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Memorandum

To: Andrew Prophete (National Grid NY)

From: Brian Skelly

Copy to: Richard Dana, R. Scott Deyette (NYSDEC), and Chris Schroer (EA Engineering)

Stephanie Selmer (NYSDOH)

Dave Boram and Thor Helgason (de maximis)

Ted Leissing (National Grid NY)

Shail Pandya (AECOM)

Ronell Marshall (GEI Consultants, Inc.)

Date: April 3, 2012

Regarding: Weekly Community Air Monitoring Report

Clifton Former MGP Site - Operable Unit 2 (OU-2)

March 24, 2012 through March 30, 2012

Dear Andrew:

This report includes a summary of data collected during implementation of the Community Air Monitoring Plan (CAMP) at the Clifton Former MGP Site Operable Unit 2 (OU-2) in Staten Island, New York. Data collected are discussed in relation to remediation activities that occurred between March 24 and March 30, 2012.

There were no fifteen-minute exceedances of the Total Volatile Organic Compounds (TVOC), Particulate Matter (PM-10) [dust], or odor action levels associated with ground intrusive site activities during this reporting period. Fifteen-minute averages of TVOC, PM-10, and odor intensity data remained at a Site Condition 1.

Some elevated dust measurements occurred during the week that were caused by construction vehicle traffic and exhaust and mechanical hammering to break concrete onsite that exceeded the fifteen-minute action level for Particulate Matter (PM-10) [dust] data. GEI notified the construction manager. Concentrations of PM-10 decreased below the alert level and action levels within 15 minutes of each occurrence. Since these activities were no related to ground intrusive activities at these times, PM-10 remained at a Site Condition 1. The tables and figures accompanying this report summarize air monitoring results related to the action levels described by the CAMP Work Plan (AECOM, 2011 and GEI, 2012).

The following information is summarized in this report:

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- Site construction activities
- Daily maximum 15-minute average concentrations of TVOC and PM-10 (dust) at each fixed station
- Elevated concentrations (if any)
- Meteorological data

Site Construction Activities

Construction activities during this reporting period included:

- Asbestos abatement in 1-story building in OU-2
- Cleaning out storm water drain in OU-2
- Constructing scaffolding in OU-2
- EEI and TTI contractors mobilized to site for asbestos removal work
- Hand-digging well points in temporary fabric structure (TFS)
- Installation of electrical connection for lights in TFS
- Installation of stacks on carbon bed for air handling unit
- Installation of wood panels on temporary fence around OU-2
- Installation of crushed stone access ramp to decontamination pan
- Level A survey on Willow Ave
- Photography inside storm water drain in OU-2
- Pre-trenching in TFS
- Running power lines through conduits around inside perimeter in OU-2
- Welding splice plates inside of TFS
- Well points in OU-1

Data collection

Real-time fixed station monitoring for TVOC and PM₁₀ (dust) was performed on the OU-2 site perimeter at six locations (FAM#1 through FAM#6). FAM#3 was located in the northeast corner of the 40 Willow Avenue Property during the week. Four AirLogics Classic stations equipped with gas chromatographs (GCs) were operated at FAM#2, FAM#3, FAM#4, and FAM#5 and two AirLogics Light stations were operated at FAM#1 and FAM#6. Diesel generators were used to power the four AirLogics Classic stations and will continue 24 hours a day, 7 days per week until 120 volt electrical connections are established onsite.

Table 1 summarizes the target concentrations for action levels and Site Conditions described by the CAMP. Table 2 provides a daily summary of maximum fifteen-minute average ambient air concentrations from each station. The daily reports appended to this report depict more detailed and time-specific comparison of upwind and downwind measurements and site activities that is needed to determine the Site Condition.

Upwind and downwind ambient air verification samples were not collected this week since very little ground intrusive activity took place. Ambient air verification sampling will begin when ground intrusive activity begins. Meteorological data collected at the on-site weather station are

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included in this report as Figures 1 through 4 which show a directional wind rose for the period and temperature, relative humidity, and wind speed time series for the period.

If you have any questions regarding the information in this report, please contact me.

References

AECOM (2011). Appendix A of CERP Community Air Monitoring Plan (CAMP) Former Manufactured Gas Plant Operable Unit - 2 Remediation. Clifton, New York. August.

