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Weekly Community Air Monitoring Summary

Client:	**National Grid**
Location:	**Patchogue, New York**
Period:	**6/17/19 – 6/23/19**

On behalf of National Grid, AECOM's Design and Consulting Services Group (AECOM) has prepared this air monitoring data summary for National Grid's Patchogue Manufactured Gas Plant (MGP) Site in Patchogue, New York (referred to herein as "Site"). This data summary includes both tabular information and written discussions summarizing the ambient air-quality data collected at the Site during the indicated reporting period. The data was collected in accordance with the Community Air Monitoring Plan (CAMP) prepared by AECOM (June 2019) during the remediation activities at the Site. The CAMP is based on and builds on the air monitoring guidelines established by the *New York State Department of Health (NYSDOH) in the New York State Department of Environmental Conservation (NYSDEC) DER-10 Technical Guidance for Site Investigation and Remediation (DER-10)* (May 2010).

Introduction

Air monitoring and sampling activities were conducted during the report period to evaluate conditions at the property line (fenceline) to ensure that the measures used to control potential fugitive emissions are effective, and to document ambient air quality/conditions at the fenceline. The monitoring program consists of the following real-time monitoring and integrated constituent-specific sampling:

- Continuous real-time monitoring for 15-minute total volatile organic compound (TVOC) and respirable particulates (PM_{10}) concentrations conducted at five (5) perimeter air monitoring (PAM) stations;
- Instantaneous hand-held monitoring for TVOCs and PM_{10}, as well as observational monitoring for odor and visible dust conducted periodically during work hours;
- Integrated 24-hour constituent-specific sampling for Volatile Organic Compound (VOC) Constituents of Interest (COI) conducted using SUMMA® canisters and subsequent analysis by United States Environmental Protection Agency (USEPA) Method TO-15; and
- Continuous 15-minute meteorological monitoring for wind speed, wind direction, sigma (wind variability, calculated), temperature and relative humidity at an onsite location 24 hours per day 7 days per week.

The real-time continuous and hand-held monitoring results are compared to a list of Site-specific Screening Levels developed for the Site. In general the Alert and Response Levels are internal Screening Levels that will be used to implement controls so that the NYSDEC/NYSDOH Screening Levels defined in DER-10 are not exceeded. This summary will include details of any concentrations greater than the NYSDEC and NYSDOH Action or Stop Work Screening Levels. The Screening Levels are defined in the following table:

- **Table 1**: Site-Specific Real-Time Screening Levels.

Real-Time Air Monitoring Summary

Real-time continuous TVOC and PM_{10} monitoring was conducted at each of the five PAM stations. In addition, supplemental hand-held monitoring for TVOCs and PM_{10} as well as observational odor and visible dust assessments were also conducted.

During the report period there were no 15-minute TVOC or PM_{10} concentrations measured greater than the Action or Stop Work Levels. The results of the real-time air monitoring are presented in the following tables:

- **Table 2**: Weekly Real-Time Maximum Concentrations Summary; and
- **Table 3**: Weekly Elevated Concentrations greater than the Action and Stop Work Levels.

Weekly Integrated VOC Sampling Summary

Two integrated 24-hour VOC samples were collected at one upwind and one downwind station and were shipped to ALS Environmental for USEPA TO-15 analysis. The results of the integrated VOC sampling are provided following receipt from the analytical laboratory and are included in the following tables:

- **Table 4**: Integrated VOC Results Summary.

Meteorological Monitoring Summaries and Site Map(s)

Additional information related to the air monitoring activities during the report period is included in the following figures:

- **Figure 1**: Meteorological Summaries; and
- **Figure 2**: Site Map.

