



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Air Branch

**Air Branch Inspection Report
Unannounced Full Compliance Evaluation**

LP Gill Landfill

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Jackson, Nebraska 68743
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Inspection Date(s):

September 21, 2023

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Avery Bowers, Inspector, ECAD, Air Branch

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CONTENTS

INSPECTION OVERVIEW	3
INSEPTION OBJECTIVE	3
FACILITY CONTACT INFORMATION	3
FACILITY OVERVIEW	3
FACILITY OPERATIONS SUMMARY	4
FIELD ACTIVITIES SUMMARY	5
INSPECTION OBSERVATIONS AND POTENTIAL FINDINGS	6

TABLES

Table 1. PROJECT TEAM MEMBERS	3
Table 2. FACILITY CONTACT INFORMATION	3
Table 3. APPLICABLE REGULATIONS AND STANDARDS	4

APPENDICES

- A Signed Confidential Business Information (1 page)
- B Records requested on-site (1 page)

**This Contents page shows all the sections contained in this report
and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

The objective of the full compliance evaluation (FCE) inspection was to determine compliance of the facility with the Clean Air Act (CAA), specifically those requirements located in the code of federal regulations at 40 CFR Part 60, Subpart XXX, Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014. This report documents EPA's activities on site.

Table 1 lists the inspection team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Avery Bowers	EPA, Region 7, ECAD, Air Branch	Lead Inspector
Logan Winters, Environmental Specialist- Air Compliance	Nebraska Department of Environment and Energy (NDEE), Air	Field team member

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Wade Backstrom, Gas Plant Manager		wade.backstrom@wasteconnections.com
Sue Gill, Office Manager		
Bret Stephens, Environmental Manager	(402) 659-8419	Bret.stephens@wasteconnections.com

FACILITY OVERVIEW

LP Gill Landfill Incorporated (LP Gill Landfill) has a Standard Industrial Classification (SIC) code 4953, categorized as Refuse Systems, and a North American Industry Classification System (NAICS) code 562212, categorized as Solid Waste Landfill. EPA has not been to the facility in the last 5 years. The three most recent NDEE's compliance monitoring activities include an on-site FCE conducted on January 11, 2022, and two Title V partial compliance evaluations (PCE) of records conducted on March 31, 2022, and March 28, 2023. LP Gill Landfill's most recent Title V permit was issued on December 7, 2021. The facility is subject to the following requirements in **Table 3**.

Table 3. APPLICABLE REGULATIONS AND STANDARDS	
Code of Federal Regulation	Standard Name
40 CFR Part 60	Subpart XXX, Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014
40 CFR Part 61	Subpart M, National Standards for Asbestos
40 CFR Part 63	Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

FACILITY OPERATIONS SUMMARY

LP Gill Landfill was constructed and then began accepting waste in 1981. The landfill was owned and operated by LP Gill Incorporated. The facility submitted its initial design capacity on May 17, 2000, and at that time, the landfill's capacity was 10.08 million megagrams. The facility submitted a Title V operating permit application October 2010, which included the installation of a voluntary gas collection and control system (GCCS) in Phase 1, Phase 2, and portions of Phase 3 of the landfill. According to the application, the gas collection and control system would be made up of 31 gas collection wells that would flow into a gas compressor building and eventually piped to a nearby ethanol plant for its thermal oxidizer (TO). The permit was approved by the NDEE's Air Program on November 5, 2010. On December 21, 2015, the facility received a modification to its solid waste permit (No. NE0055000) approving revisions to the base grades which resulted in a vertical expansion and an increase in the facility's design capacity. The construction commenced in 2016 which immediately made the facility subject to Subpart XXX per 40 CFR 60.760(a).

Per 40 CFR 60.762(b), the facility was required to conduct a Tier 2 nonmethane organic compounds (NMOC) emission rate calculation and submit a report. On February 3, 2016, the facility submitted a Tier 2 NMOC emission rate report. The report stated that the NMOC emission rate for the facility was 42.6 Mg/yr. This exceeded the 34 Mg/yr threshold and the facility's voluntary GCCS became a mandatory condition subject to operation and maintenance requirements listed in Subpart XXX. In July 2020, LP Gill Landfill was acquired by Waste Connections. To determine whether the facility was subject to 40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, Waste Connections performed another Tier 2 NMOC calculation November 2020 and submitted the report May 21, 2021. The report stated the NMOC emission rate was 28.66 which fell below the 50 Mg/yr threshold outlined in Subpart AAAA and Subpart XXX. The facility requested that the GCCS be deemed as voluntary once again. The most recent Title V operating permit issued

on December 7, 2021, states that the facility is not required to operate the GCCS under Subpart XXX requirements because the applicability status change.¹

The facility operates Monday-Friday from 6 a.m. until 5 p.m., Saturday 6 a.m. until 11:30 a.m., and closed on Sundays and major holidays. The facility accepts waste from the Sioux City tri-state area (Woodbury and Plymouth County, Iowa; Union County, South Dakota, and Dakota and Dixon County, Nebraska). Haul roads, daily cover soil storage, shredded tire pile, and earthwork produce fugitive dust emissions have to be controlled using best management practices.