GEI Consultants, Inc (2012). Community Air Monitoring Plan: Clifton Former Manufactured Gas Plant Site – Operable Unit 2, Borough of Staten Island, New York. February.

New York State Department of Environmental Conservation (2010). DER-10 / Technical Guidance for Site Remediation and Investigation. Washington: Division of Environmental Remediation, December. Appendix 1-A. May.

Table 1 - Action Levels and Site Conditions Community Air Monitoring Program Clifton Former MGP Site Operable Unit 2 Borough of Staten Island, New York

	Alert Level	Action Level	Site Condition 1	Site Condition 2	Site Condition 3
TVOC (15-minute)	3.7 ppm	5.0 ppm	< 3.7 ppm	≥ 3.7 ppm, < 5.0 ppm	≥ 5.0 ppm
TVOC (1-minute)	NA	25 ppm	< 25 ppm	NA	≥ 25 ppm
PM-10 (15-minute)	100 ug/m ³	150 ug/m ³	< 100 ug/m ³	≥ 100 ug/m³, < 150 ug/m³	≥ 150 ug/m ³
Odor (15-minute)	Odors / Complaints	NA	No odors	NA	3 (n-butanol)
HCN (15-minute)	Visual Detection	NA	< 0.6 ppm	≥ 0.6 ppm (4-gas meter)	≥ 0.6 ppm (Draeger tube)
Naphthalene (15-minute)	NA	NA	< 440 ug/m ³	≥ 330 ug/m³, < 440 ug/m³	≥ 440 ug/m ³

Notes:

ug/m³ - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter

HCN - hydrogen cyanide

NA - not applicable



¹ Alert Levels are not established by the NYSDOH or NYSDEC and are internally established concentration levels for total volatile organic compounds. Alert Levels are set below the levels established by the NYSDOH so that actions can be taken prior to exceeding a NYSDOH threshold. An Alert Level serves as a screening tool to trigger contingent measures if necessary, to assist in minimizing off-site transport of contaminants during remedial activities

² Response Levels and Action Levels are not defined in Appendix 1A of the New York State Department of Environmental Conservation *DER-10 / Technical Guidance for Site Investigation and Remediation* (NYSDEC, 2010)

Table 2. Daily Maximum 15-Minute Average Concentrations of TVOC and PM-10 Community Air Monitoring Program Clifton Former MGP Site Operable Unit 2 Borough of Staten Island, New York

			TV	ос			PM-10							
Date			(pp	om)		(ug/m³)								
	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6	FAM-1	FAM-2	FAM-3	FAM-4	FAM-5	FAM-6		
3/24/2012	0.0	0.1	0.2	0.1	0.0	0.1	66	21	4	34	58	143		
3/25/2012	0.0	0.0	0.2	0.2	0.0	0.1	35	32	8	18	22	43		
3/26/2012	0.0	0.1	0.3	0.5	0.5	0.2	62	40	18	296	152	127		
3/27/2012	0.0	0.0	0.5	0.2	0.1	0.1	64	68	3	46	128	58		
3/28/2012	0.0	0.1	0.5	0.2	0.1	0.3	80	44	3	14	3	68		
3/29/2012	0.0	0.0	0.3	0.5	0.0	0.2	42	34	5	182	76	84		
3/30/2012	0.0	0.0	0.2	0.2	0.1	0.2	195	49	2	9	35	43		
Average	0.0	0.1	0.3	0.3	0.1	0.2	78	41	6	86	68	81		
Maximum	0.0	0.1	0.5	0.5	0.5	0.3	195	68	18	296	152	127		

Notes:

FAM - fixed air monitoring station location

ug/m³ - micrograms per cubic meter

ppmv - parts per million by volume

TVOC - total volatile organic compounds

PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter



Figures 1-4. Meteorological Data Clifton Former MGP Site Staten Island, NY

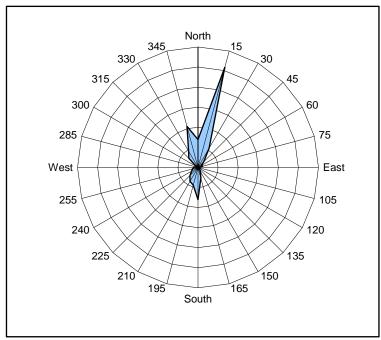


Figure 1. Wind rose for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Wind direction data used to create the wind rose were calculated from 1-minute averages.

