



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
JACKSON DISTRICT OFFICE



LIESL EICHLER CLARK
DIRECTOR

April 16, 2020

Mr. Don Kindig
General Manager
Arbor Hills Landfill
10833 West Five Mile Road – Building B
Northville, Michigan 48168

Dear Mr. Kindig:

SUBJECT: Violation Notice Leachate Collection System Report, Arbor Hills Landfill,
Salem Township, Washtenaw County

On April 8, 2020, staff from the Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), reviewed the 2018 and 2019 Primary and Secondary Collection System Report dated February 28, 2020, and the March 18, 2020 response to EGLE questions submitted on March 5, 2020. The purpose of the review was to evaluate Arbor Hills Landfill's compliance with Part 115, Solid Waste Management (Part 115), of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, and the administrative rules promulgated pursuant to Part 115.

During the review, the following Part 115 rule violations were noted:

R 299.4432(1). The owner and operator of a type II landfill shall remove leachate from a disposal unit as frequently as necessary to ensure that the leachate depth on the liner, excluding the sump, is not more than 1 foot, except after a significant storm event.

- Cell 1 does not have a separate pump or control panel for the primary liner. No calculations were completed to determine the liquid level over the Cell 1 primary liner.
- Leachate head levels on the primary liner exceeded 1 foot in Cell 2 from November 1, 2019 through November 8, 2019.
- Leachate head levels on the primary liner exceeded 1 foot in Cell 3 on October 7, 2019, and from October 31, 2019 through November 14, 2019.
- Leachate head levels on the primary liner exceeded 1 foot in Cell 4 on October 21, 2019.

R 299.4432(2). The owner and operator shall monitor the leachate collection system and record...(a) Leachate depths on a schedule that assures compliance with this subrule.

- The explanation provided by ADS for different leachate levels for the 2 primary pumps in Cell 2 was due to the pumps being installed at different elevations in the sump. Pumps installed at different elevations would have a consistent difference in level readings. The readings for Cell 2 pumps, however, vary from pump 2 being as much as 18.2" higher than pump 1 to pump 2 being as much as 52.9" lower than pump 1. Given the varying differences in elevation readings, it was determined that the leachate depths recorded for Cell 2 were incorrect and did not reflect the actual leachate depths.
- Leachate depths were not recorded for Cell 4 from November 26 through December 3.
- Leachate depths were not recorded for Cell 5 from June 28 through July 8, 2019, July 26 through August 4, 2019, and August 18 through August 21, 2019.

R 299.4432(2). The owner and operator shall monitor the leachate collection system and record...(b) The monthly volume of leachate pumped from all units.

- Calculations for the volume of leachate removed from the Cell 1 secondary collection system are incorrect because the leachate levels dropped with no corresponding change in the pump minute meter reading during all or part of June, September, October, November, and December 2019.
- Calculations for the volume of leachate removed from the Cell 1 secondary collection system are incorrect because the calculated pump flow rates are inconsistent from month to month when using the recorded pump meter reading and the leachate volumes reported in the Fourth Quarter 2019 Hydrogeologic Monitoring & Statistical Evaluation Report.
- Data recorded for the pump meter for the Cell 2 primary and secondary collection systems for December 2019 is insufficient to determine the volume of leachate pumped.
- Leachate pump meter readings needed to calculate leachate volume were not recorded for Cell 4 from November 26 through December 3.
- Leachate pump meter readings needed to calculate leachate volume were not recorded for Cell 5 from August 18 through August 20.

R 299.4432(3). The owner and operator of a sanitary landfill that contains a secondary collection system shall...**(a)** Remove pumpable liquids in the secondary collection system sumps on a frequency that is sufficient to minimize the head on the bottom liner.

- Cell 1 approved secondary collection system pump off level is 6". The Cell 1 secondary collection system pump is not pumping down to 6", but is shutting off at a much higher elevation.
- Cell 1 approved secondary collection system pump on level is 42". The Cell 1 secondary collection system liquid level exceeded 42" on October 21 without turning on.
- Cell 2 approved secondary collection system pump on level is 42". The Cell 2 secondary collection system liquid level exceeded 42" multiple times in October 2019, and on November 7, 2019 without turning on.
- Cell 3 approved secondary collection system pump on level is 36". The Cell 3 secondary collection system liquid level exceeded 36" on August 26, 2019, October 21, 2019, and November 18, 2019.
- Cell 4 approved secondary collection system pump on level is 26". The Cell 4 secondary collection system liquid level exceeded 26" on June 27 and 28, 2019, August 6 and 7, 2019, October 3-7, 2019, December 5-16, 2019, December 18-23, 2019, and December 30, 2019.
- Cell 5 approved secondary collection system pump on level is 42". The Cell 5 secondary collection system liquid level exceeded 42" on June 5, June 27, July 15, July 22, August 9, 2019.

R 299.4432(3). The owner and operator of a sanitary landfill that contains a secondary collection system shall...**(b)** Record in the operating record the amount of liquid removed from each system sump at least weekly, and calculate and record in the operating record the average daily flow rate, monthly.