FIELD ACTIVITIES SUMMARY

On September 21, 2021, I arrived at a designated location to meet Mr. Winters at 9:30 a.m. The weather went from light rain to heavy rain and thunderstorms. For safety precautions, we decided to wait before we left to go to the facility. Mr. Winters and I left for the facility at 10:45 a.m. We did not conduct a drive-by surveillance of the area. We arrived at the facility and made entry at the front office at 11:13 a.m. I introduced myself and Mr. Winters, presented my credentials, and provided my business card to Ms. Gill. Mr. Stevens and Mr. Backstrom entered shortly after and introduced themselves. I conducted an opening conference during which I explained that the purpose of the visit was to conduct an inspection to determine compliance with the CAA specifically, to determine compliance with the conditions listed in Table 3. I explained that I'd be asking some general business information and would review associated records demonstrating compliance with the 40 CFR 60 Subpart XXX, 40 CFR Part 61, Subpart M, and 40 CFR Part 63 Subpart AAAA. Due to the ongoing rain and thunderstorms, I could not perform comparative surface emission monitoring (SEM) at the site for safety and potential damage to the toxic vapor analyzer (TVA). I did not take photos of the control equipment or landfill because damage to the camera was a possibility with the rain. I explained to Mr. Stephens that the facility could make a claim of business confidentiality and provided him with a Confidential Business Information form (**Appendix A**). Mr. Stephens did not make a claim of confidentiality.

At 11:30 a.m. I went through a list of records that I would like to review. Both gentlemen stated that many of records were kept on their laptops because the records contained large quantities of data. Since the needed records were on the laptops and could not be printed in real-time for my review while I was on site, I requested the records be sent to me instead via email. The records I requested to be sent are listed in **Appendix B**. Mr. Stephens sent all the documents I

¹ This Title V operating permit was erroneously approved and issued by NDEE's operating permit division. The facility still meets the applicability requirements for the mandatory GCCS because the removal criteria per 40 CFR 60.762(b)(2)(v) has not been met.

requested via drop box on September 22, 2023. I ended the records request at 12:39 p.m. The information collected from the records review is noted in the observation section of this report. I conducted a closing conference with Mr. Stephens, Mr. Backstrom, and Mr. Winters present. I did not issue a notice of preliminary findings. Mr. Winters and I left the facility at 12:50 p.m.

INVESTIGATION OBSERVATIONS AND POTENTIAL FINDINGS

I made the following observations during the inspection and records reviewed. I discussed all observations with facility representatives during the closeout meeting unless otherwise noted in the observation description.

These observations are not final compliance determinations. The EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

§ 60.760 Applicability, designation of affected source, and delegation of authority.

LP Gill received a solid waste permit on December 21, 2015, (number **NE0055000**) approving the revisions to the base grades of the landfill which resulted in a vertical expansion and an increase in the facility's design capacity. The construction commenced in 2016 making the facility subject to Subpart XXX regulations. Nebraska is the delegated authority for Subpart XXX.

§ 60.762 Standards for air emissions from municipal solid waste landfills.

LP Gill is a landfill with a design capacity of 12,065,557 Megagrams. This exceeds the 2.5 million megagram threshold requiring the facility to have a Title V operating permit per 40 CFR 60.762(c). LP Gill's most recent Title V permit (permit No. OP21R1-022) was issued on December 7, 2021.

LP Gill calculated its NMOC emission rate after the landfill expanded in 2016 and submitted the report February 3, 2016. The report stated the NMOC emission rate exceeded the 34 Mg/yr threshold established in 40 CFR 60.762(b)(2)(i), and the facility was required to submit a GCCS design plan. The facility submitted the GCCS design plan November 2017. The voluntary GCCS became mandatory and began operating under the operational standards outlined in Subpart XXX.