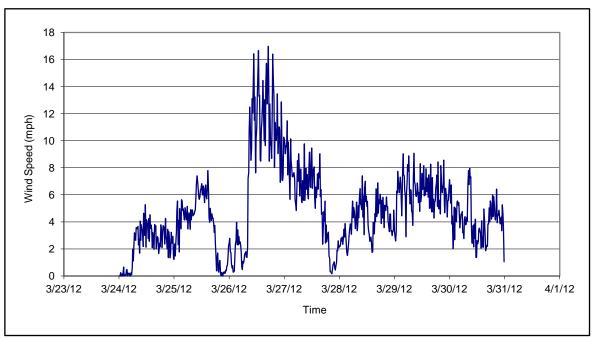


Figure 2. Wind speed for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

Figures 1-4. Meteorological Data Clifton Former MGP Site Staten Island, NY

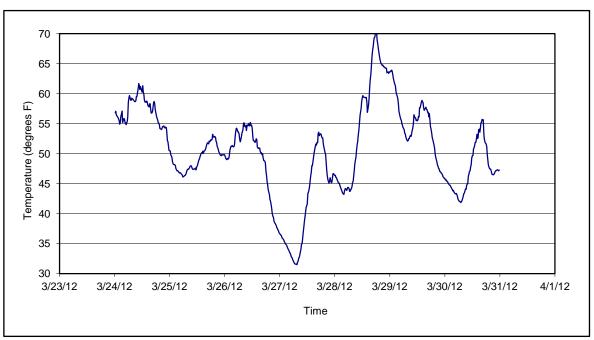


Figure 3. Temperature for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

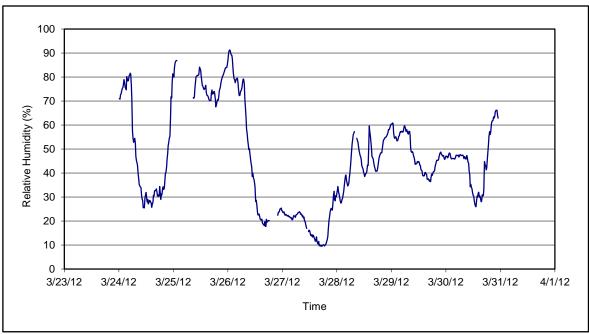


Figure 4. Relative humidity for the period 03/24/12 through 03/30/12 collected during CAMP implementation at the Clifton Former MGP Site - Operable Unit 2. Data are 15-minute averages.

