



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 3, 2023

Mr. Robert Dick, PE
Senior Vice President
SCS Engineers, PC
15521 Midlothian Turnpike, Suite 305
Midlothian, Virginia 23113

Dear Mr. Dick:

This letter is in response to your letter of request dated January 10, 2022, acting on behalf of South Wake Landfill (Landfill) located in Apex, North Carolina, regarding the decommissioning of landfill gas (LFG) collection system extraction components EW-34 and EW-57A. The Landfill is subject to Title 40 C.F.R. Part 62, Subpart OOO (Federal Plan Requirements for Municipal Solid Waste (MSW) Landfills that commenced construction on or before July 17, 2014, and have not been modified or reconstructed since July 17, 2014). The Landfill is also subject to Title 40 C.F.R. Part 63, Subpart AAAAA, National Emission Standards for Hazardous Air Pollutants: MSW Landfills.

On June 21, 2021, the U.S. Environmental Protection Agency promulgated the Federal Plan. In the absence of an approved state plan implementing Title 40 C.F.R. Part 60, Subpart Cf, Emission Guidelines and Compliance Times for MSW Landfills, or an approval transferring delegation of authority to a state to administer the Federal Plan, the EPA is required to act as the Administrator of the Federal Plan. To avoid duplicative efforts for determinations related to required reviews under Subpart AAAAA, the North Carolina Division of Air Quality has agreed that the EPA may provide a determination for Subpart AAAAA on its behalf when a response is required for Subpart OOO and there is an associated response required under Subpart AAAAA.

Based on a review of your submittal, the EPA agrees that EW-34 and EW-57A may be decommissioned, subject to the requirement to conduct quarterly surface emission penetration monitoring at the subject wells. Details regarding the basis for our determination are provided in the remainder of this letter.

Background Information: EW-34 and EW-57A

- 1.) EW-34 is a vertical LFG extraction component located along the eastern border of the Landfill's Phase 1B area and was installed in January 2018. A fire, presumably related to active waste filling in the vicinity of EW-34, damaged the well to the point that it became nonoperational in December 2022. As a result, the Landfill is unable to operate or monitor EW-34 and requests EPA's confirmation that the well may be decommissioned. SCS Engineers certifies, under the seal of a professional engineer, that adjacent wells are sufficient to collect the LFG for the Landfill area serviced by EW-34.

- 2.) EW-57A is a vertical LFG wellhead located in the northern portion of the Phase 1A area of the Landfill and was installed in November 2020. EW-57A is removed from service due to a fibrous, polymer-based semi-solid (PB SS) that accumulates in the well and impedes gas collection. The PB SS has clogged major gas collection headers in the past, negatively affecting the capability of collection system to remove LFG. SCS Engineers certifies that adjacent wells are sufficient to collect the LFG for the Landfill area serviced by EW-57A.

EPA's Review of Relevant Standards for Subparts OOO and AAAA

1) Subpart OOO

Under 40 C.F.R. § 62.16711(a), the designated facility to which Subpart OOO applies is each MSW landfill in each state, protectorate, and portion of Indian country that commenced construction, reconstruction, or modification on or before July 17, 2014, or has accepted waste at any time since November 8, 1987, or the landfill has additional capacity for future waste deposition.

Under 40 C.F.R. § 62.16714(a)(3), owners or operators of a MSW landfill having a design capacity greater than or equal to 2.5 million megagrams (Mg) by mass and 2.5 million cubic meters (m³) by volume must collect and control MSW landfill emissions at each MSW landfill that has a non-methane organic carbon (NMOC) emission rate greater than or equal to 34 Mg per year (Mg/yr).

Under 40 C.F.R. § 62.16728(a)(1), owners or operators must site active collection wells at a sufficient density throughout all gas producing areas. The collection devices within the interior must achieve comprehensive control of surface gas emissions. The comprehensive control plan must be certified under the seal of a professional engineer. Under 40 C.F.R. § 62.16728(a)(3), the determination for placement of gas collection devices must ensure control of all gas producing areas, except for areas of the landfill which are segregated for placement of asbestos waste or nondegradable waste material.