- Calculations for the volume of leachate removed from the Cell 1 secondary collection system are incorrect because the leachate levels dropped with no corresponding change in the pump meter reading during all or part of June, September, October, November, and December 2019.
- Calculations for the volume of leachate removed from the Cell 1 secondary collection system are incorrect because the calculated pump flow rates are inconsistent from month to month when using the recorded pump meter reading and the leachate volumes reported in the Fourth Quarter 2019 Hydrogeologic Monitoring & Statistical Evaluation Report.

- Calculations for the volume of leachate removed from the Cell 1 secondary collection system are incorrect, the calculations of the average daily flow rate for Cell 1 are incorrect for June through December 2019.
- Calculations for the volume of leachate removed from the Cell 2 secondary collection system are incorrect because the leachate levels dropped with no corresponding change in the pump meter reading during all or part of August, October, and November 2019.
- Data recorded for the pump meter for the Cell 2 secondary collection system for December 2019 is insufficient to determine the volume of leachate pumped.
- Calculations for the volume of leachate removed from the Cell 2 secondary collection system are incorrect because the calculated pump flow rates are inconsistent (11.4gpm for June & July 2019 and 10gpm for August through November 2019) when using the recorded pump meter reading and the leachate volumes reported in the Fourth Quarter 2019 Hydrogeologic Monitoring & Statistical Evaluation Report.
- Calculations for the volume of leachate removed from the Cell 2 secondary collection system are incorrect, the calculations of the average daily flow rate for Cell 2 are incorrect for June through December 2019.
- Calculations for the volume of leachate removed from the Cell 3 secondary collection system are incorrect because the leachate levels dropped with no corresponding change in the pump meter reading during all or part of June, September, October, and December 2019.
- Calculations for the volume of leachate removed from the Cell 3 secondary collection system are incorrect, the calculations of the average daily flow rate for Cell 3 are incorrect for June through December 2019.
- Volume of leachate removed from the Cell 4 secondary collection system was not recorded from November 26 through December 4, 2019.
- Volume of leachate removed from the Cell 4 secondary collection system is incorrect because the leachate levels dropped with no corresponding change in the pump meter reading during all or part of June and November 2019.
- Data recorded for the pump meter for the Cell 4 secondary collection system for December 2019 is insufficient to determine the volume of leachate pumped.
- Volume of leachate removed from the Cell 4 secondary collection system is incorrect because the calculated pump flow rates are inconsistent (13gpm for June thru September 2019, 1.46gpm for October, and 7.5gpm for November

2019) when using the recorded pump meter reading and the leachate volumes reported in the Fourth Quarter 2019 Hydrogeologic Monitoring & Statistical Evaluation Report.

- Calculations for the volume of leachate removed from the Cell 4 secondary collection system are incorrect, the calculations of the average daily flow rate for Cell 4 are incorrect for June through August and October through December 2019.
- Volume of leachate removed from the Cell 5 secondary collection system was not recorded from May 25 through June 4, 2019, June 28 through July 8, 2019, July 26 through August 4, 2019.
- Volume of leachate removed from the Cell 5 secondary collection system is incorrect because the leachate levels dropped with no corresponding change in the pump meter reading during all or part of August, November, and December 2019.
- Calculations for the volume of leachate removed from the Cell 5 secondary collection system are incorrect, the calculations of the average daily flow rate for Cell 5 are incorrect for August through December 2019.

CONCLUSIONS

In order to address the above violations, EGLE is requesting the Facility provide a response by May 15, 2020 that includes the following:

- Provide documentation and calculations to determine the compliance elevation for leachate level in Cell 1 primary liner.
- Include calculations in the facility file to demonstrate Cell 1 compliance with Rule 432.
- Submit a revised Operations Plan that includes changes to the leachate monitoring schedule to maintain compliance with Rule 432.
- Submit a revised Operations Plan that includes procedures for notification and correction of high leachate levels on weekends and holidays.
- Submit a revised Operations Plan that includes a precipitation log, changes to the leachate record logs to include the compliance elevation and the pump on/off elevations for each cell, adds a column for the totalizer reading for each cell that has a totalizer, and includes a review of the leachate data to verify the numbers recorded are accurate.

- Submit a revised Operations Plan that includes separate pump on/pump off elevations for the lead and lag pumps for each cell sump with two leachate pumps, to ensure compliance with Rule 432.
- Submit a revised Operations Plan that ensures compliance with Rule 432 during scheduled maintenance activities.
- Submit a schedule for replacing/upgrading the pumps and control panels for Cell 3 and Cell 5 to ensure compliance with Rule 432.

This Violation Notice does not preclude nor limit EGLE's ability to initiate enforcement action, under state or federal law, as deemed appropriate. Failure to comply with this Violation Notice may result in escalated enforcement actions taken against the owner(s) of the property.

If you have any questions regarding this matter, please contact me at 586-243-2641; or at EGLE-MMD, Jackson District Office, 301 East Louis Glick Hwy, Jackson, MI 49201; or at schwerin@michigan.gov.

Sincerely,



Gary Schwerin, P.E.
Environmental Engineer
586-243-2641

cc: Larry Bean, EGLE
Melinda Shine, EGLE