MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

ARBOR HILLS LANDFILL, NORTHVILLE MICHIGAN

Summary of Actions: March 2019 – June 2019

Background

In January 2016, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) began receiving odor complaints from residents living near the Arbor Hills Landfill (Landfill). EGLE immediately engaged with the Landfill's operators to address these odor concerns. Fugitive emissions of landfill gas were found to be the source of most of the odors. EGLE and the U.S. Environmental Protection Agency (USEPA) conducted investigations of the Landfill. Based on these investigations, EGLE has issued multiple violations and is currently engaged in an enforcement action against the Landfill for failure to properly operate the Landfill and the gas collection and control system. EGLE staff have continued to conduct on-site inspections and area odor evaluations of the Arbor Hills Landfill owned by Advanced Disposal Services (ADS) and the adjacent landfill gas to energy plant owned by Arbor Hills Energy LLC (AHE); a subsidiary of the Fortistar Methane Group. EGLE continues to respond to hundreds of odor complaints over the last six months being filed by residents near the Landfill.

Arbor Hills Landfill in Northville, Michigan

EGLE Actions

3/13/19 EGLE Air Quality Division (AQD) staff conducted a site visit at the Landfill. Areas were identified where odors were particularly high, especially near the leachate seep referred to as TS-01. Forty new pumps were ordered for the wells.

3/13/19 AHE submitted a new permit application for their 4-gas turbines.

3/14/19 AQD issued a Violation Notice (VN) to the Landfill for asbestos, landfill gas collection and control system (GCCS) issues, flare control issues, inadequate landfill surface scans, fourth quarter well data non-compliance, and GCCS issues.

3/15/19 The AHE case was turned over to the AQD Enforcement Unit for escalated enforcement. NOTE: District staff will continue to conduct site visits and compliance activities.

3/19/19 AQD staff conducted a site visit and used a Jerome Hydrogen Sulfide (H_2S) detector and a methane detector on-site. Although H_2S was detected on-site, no detectable levels of H_2S were detected offsite.

3/28/19 EGLE staff met with ADS management and were given a tour of the Landfill during this meeting. EGLE staff were notified of an elevated temperature event at the Landfill. ADS also requested the ability to allow higher temperatures in numerous wells located on the top of the hill. ADS notified EGLE staff of a one-acre subsidence area (an area that had sunk due to settling of material or other factors), which was a

notable source of an acrid/burnt type of gas odors. ADS submitted an initial proposal of corrective actions including placement of large quantities of soil on the area, a new surface cap liner extension above existing liner on north side, installation of pumps and dewatering of wells, as well as leachate management various issues. In addition, ADS informed EGLE staff that the 40 new pumps were received. Dewatering of the wells was scheduled to begin; however, there are limitations on the allowable leachate discharges. ADS also found and fixed two separate air line problems that should help increase pressure to well pumps increasing their capacity.

The H_2S detector was used during the site visit. Most offsite H2S readings were non-detect, with a couple readings along Six Mile Road just above detection. All offsite readings were below health screening levels.

4/02/19 The Landfill conducted performance testing on the flare and sampled the Landfill. EGLE staff was on-site to observe testing. NOTE: On 5/16/19 EGLE received results of the flare testing. Test results show compliance with parameters required under permits and the federal standard.

4/02/19 EGLE staff conducted a site visit. Primary objectives were to discuss the elevated temperature event and observe conditions at the Landfill. The H_2S detector was used at various locations. Asbestos handling and leachate generation issues were also observed and discussed.

4/11/19 EGLE staff conducted a site visit. Staff used an infrared camera to review the Landfill for warm spots and to check the subsidence area on the north side associated with the elevated temperature event. No additional areas of elevated temperature were detected.

4/11/19 EGLE staff issued VNs separately to ADS and AHE citing the elevated temperature event as negatively impacting the gas collection system and exacerbating the odor problem at the Landfill. The VNs allege ADS and AHE failed to timely diagnose the problem and have yet to fully implement appropriate corrective actions required to contain the event.

4/12/19 EGLE staff conducted a site visit. Additional leachate issues were observed and monitored with the infrared camera. Monitoring indicated a higher temperature at TS-01 leachate seep.

4/16/19 An Arbor Hills Landfill town hall meeting was hosted by Senator Polehanki, Representative Koleszar, and Supervisor Nix of Northville Township. Mr. Scott Miller, EGLE AQD, and Mr. Larry Bean, EGLE Materials Management Division (MMD), answered citizen questions. After the town hall, EGLE created a Response to Community Questions to address issues not able to be addressed during the town hall itself.

4/18/19 A Stipulated Fines and Enforcement Notice was issued to AHE. This is a formal notice from AQD Enforcement Unit offering a meeting to settle the outstanding violations through an administrative settlement. A notice of a stipulated penalty due to failure to conduct testing according the schedule required by their existing Administrative Consent Order.

4/25/19 EGLE staff conducted a site visit. The primary objective of the visit was to review the Turbine 4 permit information and inspect areas with identified ongoing odors. Staff used the H_2S detector which indicated higher readings near these areas, but at short distances away saw low to no readings.

5/01/19 AHE plant shut down so the flares could be tested at full capacity. Shut down was to test operation of new blowers and all three flares. The blowers supply landfill gas to the flares.

5/03/19 AQD denied AHE's permit application PTI 53-18A for lack of information.

