UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

DATE: DEC 0 4 2017

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Arbor Hills Landfill, Northville, Michigan

FROM: Kenneth Ruffatto, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Chief
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Arbor Hills Landfill

Facility Location: 10690 W Six Mile Road, Northville, Michigan

Date of Inspection: October 11, 2017

EPA Inspector(s):
1. Kenneth Ruffatto, Environmental Engineer
2. Vicky Mei, Environmental Engineer

Other Attendees
1. Diane Kavanaugh-Vetort, MDEQ
2. Bill Tennant, Advanced Disposal, Manager (Landfill Gas Program)
3. Anthony Testa, Advanced Disposal, Site Manager
4. Dave Rettell, Advanced Disposal, East Region Landfill Operation Manager
5. Jay Warzinski, Advanced Disposal, Vice President of Landfill Operations

Purpose of Inspection: Follow-up Inspection to 2017 Consent Order

Facility Type: Municipal Solid Waste Landfill

Regulations Central to Inspection: NSPS Subpart WWW, NESHAP Subpart AAAA, Renewable Operating Permit (Title V)

Arrival Time: 11:20AM
Departure Time: 2:30PM

Inspection Type:
☐ Unannounced Inspection
☒ Announced Inspection

OPENING CONFERENCE

☒ Credentials Presented
☒ CBI warning to facility provided

The following information was obtained verbally from present Advanced Disposal employees (Mr. Tennant, Mr. Testa, Mr. Rettell and Mr. Warzinski) unless otherwise noted.

Staff Interview: Advanced Disposal Services (ADS) at Arbor Hills Landfill (the Landfill) entered into an Administrative Consent Order (ACO) with EPA in 2017 to address Clean Air Act violations, alleged in 2016, and on-going odor complaints. The main purpose of this inspection is to follow-up with ADS and its progress in executing prompt corrective measures as listed in the Compliance Plan of the ACO.

Odor Monitoring
To detect and identify potential odors, ADS hired a contractor to monitor for odors twice daily (6-8AM and 8-10PM) at multiple pre-determined points at the perimeter and in the nearby community using a scentometer. ADS analyzed the odor monitoring results and found that a majority of the detected odors are of low intensity on the scentometer scale and stem from newly accepted waste. To help control these garbage odors, ADS covers the waste with over 6 inches of clean soils and contaminated soils daily. ADS also applies an odor neutralizer on the on the northwest and the northeast side of the active face (Cell 4). ADS submitted a request for approval from MDEQ to use a Posi-Shell coating in the future as a daily cover that would encapsulate odors by forming a "shell" on the new waste. In addition to the standard mandatory surface emissions monitoring (SEM), ADS also hired a contractor to traverse a path similar to that in SEM for surface odor monitoring. If an odor is detected by the bare nose, the scentometer is used to quantify the intensity of the odor and the contractor informs ADS of the location and potential source. ADS then immediately performs corrective actions to address the source of detected odors.

Hydrogen Sulfide Summary
ADS believes the hydrogen sulfide production levels of the Landfill have already peaked as the recorded hydrogen sulfide levels have been dropping and are around 300-400 parts per million (ppm). The Landfill currently accepts 1,000 to 2,000 tons per day (tpd) of construction and demolition (C&D) waste that is placed on top of the landfill. The C&D waste is trucked in from demolition activities in the City of Detroit and has minor amounts of gypsum which can lead to hydrogen sulfide production.

ACO Compliance Plan Status

The primary purpose of EPA's inspection was to assess ADS's progress on the ACO compliance plan and whether there are noticeable improvements in controlling fugitive gas emissions. Table 1 below shows the current status of ADS's work:

Table 1: List of Anticipated Construction and Current Status of ACO Compliance Plan

Item	Anticipated Work	Status
	Gas System and Flares	
1	Installation of a 3,000 standard cubic feet per minute (SCFM) temporary flare at the northwest corner of the Landfill.	Complete.
2	Permitting and installation of a new permanent flare.	Permit is still pending with MDEQ. ADS expects action soon upon providing follow-up information to MDEQ. Flare is ready to ship to the site and can be installed within 180 days.
3	Replace NW drip leg with condensate sump	Complete.
4	Installation of a header pipe along the west and north sides of Cell 4, temporary header on north side of Cell 6 and Arbor Hills East, and associated sumps, airline, and force main.	Complete. ADS noticed a large improvement in vacuum on the north end.
5	Installation of seven (7) Caisson gas wells in Cell 4D prior to NSPS requirements.	Complete. However, not all Caisson wells are currently connected to the gas system. ADS is in the process of connecting wells as headers can get to them.
6	Summary report of vacuum study near flare.	Report is complete. Follow-up actions are in progress: modeling was completed to determine location of new header; ADS will install a larger pipe to reduce backflow in header; request was sent to the railroad company in August 2017 to get permission to initiate work underneath the railroad.
7	Complete Vacuum study of the gas collection system.	Almost complete. Initial vacuum study done identifying areas of concern with low vacuum. Additional header lines installed. Final report after fixes expected in 3rd Quarter ACO Report.
8	Study water levels in wells and effective pump installation.	In-progress. Initial water level report done identifying areas with high water levels. On-going work is being done to