Under 40 C.F.R. § 62.16720(c)(1), after installation and startup of a gas collection system, owners or operators must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the instrumentation specifications and procedures specified in 40 C.F.R. § 62.16720(d). Additionally, under 40 C.F.R. § 62.16716(d), monitoring must also be conducted where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Under 40 C.F.R. § 62.16720(c)(4), any reading of 500 parts-per-million (ppm) or more above background at any location must be recorded as a monitored exceedance and the actions specified in 40 C.F.R. § 62.16720(c)(4)(i-v) must be taken.

2) Subpart AAAA

Under 40 C.F.R. § 63.1935(a), owners or operators of a MSW landfill are subject to Subpart AAAA if the landfill has accepted waste since November 8, 1987, or has additional capacity for waste, and is a major source as defined in 40 C.F.R. § 63.2 of subpart A, or is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and has estimated

uncontrolled emissions equal to or greater than 50 Mg/yr NMOC as calculated according to 40 C.F.R. § 63.1959.

Under 40 C.F.R. § 63.1935(b), owners or operators are subject to Subpart AAAA if they own or operate a MSW landfill that has accepted waste since November 8, 1987, or has additional capacity for waste deposition, that includes a bioreactor, as defined in § 63.1990, and is a major source as defined in § 63.2 of subpart A, or is an area source landfill that has a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ and that is not permanently closed as of January 16, 2003.

Under 40 C.F.R. § 63.1959(b)(2), each owner or operator of an affected source having a design capacity equal to or greater than 2.5 million Mg and 2.5 million m³ must submit a collection and control system design plan prepared by a professional engineer and install and start up the collection and control system to capture the gas generated within the landfill within 30 months after the first annual report in which the NMOC emission rate equals or exceeds 50 Mg/yr, excepting certain allowable procedures to act otherwise.

Under 40 C.F.R. § 63.1962(a)(1), owners or operators must site active collection wells at a sufficient density throughout all gas producing areas. The collection devices within the interior must achieve comprehensive control of surface gas emissions. The comprehensive control plan must be certified under the seal of a professional engineer. Under 40 C.F.R. § 63.1962(a)(3), the determination for placement of gas collection devices must ensure control of all gas producing areas, except for areas of the landfill which are segregated for placement of asbestos waste or nondegradable waste material.

Under 40 C.F.R. § 63.1960(c)(1), after installation and startup of a gas collection system, owners or operators must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the instrumentation specifications and procedures specified in 40 C.F.R. § 63.1960(d). Under 40 C.F.R. § 63.1958(d)(2)(ii), the owner or operator must monitor any cover penetrations that are within an area of the landfill where waste has been placed and a gas collection system is required. Under 40 C.F.R. § 63.1960(c)(4), any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance and the actions specified in 40 C.F.R. § 63.1960(c)(4)(i-v) must be taken.

EPA's Determination

Subparts OOO and AAAA specify siting standards for active gas collection wells and require comprehensive control of surface gas emissions after installation of a gas collection system. Based on the available information, the EPA agrees LFG extraction component wells EW-34 and EW-57A may be decommissioned. However, the Landfill must monitor the wellheads of EW-34 and EW-57A during quarterly surface emission monitoring events since the wellheads penetrate the Landfill's surface. The EPA's determination is based on the following information:

SCS Engineers has certified, under the seal of a professional engineer, that adjacent wells will provide sufficient overlap coverage of the areas serviced by EW-34 and EW-57A. The Landfill

provided a drawing which indicates the radiuses of influence of EW-34 and EW-57A and radiuses of influence of wells in the proximities of the subject wells.

The review of your request was coordinated with the EPA Region 4's Enforcement and Compliance Assurance Division and is based upon prior consultation with our Office of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance and is consistent with similar approvals issued by our office. If you have any questions about the response provided in this letter, please contact Mr. Tracy Watson of my staff at (404) 562-8998 or by email at watson.marion@epa.gov.

Sincerely,

**CAROLINE
FREEMAN**

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Caroline Y. Freeman
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