	Syste	m Operation	ıs							Gener	al Observation	ons			
		mpling Date	3/26/	2012	General We										
		n Start Time		nuous	Sunny ~3	5° F- ~5	5°F								
		m Stop Time		nuous											
	I otal Hi	s Monitored	2	4			of Site Activities:		\\/ = = : =- =		::4 TEC				
	Cuatam	Calibrations	_)k	Health &	-	-		Welding splice plates inside of TFS Asbestos abatement in 1-story building						
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								3	15-Minute						
Data	Alert	01-11-11	Start	End	# of	Wind	Upwind/	Upwind	Downwir	d-Upwind	Site	Site Activity During the Period	Antique Talan		
Date	Trigger	Station	Time	Time	15-min Periods	Dir.	Downwind	Station(s)	Conce	ntration	Condition	(if applicable)	Actions Taken		
					renous				Min**	Max**					
3/26/2012	PM-10	FAM#4	10:39	10:40	1	NW	CW/UW	N/A	152	152	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
3/26/2012	PM-10	FAM#4	10:52	10:55	4	N	DW	FAM#6	112	130	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
3/26/2012	PM-10	FAM#4	14:59	15:19	20	NW	CW/UW	N/A	156	296	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
3/26/2012	PM-10	FAM#5	12:18	12:20	3	N	CW/DW	FAM#6	82	102	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
3/26/2012	PM-10	FAM#6	12:30	12:39	10	NE	CW/DW	FAM#1	87	110	1*	No ground intrusive activity. Onsite construction vehicle exhaust.	Notified construction manager. Construction vehicle was relocated and dust levels decreased.		
Camana 1															
Comments:		tivity took pla	oo today												
No ground in					during this r	norting	neriod PM-10 rem	ained at a Site Condition 1.							
Since no gi	ound mill	SIVE ACTIVILIE	O WOIG CO	, iducted		PM-10 (1		TVOC (15-min)		TVOC	(1-min)				
Alert Limit: 100 ug/m ³ 3.7 ppm											- (· ······)				
				ion Limit:		150 u		5.0 ppm		25	ppm				
** Upwind FAM - Fixe ug/m³ - mi										articulate ma	atter (i.e. dust) organic compo	less than 10 microns in diameter unds Field Representative	: Ronell Marshall		
ppmv - pa	rts per mill	ion by volum	е									Date			
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March Marc										Min**	Max**							
Comments: **Since dust from construction vehicle traffic occurred outside the tented area of ground intrusive activity, PM-10 remained at a Site Condition 1. **PM-10 (15-min) TVOC (15-min) TVOC (1-min) Alert Limit: 100 ug/m³ 3.7 ppm 2.5 ppm Action Limit: 150 ug/m³ 5.0 ppm 25 ppm **Notes: **Wind directions are presented by octant (i.e. N, NE, E, SE, S, SW, W, NW). **PM-10 - particulate matter (i.e. dust) less than 10 microns in diameter TVOC - total volatile organic compounds FAM - Fixed Air Monitorign station location ug/m³ - nicrograms per cubic meter **No no data available Field Representative: Ronell Marshall ug/m² 327/2012	3/27/2012	PM-10	FAM#5	12:41	12:55	15	NW	CW/UW	N/A	126	127	1*	Onsite construction vehicle traffic.	sprayed water on the ground surface to				
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FAM - Fixed Air Monitorign station location ug/m³ - micrograms per cubic meter ppmv - parts per million by volume NA - not applicable ND - no data available Field Representative: Ronell Marshall 3/27/2012																		
ug/m³ - micrograms per cubic meter ppmv - parts per million by volume ND - no data available Field Representative: Ronell Marshall 3/27/2012											· ·							
ppmv - parts per million by volume Date: 3/27/2012					-						•	Δ	Field Representative	Ronell Marshall				
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	ppiliv - pa	aro por mili	ion by volulli	J									Date	Page 1 of _1_				



	Syste	m Operation								Gener	ral Observation	ons					
		mpling Date		2012	General We	eather C	onditions:										
		n Start Time	conti	nuous	Sunny-Cl	oudy w/	Stormy rain ~44°F-6	8 °F									
		m Stop Time	conti	nuous		-	-										
		s Monitored	2	24	General De	scription	of Site Activities:										
					Health &				Level A su	rvey on Wil	llow Ave						
	System	Calibrations	C)k	Continuo				Asbestos abatement in 1-story building								
		Γime/Status)		-0854			m water drain in OU	2				orary fence around OU2					
		,			Well poin			_				,					
	1	T		1		ı			Т								
					# of					linute							
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind		d-Upwind	Site	Site Activity During the Period	Actions Taken				
Date	Trigger	Ctation	Time	Time	Periods	Dir.	Downwind	Station(s)		ntration	Condition	(if applicable)	Actions Taken				
									Min**	Max**							
	1						-		1								
	1																
Comments	:						L.										
						DM 40 4	15-min)	TVOC (15-min)		TVO	C (1-min)						
			٨	lert Limit:		100 u		3.7 ppm		1 400	- (1-111111)						
				ion Limit:		150 u		5.0 ppm		25	- 5 ppm						
Notes:			, 101				<u>5</u>	0.0 Ppiii		20	, LL						
	rections are	presented b	v octant	(ie N N	F F SF S	sw w	NW)		PM-10 - na	rticulate m	atter (i.e. dust) less than 10 microns in diameter					
		vnwind conce									organic compo						
		itorign statior			ie specific co	nipans	л.		NA - not ap		nganic compo	Julius					
		per cubic met		I					ND - no da		•	Field Representative:	Ronell Marshall				
									אס - חאו da	ıa avallable	5	Field Representative: Date:	Ronell Marshall 3/28/2012				
bbius - ba	aris per mili	ion by volume	=									Date: _	3/28/2012 Page 1 of <u>1</u>				
													Page 1 of _1				