The facility is required to control the gas collected from within the landfill through the use of control devices meeting the requirements listed in 60.762(b)(2)(iii) or route the collected gas to a treatment system that processes the collected gas for subsequent sale or beneficial use such as fuel for combustion, production of vehicle fuel, production of high-Btu gas for pipeline injection, or use as a raw material in a chemical manufacturing process. During the inspection,

Mr. Stephens stated that the gas collected is routed to Siouxland Ethanol Plant to run the boiler system located there (contrary to the permit stating that the gas is routed to the TO). The facility does have a non-enclosed flare as a back-up control device if the gas cannot be routed to Siouxland Ethanol Plant. Mr. Stephens stated that the flare operates less than 100 hours per year. I did not ask the facility about the Siouxland Ethanol Plant while I was on-site.

§ 60.763 Operational Standards for collection and control systems.

The facility is required to operate the gas collection system with negative pressure at each well per 60.763(b). I reviewed the semiannual and annual reports for the facility from 2020 through 2022 and the facility noted the wells that had positive pressures. In the semiannual reports for 2020 through 2022, the facility stated how long it took for each well to be corrected.

The facility is required to operate each interior wellhead in the collection system with a landfill gas temperature less than 131°F per 40 CFR 60.763(c). I reviewed the facility's semi-annual reports from 2020-2022 and there were only 2 instances of temperature exceedances in 2021 but the facility took corrective action within 1 day and had the wells back in compliance. I asked Mr. Stephens and Mr. Backstrom if the facility had any wells operating with an approved higher operating value. They stated the facility did not have any wells operating with an approved higher operating value.

The facility is required to operate the system so that methane concentrations are less than 500 parts per million (ppm) as evidenced by conducting surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor per 40 CFR 60.763(d). Mr. Stephens sent the facility's quarterly SEM reports from 2020 through the second quarter of 2023. The calibration sheets note that when the contractor conducted the SEM events, they used a *Thermo Scientific Toxic Vapor Analyzer 2020*. When landfill personnel conducted SEM events, they used a *Landtec/QED SEM 5000*.

§ 60.764 Test methods and procedures.

While on site, I clarified to the facility that the Title V permit issued to the facility was erroneous. The permit exempted the facility from following the standards for operating the GCCS as outlined in Subpart XXX. I asked Mr. Stephens and Mr. Backstrom if the facility had followed the test procedures when they conducted the Tier 2 test at the beginning of 2016 or if the facility met the requirements for being a closed facility. The regulations state that if the site-specific NMOC emission rate is above 34 Mg/yr then the facility may opt to perform the test using a higher tier per 40 CFR 60.764(a)(3)(iv)(B) and 40 CFR 60.764(a)(4)(i). The gentlemen told me the facility did not conduct higher tier tests for the NMOC emission rate. The facility also stated that it did not meet the removal criteria listed in 40 CFR 60.762(b)(2)(v) for the GCCS

to return into a voluntary status. The applicability determined by NDEE's solid waste permit program appears to be incorrect and may need follow-up with the NDEE air permitting group.

§ 60.765 Compliance provisions.

To demonstrate compliance with the operating parameters for pressure, the facility must measure the pressure in the gas collection header for each individual well. If positive pressure exists, the facility must take corrective action within 5 days per 60.765(a)(3). If negative pressure cannot be achieved within 15 days, the facility must conduct a root cause analysis per 60.765(a)(3)(i). I reviewed the facility's semi-annual and annual reports from 2020 through 2022. The reports indicated that there were 23, 36, and 26 incidences of positive pressure in those years respectively. The reports indicated that, if it could not achieve negative pressure within 15 days of the first exceedance, the facility conducted a root cause analysis in compliance with 60.765(a)(3)(i). No pressure exceedance exceeded the 60-day corrective action implementation timeline. Mr. Stephens emailed me the root cause analyses done for all the wells from 2020-2022 that exceeded the 15-day corrective action timeline.

To demonstrate compliance with the operating parameters for temperature the facility must monitor the temperature at each well per 60.765(a)(5) and initiate corrective action within 5-days if temperatures are above 131 °F. I reviewed the facility's semi-annual reports from 2020-2022 and there were only 2 instances of temperature exceedances in 2021 but the facility took corrective action within 1 day and had the wells back in compliance. The facility had one temperature exceedance at well GW57 and a root cause analysis was done on June 13, 2023. Mr. Stephens provided the root cause analysis documentation.