Table 1: Site-Specific Screening Levels

	Internal National Grid Screening Levels		NYSDEC / NYSDOH Screening Levels	
Target Compound	**Alert Level**	**Response Level**	**Action Level**	**Stop Work Level**
TVOC (15-minute average or instantaneous concentration)	2.5 ppm > background	3.7 ppm > background	5.0 ppm > background	25 ppm > background
PM_{10} (15-minute average or instantaneous concentration)	75 µg/m^3 > background	NA	100 µg/m^3 > background	150 µg/m^3 > background
Odor (Instantaneous observation related to Site activities)	Onsite odor observation > 3	NA	Offsite odor complaint	NA
Visible Dust (Instantaneous observation related to Site activities)	Observation of dust onsite	NA	Observation of dust moving offsite	NA

Definitions:

TVOC – Total Volatile Organic Compounds

PM_{10} – Respirable Particulate Matter

ppm – Parts per million

µg/m^3 – Micrograms per cubic meter

Notes:

- Screening Levels were obtained from the Site Specific CAMP, prepared by AECOM (2019).

Table 2: Weekly Real-Time Maximum Concentrations Summary

Date	PAM-1		PAM-2		PAM-3		PAM-4		PAM-5		Hand-held			
	PM_{10} ($\mu g/m^3$)	TVOC (ppm)	PM_{10} ($\mu g/m^3$)	TVOC (ppm)	PM_{10} ($\mu g/m^3$)	TVOC (ppm)	PM_{10} ($\mu g/m^3$)	TVOC (ppm)	PM_{10} ($\mu g/m^3$)	TVOC (ppm)	TVOC (ppm)	PM_{10} ($\mu g/m^3$)	Odor (0-8)	Visible Dust
Mon 6/17/19	41.7	0.2	50.2	0.0	43.0	0.0	41.9	0.0	33.7	0.0	0	29	0	No
Tue 6/18/19	38.4	0.1	43.4	0.0	40.9	0.0	36.6	0.0	37.4	0.0	0	103	1	No
Wed 6/19/19	20.6	0.0	23.6	0.0	23.3	0.0	18.7	0.0	19.8	0.0	0	29	0	No
Thu 6/20/19	95.5	0.5	41.5	0.0	35.4	0.0	36.4	0.0	34.6	0.0	ND[1]	ND[1]	1	Yes
Fri 6/21/19	26.8	0.0	32.5	0.7	30.7	0.0	27.4	0.0	26.7	0.1[3]	0	18	0	No
Sat 6/22/19	15.3	0.0	19.1	0.3[2]	17.5	0.0	15.1	0.2	15.3	0.0[3]	NA	NA	NA	NA
Sun 6/23/19	17.2	0.0	20.6	0.2[2]	18.3	0.0	16.5	0.2	15.9	0.1[3]	NA	NA	NA	NA
Weekly Summary														
Weekly Maximum	95.5	0.5	50.2	0.7	43.0	0.0	41.9	0.2	37.4	0.1	--	--	--	--
Weekly Average	14.5	0.0	18.2	0.0	17.9	0.0	14.0	0.0	13.9	0.0	--	--	--	--

Definitions:

PAM – Perimeter Air Monitoring Station

TVOC – Total Volatile Organic Compounds

ppm – Parts per million

PM_{10} – Respirable Particulate Matter 10 micrometers or less

$\mu g/m^3$ – Micrograms per cubic meter

ND – No Data

NA – Not Applicable

Notes:

- Highlighted concentrations (if any) require further analysis (see **Table 3**).
- PAM reported TVOC and PM_{10} data represent 15-minute average concentrations.
- Hand-held data represent instantaneous concentrations/observations unless stated otherwise.

[1] Hand-held monitoring not performed due to rainy conditions.

[2] TVOC concentrations invalid 6/22/19 (10:00AM through 7:45PM) and 6/23/19 (10:00AM through 6:15PM) due to instrument malfunction.

[3] TVOC concentrations invalid 6/21/19 (4:15PM) through 6/22/19 (11:45PM) and 6/23/19 (7:15AM through 11:30AM) due to instrument malfunction.

Table 3: Weekly Elevated Concentrations greater than the Action Level

Parameter	Date	Time	Location	Wind Conditions	Elevated Concentration(s)	Comments/Explanation
TVOC	NA	NA	NA	NA	NA	TVOC concentrations remained below the Action and Stop Work Levels.
PM_{10}	NA	NA	NA	NA	NA	PM_{10} concentrations remained below the Action and Stop Work Levels.

