August 5, 2019
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Mr. Tom Farrell, Manager
Division of Solid Waste Enforcement
New Jersey Department of Environmental Protection
9 Ewing Street
Trenton, New Jersey 08625-0420

Mr. Jeffrey Meyer, Manager
Division of Air Enforcement
Bureau of Air Compliance and Enforcement
New Jersey Department of Environmental Protection
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927

Subject: July 28 and 29, 2019 Monitoring Station Data
Keegan Landfill
New Jersey Sports and Exposition Authority
EA ID#: NEA 190001-13317

Dear Mr. Farrell and Mr. Meyer:

On July 28, 2019, NEXA on behalf of the New Jersey Sports and Exposition Authority (NJSEA) notified the NJDEP hotline (1-877-WARNDEP) that hydrogen sulfide (H_2S) rolling average readings, in excess of 30 ppb over a 30-minute period, were recorded at Monitoring Station MS-8 at the Keegan Landfill (see Attachment 1). NJSEA made this notification, as required under the NJDEP-approved Monitoring Action Plan for Keegan Landfill, for data collected from Monitoring Station MS-8 between 1:12 pm and 2:21 pm on July 28 (see Attachment 2). We provide additional discussion and analysis of the data recorded at MS-8 below.

MONITORING STATION MS-8

The peak 30-minute rolling average H_2S concentration of 2430 parts per billion (ppb) was recorded for Monitoring Station MS-8 at approximately 1:42 pm, and included increases in individual readings from 13 ppb to 1300 ppb and then to 4300 ppb (see raw data in Attachment 2).

We note the following conditions and data that cause us to question the accuracy of the elevated readings, causing the 30-minute rolling averages to exceed 30 ppb, as follows:

1. The spike of concentration from 13 to 1300 ppb and from 1300 ppb to 4300 ppb is atypical of the exceedances observed at the Landfill, which gradually rise and fall. The

readings drop to 110 ppb and then to zero and remain zero until approximately 5:00 am the next day (see Attachment 2).

2. Typically, the highest readings at MS-8 occur in the late evening and early morning hours. The time of the maximum 30-minute rolling average for MS-8 since the meters began operation is summarized in Attachment 3.

3. The preceding day, on July 27, there was a similar spike in concentration from 1 to 190 ppb and concentrations returned back to 1 ppb within 15 minutes. This could be the start of the malfunction of the meter (see Attachment 4).

4. Emilcott reported that on July 29, the device sent a high level (HL) error code at 11:46 am (see Attachment 5). The device will read HL if it is detecting a reading higher than 50 parts per million (ppm) or 50,000 ppb. Site personnel reported faint odors that quickly dissipated and the readings for the previous six hours were zero on July 29 (see Attachment 6). Additionally, this reading would be over 100 times the highest concentrations observed since the monitoring stations became operational and concentrations like this have not been observed by personal monitors being used atop the Landfill during intrusive construction activities.

5. Nearby Monitoring Stations MS-7 and MS-1 read zero during the same time period of the exceedances at Monitoring Station MS-8 on July 28 (see Attachment 7).

6. Monitoring Station MS-8 is located on the northwest side of the landfill (see plan in Attachment 8). The corresponding wind direction measured at the time of the elevated readings was southwest to west (see Attachment 9). These winds were not from the direction of the Landfill.

7. The only prior exceedance (before July 27) at Monitoring Station MS-8 occurred on July 10. The maximum 30-minute average was 38 ppb with a maximum individual reading of 41 ppb (see Attachment 10). Individual readings gradually rose prior to this reading and subsequently gradually fell following this exceedance. The wind direction at the time of the exceedance was from variable from the south to the east-northeast. However, the wind speed on July 10 during the period of the exceedance was less than 1 mph. We have found the wind direction to be highly variable when wind speeds are low. The maximum average and individual H_2S concentrations are much lower than the maximum measured on July 28. The wind speed on July 28 averaged over 3.5 mph with the winds not from the direction of the Landfill. We tend to see lower H_2S concentrations with higher wind speeds.

8. Town of Kearny data did not indicate exceedances during the same time period of the exceedances at Monitoring Station MS-8 on July 28 and also indicate a similar wind

direction from the west-southwest (Attachment 11). Readings at Monitoring Stations AMS-1 and AMS-2 ranged from 1 ppb to 8 ppb.

Emilcott has replaced the device and attributes the spike in readings on July 28 and the HL error code on July 29 to a device malfunction (see Attachment 12). The device was replaced on Monday, July 29.

A Certification of Information has been completed by SCS and Emilcott (see Attachment 13).

Please call either of the undersigned with any questions or comments.

Sincerely,

Christine H. Stokes
Project Manager
SCS Engineers

Lisa K. Wilkinson, PE
Project Director I
SCS Engineers

cc: G. Lugo, NJDEP (electronic copy)
A. Fontana, NJDEP (electronic copy)
T. Marturano, NJSEA (electronic copy)
A. Levy, NJSEA (electronic copy)
C. Sanz, NJSEA (electronic copy)
J. Stewart, Lowenstein (electronic copy)
G. Castano, Castano Quigley (electronic copy)
L. Lim, NJDEP (electronic copy)
B. Farbanish, NJDEP (electronic copy)
J. Mattessich, NJDEP (electronic copy)

Due to large size of this file, attachments are not posted but are available upon request by emailing info@njsea.com

EMILCOTT