To demonstrate compliance with the operating parameters for the collection system, the facility must conduct SEM quarterly per 60.765(c)(1). The facility is doing the quarterly SEM required. The facility must also mark any exceedance above the 500 ppm threshold with the concentration recorded per 60.765(c)(4)(i). Cover maintenance or adjustments must be made, and the area re-monitored within 10 days of the exceedance. If the location shows a second exceedance the facility must take additional corrective action and the location must be re-monitored within 10 days of the second exceedance. If re-monitoring shows the same location exceeded 3 times, a new well or collection device must be installed within 120 days of initial exceedance or alternative remedy must be submitted and approved by the administrator. If a location initially shows an exceedance but the 10-day re-monitoring does not show an exceedance the facility must re-monitor again one month from the initial exceedance. If the one-month re-monitoring shows an exceedance greater than 500 ppm, the facility must re-monitor that location again within 10 days per 60.765(c)(4)(iv). I reviewed the quarterly SEM reports Mr. Stephens emailed me via drop box on September 22, 2023, and observed multiple

issues with demonstrating compliance. The issues are outlined in potential finding 1 and potential finding 2.

The facility must also implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis per 60.765(c)(5). During the inspection, Mr. Stephens and Mr. Backstrom stated that facility checks for cover integrity along with its daily storm water inspection checklist. Mr. Stephens also state that a new cover integrity log will be created to meet this requirement. Mr. Stephens provided documentation via the drop-box submission on September 22, 2023 showing that the facility planned to submit approval to NDEE to incorporate this form into its GCCS design plan.

§ 60.766 Monitoring of operations.

The facility appears to be meeting the requirements for monitoring the pressure, temperature, and oxygen in each well on a monthly basis.

The facility records the flow to the flare and during the inspection, Mr. Stephens stated that the flare does not have a bypass valve. Mr. Stephens provided documentation for the yearly calibration conducted. Mr. Stephens also provided the flare maintenance log and manual per 60.766(c).

§ 60.767 Reporting requirements.

The facility is required to submit a collection and control system design plan for the administrator to approve per 60.767(c). During the inspection I asked Mr. Stephens for the approved GCCS design plan, and he submitted it via the drop box two days later.

The facility is required to submit an annual report per 60.767(g). I was able to review the 2019 and 2020 reports prior to the inspection. Mr. Stephens submitted the 2021 and 2022 annual reports on September 22, 2023 . In the annual reports the facility is required record the location of each methane exceedance over 500 ppm to at least 5 decimal places per 60.767(g)(5). The facility recorded the location of each methane exceedance over 500 ppm to at least 5 decimal places for some of the exceedances.

§ 60.768 Recordkeeping requirements.

The facility is required to keep records for the current amount of solid waste in place, and the year-by-year waste acceptance rate. On September 22, 2023, via the drop box, Mr. Stephens provided the waste rates from 1981 through January 1, 2023.

§ 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

LP Gill owns and operates a reciprocating internal combustion engine (RICE) for the leachate pump. It is an 88 HP leachate pump engine located at an area source. It is classified as existing, stationary, non-emergency, non-black start, compression ignition under 300 horsepower. On September 22, 2023, via the drop box, Mr. Stephens provided the annual inspection checklist from the inspection conducted December 5, 2022. Mr. Stephens also provided the engine's manual.

Potential Finding 1: The facility did not meet the compliance provisions for operating the collection system.
Observation Summary: The facility is required to re-monitor the methane exceedances within certain time frames once the initial monitoring event exceeds the 500 ppm threshold.
Citation: 60.765(c)(4)(ii), 60.765(c)(4)(iii), 60.765(c)(4)(iv) and 60.765(c)(4)(v)
Evidence: Q1 2020 SEM report, Q2 2020 SEM report, Q3 2020 SEM report
Description of Observation: The facility failed to perform or record the re-monitoring checks for over 25 exceedances found during SEM events conducted March 2, 2020, June 22, 2020, and September 22, 2020. Re-monitoring is required within 10 days and again either within 10 days of the first re-check or within 30 days of the first exceedance depending on the monitoring value recorded during the first 10-day re-check. Additionally, the facility did not provide documentation of installing a new well or other collection device within 120 calendar days of the initial exceedance or requests to the NDEE for approval of alternative remedies for the locations that exceeded the methane threshold three times in Q1, Q2, or Q3 of 2020.

Potential Finding 2: The facility did not meet the reporting requirements.
Observation Summary: The facility must record the concentration of any exceedance above the 500-ppm threshold.
Citation: 60.767(g)(5)
Evidence: Q4 2020 SEM report, Q1 2021 SEM report, Q1 2023 SEM report, 2020 NSPS annual compliance report, and 2021 NSPS annual compliance report
Description of Observation: The facility did not provide the methane concentrations observed during the 10-day re-monitoring event for several exceedances reported in the documents cited above. The facility simply stated that the location passed or failed.

End of report.