5/09/19 EGLE MMD conducted Third Quarter Inspection FY2019. MMD identified numerous areas of concern and violations primarily related to leachate management in the Cell 3 and the Cell 4 active fill area.

5/24/19 MMD issued VN to ADS citing the concerns and violations identified during the 5/9/19 inspection.

5/30/19 EGLE staff conducted a site visit. The primary objective was to discuss the proposed H_2S monitoring locations, observe the TS-01 leachate seep and the progress on installing permanent fix. Staff requested leachate sample data be submitted. Staff used two different H_2S detectors which indicated higher readings near these areas, but at short distances away saw low to no readings.

6/4/19 EGLE staff walked the perimeter of the Landfill with an H_2S detector. No readings were detected. Staff did observe significant amounts of fugitive dust from haul roads and requested the Landfill take action.

6/7/19 EGLE staff installed an H_2S monitor at a downwind location just east of Napier Road. Additionally, the primary areas of odor concern were inspected. Cover dirt had been placed on area of the elevated temperature event and installed additional air lines.

6/18/19 EGLE staff conducted a site visit that included an H_2S monitoring walk inside the Landfill and a check of known odor locations. Results indicated localized areas of H_2S found at concentrations <0.2ppm. These concentrations may contribute to offsite odor but would not be expected to exceed offsite H_2S health screening levels.

6/18/19 The Landfill's response to the 5/24/19 VN proposed corrective actions to reduce leachate levels and included a Secondary Collection Flow Rates and Liquid Management Plan.

ODORS AND OTHER COMPLIANCE ITEMS

Five primary sources of ongoing emissions/odors have been identified and are undergoing corrective actions. These sources and the associated corrective actions will be part of the enforcement order. The sources include:

1) A 15,000 gallon per day leachate seep on the south side of the Landfill called TS-01.
2) Two leachate fractionation tanks and aeration system being used to temporarily process the leachate and associated H2S from TS-01.
3) Landfill gas emissions from a drain tile system adjacent to a haul road on the northwest side of the Landfill.
4) Odorous gas emissions from the elevated temperature area just north of the top of the Landfill.
5) Active face area on the north side of Landfill where municipal waste is currently be disposed.

- 1) and 2) above involve a large comprehensive construction project. The TS-01/fractionation tank project redesign date has been pushed back to no sooner than August 1, 2019. The drain tile system is expected to be fixed by the end of the summer. It will include new piping and a new system to capture gas by the end of the summer. The subsidence area associated with the elevated temperature area is currently being graded over with over 20 feet of dirt. A geo-membrane liner will then be placed over this area (several acres in size) by the end of the summer. The Landfill will then be able to increase the vacuum on the gas wells in this area without introducing oxygen from the surface. This should help capture more gas and reduce temperatures. Other efforts to address the elevated temperature include dewatering gas wells. Numerous new well pumps have been installed and are now operating. Air pressure that is used to operate these pumps has been significantly increased over the entire Landfill which has helped pump performance.
- The USEPA Office of Research and Development is assisting with an evaluation of the elevated temperature event and providing staff training and recommendations for ongoing perimeter probe monitoring, elevated temperature containment and control actions.
- EGLE staff are working to develop GIS maps of various landfill gas well parameters (Temperature, Flow, Methane [CH4], Carbon Monoxide [CO], and others). The gas well data is obtained monthly and with GIS evaluation and monitoring of the elevated temperature event is more thorough and complete. GIS is also being used to help display H_2S monitoring data.
- The asbestos disposal pits have been moved from the top of the Landfill to an area directly adjacent to the municipal waste disposal area on the north side. This was done so landfill operators cover over the asbestos each evening at the same time the municipal waste is covered over with one foot of topsoil.

- Track-out from the Landfill on SixMile and Napier roads appears to have become much less of a problem due to the purchase of a new style of sweeper truck. However, fugitive dust emissions from the haul roads remain a significant problem. The single water truck being used is not adequate to control the dust. The Landfill has been notified of the problem and have indicated they plan to acquire another truck but have not yet gotten approved funds for it.
- Management of the compost area appears to have improved significantly over the last few months. No odors have been noted coming from this facility and the compost appears to be being handled properly.
- The flares at AHE are now starting to burn continuously since the amount of landfill being captured is generally exceeding the capacity of the 4 turbines to burn it. Due to the dewatering project ongoing at the Landfill, there is concern sulfur content in the landfill gas may increase. Some of the sulfur was previously scrubbed out in the watered in wells. This potential problem is being monitored.
- A new permit application for the 4 turbines is expected to be submitted to EGLE this summer.
- EGLE staff continue to conduct regular inspections at the Landfill and odor observations within the community.

More Information and Assistance

EGLE has developed a website specifically to keep the community updated on the issues involving Arbor Hills Landfill – Michigan.gov/egleArborHills. You are also encouraged to register to be part of our e-mail listserv. This is another way EGLE hopes to provide up-to-date information to interested parties. Go to our website to sign up, Michigan.gov/egle, click on the red envelope at the bottom of the page and then choose "Arbor Hills."

Complaints or other concerns may be directed to Arbor Hills using their Community Hotline at 248-305-8432 or their web site at ArborHills.info. Complaints received through the Arbor Hills website are automatically forwarded to EGLE. You may also contact EGLE directly by calling our Environmental Assistance Center at 800-662-9278 or by filing out our EGLE Online Complaint Form located at Michigan.gov/egleArborHills.

Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making. Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.