Definitions:
PAM – Perimeter Air Monitoring Station
TVOC – Total Volatile Organic Compounds
ppm – Parts per million
PM_{10} – Respirable Particulate Matter 10 micrometers or less
$\mu g/m^3$ – Micrograms per cubic meter
ND – No Data
NA – Not Applicable

Notes:
- PAM reported TVOC and PM_{10} data represent 15-minute average concentrations.
- Hand-held data represent instantaneous concentrations/observations unless stated otherwise.

Table 4: Integrated VOC Results Summary

	PAM-1 (µg/m^3)	PAM-2 (µg/m^3)	PAM-3 (µg/m^3)	PAM-4 (µg/m^3)	PAM-5 (µg/m^3)
	Samples Collected on 6/20/19[1]				
Benzene	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA
Xylene (total)	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA

Definitions:

PAM – Perimeter Air Monitoring Station

µg/m^3 – Micrograms per cubic meter

Bold – Results reported above the method detection limit (MDL)

Italics – Compound was analyzed for, but not detected above the MDL (reported as the MDL)

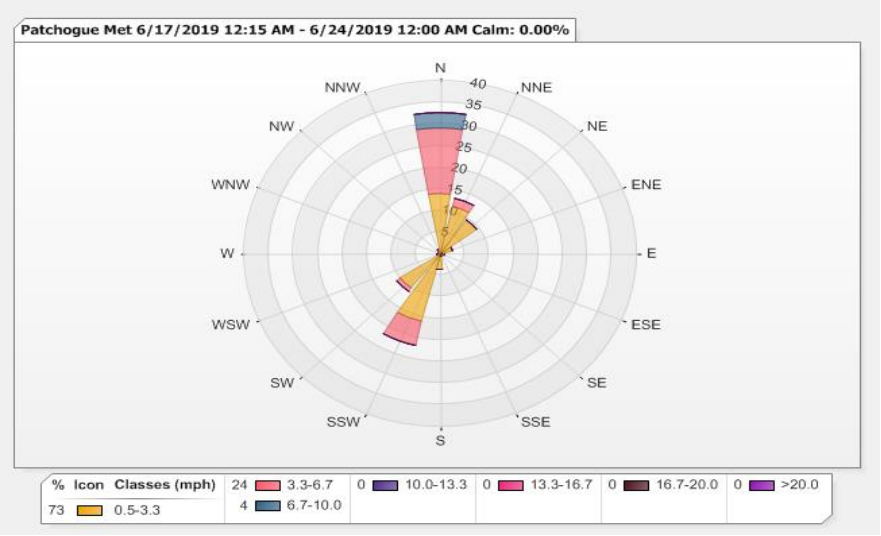
[1] Integrated sampling results will be included in future weekly summaries as they become available from the laboratory.

Notes:

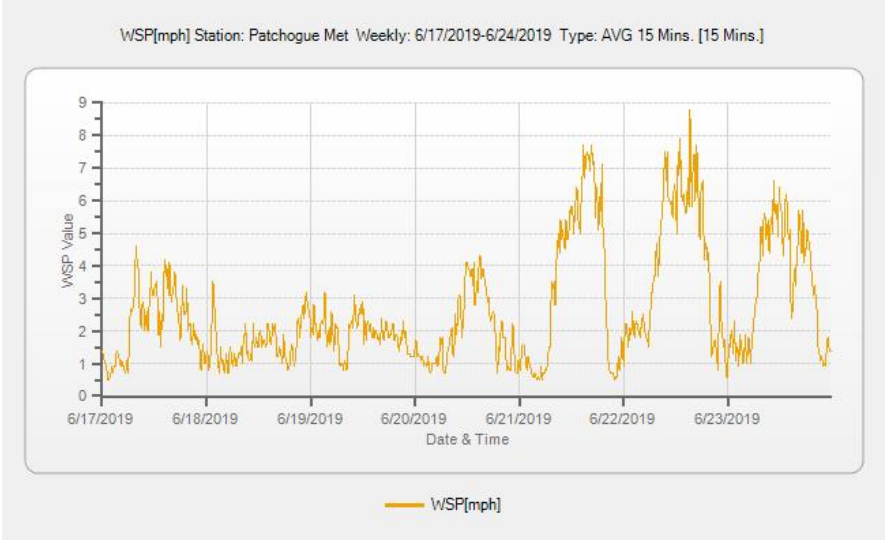
- Integrated 24-hour samples are collected weekly at the upwind and downwind PAM stations.
- Xylene (total) is reported as the sum of the three xylene isomers (m- xylene, p-xylene and o-xylene).

