED SEDIMENT

FS REPORT

DRAWING NUMBER: 5-4

SHEET NUMBER: 1

REVISION: 0