	Syster	n Operation	ıs							Gener	ral Observatio	ns			
		mpling Date		2012	General We	eather Co	onditions:								
		n Start Time	conti	nuous	Sunny ~5	unny ~55° F- ~57°F									
		n Stop Time	conti	nuous											
		s Monitored	2	24	General De	scription	of Site Activities:								
					Health &	Safety M	leeting		Level A survey on Willow Ave						
	System	Calibrations	C)k	Continuo	us Air M	onitoring		Asbestos a	batement of	on roof of 1-sto	ory building			
		ime/Status)	0652	-0920								orary fence around OU2			
					Pre-trend	hing in 1	FS		Running po	wer lines t	through condui	ts around inside perimeter inOU2			
				-	Construc	ting scaf	folding in OU2								
Date	Alert Trigger	Station	Start Time	End Time	# of 15-min Periods	Wind Dir.	Upwind/ Downwind	Upwind Station(s)	15-M Downwin Concer Min**	d-Upwind	Site Condition	Site Activity During the Period (if applicable)	Actions Taken		
3/29/2012	PM-10	FAM#4	12:04	12:17	14	NW	CW/UW	N/A	156	182	1*	No ground intrusive activity Heavy winds picking up loose dirt.	Notified construction manager. Contractor sprayed water on the ground surface to control the dust.		
									1						
* Since no d		sive activities	s were co	nducted	during this ti	me neric	d PM-10 remained	at a Site Condition 1.							
Sinoc no g	. cana inti u	OITO GOLIVILIO	2 11010 00	aaotoa		PM-10 (1		TVOC (15-min)		TVOC	C (1-min)				
			А	lert Limit:		100 u		3.7 ppm							
				ion Limit:		150 u		5.0 ppm		25	5 ppm				
** Upwind	minus dow	presented by prese	y octant entrations	(i.e. N, N are a tin	E, E, SE, S,	SW, W,	NW).			rticulate m al volatile d		less than 10 microns in diameter unds			
	AM - Fixed Air Monitorign station location g/m³ - micrograms per cubic meter									ta available	е	Field Representative	: Ronell Marshall		
_	•	ion by volum										Date			
	•	•											Page 1 of _1		



	Svstei	m Operation	ıs		1					Gener	ral Observation	ns			
		mpling Date		/2012	General We	eather Co	onditions:					-			
		n Start Time		nuous	Sunny- ~										
		n Start Time		nuous	J Guilly- ~	⊤∠ ~,	, i								
		's Monitored		11uous 24	Caparal Da	oorinties	of Cita Activities								
	i otai Hi	s ivioriitored	2	24			of Site Activities:		A :		II A				
	_		-		Health &				Level A su						
		Calibrations		Ok	Continuo				Asbestos abatement in 1-story building						
	(٦	Γime/Status)	0617	-0751			m water drain in Ol	J2	Installation of wood panels on temporary fence around OU2						
					Well poin	its in OU	1		Running po	ower lines t	hrough condui	ts around inside perimeter inOU2			
				1		1					- -		, 		
			_		# of				_	inute					
Date	Alert	Station	Start	End	15-min	Wind	Upwind/	Upwind	Downwin		Site	Site Activity During the Period	Actions Taken		
Date	Trigger	Otation	Time	Time	Periods	Dir.	Downwind	Station(s)		ntration	Condition	(if applicable)	/ totione ranem		
					1 011000				Min**	Max**					
3/30/2012	PM-10	FAM#1	14:26	14:30	5	NW	CW	FAM#6	146	181	1*	No ground intrusive activity. Onsite construction vehicle traffic.	Notified construction manager. Dust levels decreased after the vehicle passed.		
Comments															
* Since no g	round intru	sive activitie	s were co	onducted				at a Site Condition 1.							
	PM-10 (15-min) TVOC (15-m									TVOC	C (1-min)				
				lert Limit:		100 u		3.7 ppm	-						
			Act	tion Limit:		150 u	g/m³	5.0 ppm		25	ppm				
Notes:															
* Wind dir	ections are	presented b	y octant	(i.e. N, N	E, E, SE, S,	SW, W,	NW).		PM-10 - pa	rticulate m	atter (i.e. dust)	less than 10 microns in diameter			
	** Upwind minus downwind concentrations are a time specific comparison.										organic compo				
	FAM - Fixed Air Monitorign station location										NA - not applicable				
		per cubic me							ND - no da		Э	Field Representative	Ronell Marshall		
-	-	ion by volum									-	Date			
		,	-									Bato	Page 1 of _1_		

