



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8960

September 12, 2023

Mr. Matt Einsmann
Environmental Manager
Republic Services
5111 Chin Page Road
Durham, North Carolina 27703

Dear Mr. Einsmann:

This is in response to your letter dated June 30, 2023, regarding the decommissioning of landfill gas (LFG) extraction wells EW-306 and EW-307A at East Carolina Regional Solid Waste Landfill (ECRSWL) located in Aulander, North Carolina. The landfill is owned by Republic Services of North Carolina, LLC (Republic). The U.S. Environmental Protection Agency requested additional information from you on July 20, 2023, July 24, 2023, and July 31, 2023, and received information on July 21, 2023, July 27, 2023, and August 3, 2023. The landfill is subject to Title 40 Code of Federal Regulation (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 (Federal Plan). The landfill is also subject to Title 40 C.F.R. Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: MSW Landfills.

On June 21, 2021, the EPA 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 AAAA, the North Carolina Division of Air Quality has agreed that the EPA may provide a determination for Subpart AAAA on its behalf when a response is required for Subpart OOO and there is an associated response required under Subpart AAAA.

Based on a review of your submittal and additional information you provided, the EPA agrees that EW-306 and EW-307A may be decommissioned, subject to the requirement to conduct surface emission monitoring at the location above EW-306 and EW-307A during quarterly surface emission monitoring events. Details regarding the basis for our determination are provided in the remainder of this letter.

Background Information: EW-306 and EW-307A

ECRSWL is located at 1922 Republican Road, Aulander, North Carolina. The landfill receives MSW, construction and demolition debris, and non-hazardous special wastes. LFG extraction component EW-306 and EW-307A are vertical wells located in Cell 8 and 9, respectively. EW-306 was installed in August 2015 and EW-307A was installed in May 2018. During landfill operations in May 2023, the wells were damaged and subsequent efforts to remediate the damage were unsuccessful. Therefore, Republic stated that EW-306 and EW-307A were damaged beyond repair and decommissioned the

components by disconnecting the wellheads from the lateral piping, removing the piping between the wellheads and the components, and cutting and capping the components below the landfill surface.

Surface emission monitoring conducted in the first quarter of 2023 showed one location near EW-307A where methane emissions exceeded the 500 parts per million (ppm) threshold above the background concentration. Site personnel performed corrective actions at the exceedance location by adding soil cover material and increasing vacuum to the field. Rechecks within 10 days and one month of the initial exceedance showed compliance. Surface emission monitoring conducted in the second quarter of 2023 showed no exceedance of methane emissions in the landfill. Per communication with Republic, surface emission monitoring for the third quarter of 2023 will be conducted in September.

The landfill is currently undergoing a gas collection and control system expansion project. The project includes a plan of installing approximately 45 vertical extraction wells, including EW-306A and EW-307B to replace the damaged EW-306 and EW-307A, respectively. In addition, new extraction wells EW-116 and EW-117 will be installed in close proximity to the former locations of EW-306 and EW-307A. There are also existing wells in the vicinity of EW-306 and EW-307A. You have certified, under your professional engineering seal, that the proposed replacement wells, the proposed new wells in close proximity, and existing wells adjacent to EW-306 and EW-307A provide sufficient overlapping coverage of the area originally serviced by EW-306 and EW-307A, and provided documentation to support that certification.

The 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, and 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 no more than 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 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 or collocated with 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 40 C.F.R. § 63.1990, and is a major source or collocated with 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 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 from 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.

The 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 that LFG extraction component wells EW-306 and EW-307A may be decommissioned. However, the landfill must conduct surface emission monitoring at the location above EW-306 and EW-307A during quarterly surface emission monitoring events. The EPA's determination is based on the following information:

Republic has certified, under the seal of a professional engineer, that the proposed replacement wells, the proposed new wells in close proximity, and existing wells adjacent to EW-306 and EW-307A will provide sufficient overlapping coverage of the areas serviced by EW-306 and EW-307A. The landfill provided a drawing which indicates the radiuses of influence of EW-306 and EW-307A and radiuses of influence of the proposed replacement wells, the proposed new wells in close proximity, and existing wells adjacent to the subject wells.

This approval is based upon prior consultation with our Office of Air Quality Planning and Standards and our 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 Ms. Henian Zhang of my staff at (404) 562-8123 or by email at zhang.henian@epa.gov.

Sincerely,

**ANTHONY
TONEY**

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Anthony G. Toney
Acting Director
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cc: Steve Hall, NCDAQ
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