Figure 1: Meteorological Summaries

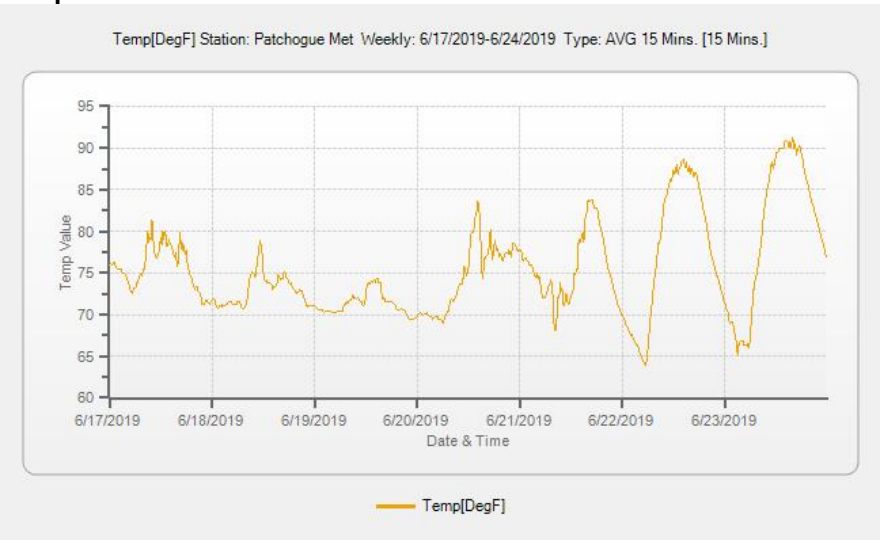
Wind Rose:



Wind Speed:



Temperature:



Relative Humidity:

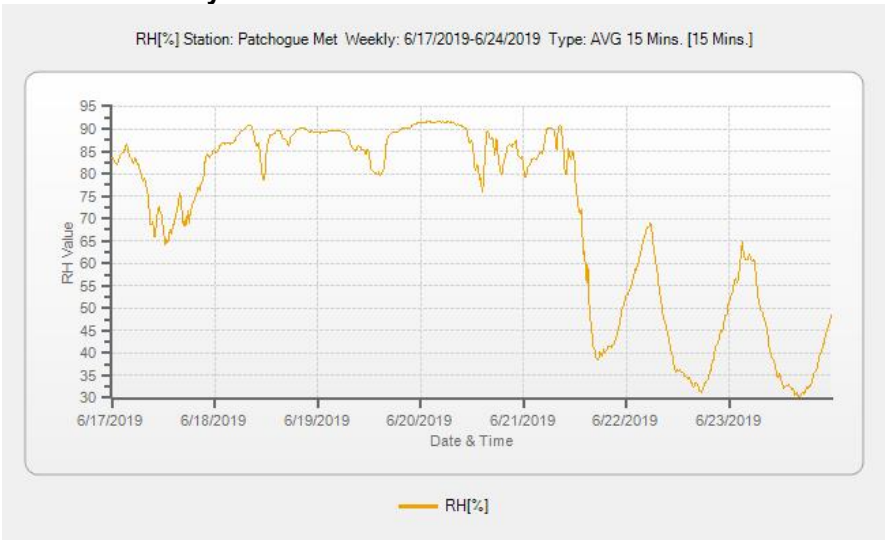


Figure 2: Site Map