May 1, 2024
File No. 27224020.00

U.S. EPA Region 7
Iowa Air Compliance Officer
11201 Renner Blvd.
Lenexa, KS 66219

Subject: Request for Gas Collection & Control System Design Change
Loess Hills Regional Sanitary Landfill – Iowa DNR Facility ID# 65-02-005
Malvern, Mills County, Iowa

Administrator:

On behalf of Iowa Waste Services, LLC, SCS Engineers (SCS) is submitting a request to make a design change to the Loess Hills Regional Sanitary Landfill (Facility) Landfill Gas Collection and Control System (GCCS). As a result of continued efforts to maintain and improve the performance of the GCCS, the Facility is requesting permission to decommission (abandon) an existing landfill gas extraction well which is believed to have been physically damaged as soon as practicable.

BACKGROUND

The Facility became subject to *Subpart OOO—Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014* (EG OOO) and *Subpart AAAA—National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills* (NESHAP AAAA) on March 17, 2024. As required by these rules, the facility has installed and operates a GCCS in accordance the Facility GCCS Design Plan dated April 20, 2022, prepared by ESI, Inc.

SCOPE OF REQUEST

The Facility is requesting approval from the U.S. Environmental Protection Agency (EPA) to immediately decommission gas collector wellhead LHGEW065 (Well 65). Well 65 is a typical landfill gas extraction well consisting of vertical slotted piping. However due to its location, Well 65 required the installation of a section of solid horizontal pipe and remote wellhead (i.e. the wellhead on the surface is located some lateral distance away from top of the vertical section of slotted piping) so that Well 65 could be monitored and adjusted safety.

In the enclosed table, monthly monitoring data indicates a significant change in gas quality occurred between February and March 2024. A 1:4 ratio of oxygen to balance gas (which is assumed to be composed primarily of nitrogen) indicates the intrusion of ambient air and gas flow values indicate little to no landfill gas is being collected despite over 20 inches water column of system pressure (vacuum) at the wellhead. Corrective actions were attempted and the wellhead was inspected for air leaks or other points of air intrusion, however none were observed. Based on site investigations and prior experience, the facility believes the lateral section of piping between the vertical slotted pipe and the remote wellhead has been collapsed, crushed, or otherwise damaged.

Since little to no landfill gas is being collected and ambient air is being drawn into the GCCS, we are requesting approval to abandon this well immediately. The removal of this well from the GCCS network should not adversely affect compliance with EG OOO and NESHAP AAAA landfill gas collection requirements as sufficient vacuum is being applied at nearby wells to minimize surface concentrations of landfill gas. This has been demonstrated by the fact that no surface emissions monitoring (SEM) exceedances, nor elevated concentrations of methane were monitored at, or near this well during SEM events conducted on March 13 and April 12, 2024.

The Facility understands approval of this request is contingent upon continued operation in compliance with requirements of its Clean Air Act Title V Operating Permit, EG OOO, NESHAP AAAA, and other applicable federal, state, and local regulations.

CONCLUSION

The Facility and SCS appreciate your consideration for approval of this GCCS design change. If you have any questions, please feel free to contact Doug Tangeman at (402) 415-8707.

Sincerely,

Douglas B. Tangeman
Project Manager
SCS ENGINEERS

Ben Graham, E.I.
Staff Professional
SCS ENGINEERS

DBT/bsg

cc: Mr. Bret Stephens, Loess Hills Landfill
Mr. Ryan Mitchell, Loess Hills Landfill
Mr. Kelly Danielson, Loess Hills Landfill
Ms. Rachel Hanigan, Loess Hills Landfill
Mr. John Curtin, Air Quality Bureau, IDNR
IDNR Field Office #4
SCS Engineers – File Copy

Encl. Wellhead LHGEW065 Monthly Monitoring Data

LOESS HILLS REGIONAL LANDFILL WELL 65 DATA
09.01.2023 TO 03.31.2024

Site Name	Point ID	Record Date	CH4 [%]	CO2 [%]	O2 [%]	Bal Gas [%]	Init Temp [°F]	Adj Temp [°F]	Max Gas Temp [°F]	Init Stat Press ["H2O]	Adj Stat Press ["H2O]	Init Diff Press ["H2O]	Adj Diff Press ["H2O]	Init Flow [scfm]	Adj Flow [scfm]
Loess Hills Regional Sanitary Landfill	LHGEW065	9/8/2023 12:35:00 PM	52.7	46.3	1.0	0.0	95.0	95.0	95	-27.80	-27.76	0.123	0.121	2.4	2.4
Loess Hills Regional Sanitary Landfill	LHGEW065	10/24/2023 2:50:00 PM	54.6	43.7	1.7	0.0	106.4	106.5	106.5	-11.32	-10.35	3.943	4.276	14.0	14.5
Loess Hills Regional Sanitary Landfill	LHGEW065	11/3/2023 2:16:00 PM	50.6	36.1	4.8	8.5	77.6	77.7	77.7	-17.27	-17.23	1.159	1.437	7.8	8.7
Loess Hills Regional Sanitary Landfill	LHGEW065	12/14/2023 2:46:00 PM	54.1	45.8	0.1	0.0	62.9	63.1	63.1	-13.03	-13.05	0.128	0.126	2.6	2.6
Loess Hills Regional Sanitary Landfill	LHGEW065	1/5/2024 10:43:00 AM	52.8	47.2	0.0	0.0	87.4	87.5	87.5	-22.18	-22.15	0.445	1.164	4.7	7.5
Loess Hills Regional Sanitary Landfill	LHGEW065	2/27/2024 8:38:00 AM	55.7	44.0	0.3	0.0	56.8	56.8	56.8	-24.80	-24.75	-0.024	0.055	0.0	3.1
Loess Hills Regional Sanitary Landfill	LHGEW065	3/26/2024 9:44:00 AM	26.5	19.6	13.3	40.6	29.4	29.3	29.4	-11.00	-9.92	-2.984	-2.477	0.0	0.0