		identify wells that need pumps and to install a line for water removal.
9	Study on landfill gas migration.	On-going monitoring. Currently, ADS stated that the gas probes on the east side of the Landfill are all clean. On-going monitoring.
10	Perimeter Odor Patrols by technicians trained to identify the type of odor detected.	On-going. Refer to the narrative above for details on odor monitoring.
Leachate System Enhancements		
1	New leachate tank with odor control.	Complete. The leachate tank is also being converted into an aeration system for pretreatment of the leachate. A carbon filter was installed for odor control.
2	Odor control for two existing 50,000-gal tanks.	Complete. Carbatrol carbon filters installed.
3	Arbor Hills East leachate lift station odor control.	Complete. Carbatrol carbon filters installed.
4	Arbor Hills West leachate lift station odor control.	Complete. Activated carbon filter installed.
5	Take existing 300,000-gal leachate tank offline. If replaced, carbon filter will be installed with any replacement tank.	300,000-gal tank is currently used as temporary leachate storage while the new leachate tank is being converted into an aeration tank. Otherwise, the 300,000-gal tank is not in use.
Landfill Enhancements		
1	Accelerate installation of 20 acres of final cover.	In-progress. 12 acres of synthetic membrane was placed on the south end. 8 additional acres are being prepped for synthetic cover installation this year.
2	Installation of an odor control system before the end of the year.	Complete. Refer to the odor monitoring section above.
3	Expand the 2016 temporary cap by 10 acres.	In-progress.
4	Daily cover inspections including pictures and records for evening cover placement and morning cover removal.	Completed through July 31, 2017.

Anticipated Construction (Phase 2)

In the coming months, ADS intends to initiate Phase 2 of their Gas Collection and Control System (GCCS) construction plan. This includes the following measures:

- Installation of a 24-inch header pipe for leachate condensate collection hook-up
    - Northwest corner tie in condensate line to tank in the southwest
- Hook up caisson wells to main header lines
- Minor repairs to GCCS

- Obtain permit for new flare and permit for header under the railroad
    - Currently in bidding process for header work under the railroad

Most construction work at this time of year will be weather-dependent. The main initiatives are the Caisson well hook-ups, condensate line installation, and temporary cap installation.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:
The Landfill still accepts an average of 8,000 tpd of waste. There was a faint garbage odor on-site near the active face of the Landfill. There was also a faint gas odor on the west side along the perimeter road. Odors were not noticed off-site before nor after the inspection.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were taken during this inspection.
Measurements were taken by our monitoring team (Scott Hamilton and Justin Coughlin) for methane and hydrogen sulfide around the perimeter of the Landfill the week of our inspection. A separate report will be generated through the Air Monitoring and Analysis Section.

RECORDS REVIEW

1. GCCS As-Built Map
2. SEM Reports (2015-2017)
3. Odor Monitoring Summary

CLOSING CONFERENCE

Requested documents:

- Odor Monitoring Summary Spreadsheet
- Map of Odor Monitoring Locations

Compliance Assistance: EPA reviewed the SEM Reports and noticed that there were very few SEM exceedances detected each quarter. EPA suggested that ADS audit their SEM contractors and procedure for adequate monitoring techniques.

Concerns: EPA noticed minor odors along the west side of the Landfill. ADS indicated that they intend to put a temporary cover along this portion of the Landfill to reduce gas odors.

SIGNATURES

Report Author: Kenton Rupp Date: 12/1/2017

Section Chief: [signature] Date: 12/4/17

APPENDICES AND ATTACHMENTS

1. Appendix A: Digital Image Log

Facility Name: Arbor Hills Landfill
Facility Location: 10690 W Six Mile Road, Northville, Michigan
Date of Inspection: October 11, 2017

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Kenneth Ruffatto	**2. Date(s) of Inspection:** October 11, 2017
3. Company/Facility Name: Arbor Hills Landfill	**4. Street Address, City, State:** 10690 W Six Mile Road, Northville, Michigan
5. Number of Images: 6	**6. Archival Record Location:** CD-R labelled as Arbor Hills Inspection October 11, 2017

Image Number	File Name	Date and Time (incl. time zone and DST)	Description of Image
1	PA110001.JPG	10/11/2017 2:04 PM	North End Condensate Storage Tank
2	PA110002.JPG	10/11/2017 2:04 PM	Odor Neutralizing Unit
3	PA110003.JPG	10/11/2017 2:06 PM	Caisson Well Image 1
4	PA110004.JPG	10/11/2017 2:06 PM	Caisson Well Image 2
5	PA110005.JPG	10/11/2017 2:08 PM	Caisson Well Construction
6	PA110006.JPG	10/11/2017 2:32 PM	Compost Area