



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

March 23, 2023

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

Dear Mr. Einsmann:

This letter is in response to your letter dated December 6, 2022, regarding the decommissioning of landfill gas (LFG) extraction well EW-308A at Republic Services of North Carolina's (Republic) East Carolina Regional Solid Waste Landfill (ECRSWL) located in Aulander, North Carolina. 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). ECRSWL 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 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 Municipal Solid Waste 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 reviews under Subpart AAAA, the North Carolina Division of Air Quality (NCDAQ) 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 EW308A may be decommissioned. Details regarding the basis for our determination are provided in the remainder of this letter.

Background Information of ECRSWL and EW-308A

ECRSWL is a municipal solid waste landfill owned by Republic that receives MSW, construction and demolition debris, and non-hazardous special wastes. The site is located at 1922 Republican Road in Bertie County, approximately 7.5 miles northwest of Windsor, North Carolina, near the community of Aulander. The permitted facility boundary consists of approximately 663 acres. The landfill was permitted to begin operation in 1993 and is permitted for a volumetric disposal capacity of approximately 23 million cubic yards. The landfill has a design capacity of approximately 5.9 million megagrams (Mg). The facility has approximately 120 wells, 18 cleanouts, three manholes, five

photovoltaic (PV) wells, and 18 gas well-water pumps. The collection system, operating under a negative pressure from two blowers located near the flares, allows gas to migrate to two flares where it is combusted. Underneath the waste, there is a 60-mil plastic liner that allows leachate to drain to a collection point where it is pumped to leachate storage tanks near the flares. The leachate is shipped offsite for treatment and is not circulated in the landfill.

EW-308A is a vertical LFG extraction well located in the northern portion of ECRSWL's Cell 9. EW-308A was installed in May 2018. When the well began operation, it was regulated under the provisions of Title 40 C.F.R. Part 60, Subpart WWW, Standards of Performance for MSW Landfills that Commenced Construction, Reconstruction, or Modification on or after May 30, 1991, but before July 18, 2014. On June 21, 2021, the U.S. Environmental Protection Agency promulgated 40 C.F.R. Part 62, Subpart OOO (Federal Plan Requirements for MSW Landfills That Commenced Construction on or before July 17, 2014 and have not been modified or reconstructed since July 17, 2014). As a result of the promulgation of Subpart OOO, Subpart WWW no longer applied to the landfill.

Beginning in August 2022, ECRSWL began to experience problems related to maintenance of the well's regulated operational parameters (*e.g.*, % O₂). ECRSWL implemented corrective actions to resolve the operational issues to include: 1) monthly wellhead inspections and adjustments, 2) assessments of total well depth and liquid levels, and 3) replacement of sampling ports. Attempts to successfully restore the well's operation have failed and ECRSWL has concluded that the well will be unable to conform with the operational regulatory standards. Surface emission monitoring (SEM) conducted in the third quarter of 2022 (3Q2022) and 4Q2022 in the proximity of EW-308A, resulted in compliance demonstrations for the SEM events. Furthermore, in May 2019, Republic completed the installation of a new LFG extraction well (EW-308B) to replace EW-308A. Monitoring of both wells at that time indicated compliance with the operational standards and ECRSWL decided to retain operation of EW-308A. Since then, it has become evident that EW-308B is sufficient to collect the landfill gas generated for the area of concern. You have certified, under your professional engineering seal, the details justifying the necessity to decommission EW-308A.

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 municipal solid waste 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 an MSW landfill having a design capacity greater than or equal to 2.5 million Mg by mass and 2.5 million cubic meters by volume must collect and control MSW landfill emissions at each MSW landfill that has a non-methane organic hydrocarbon (NMOC) emission rate greater than or equal to 34 megagrams 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 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 an 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 cubic meters 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 an 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 cubic meters 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 cubic meters 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 the LFG extraction well EW-308A can be decommissioned. The EPA's determination is based on the following information:

- 1.) Republic installed and commissioned LFG extraction well EW-308B to replace LFG extraction well EW-308A.
- 2.) Republic has certified, under the seal of a professional engineer, that the installation and commissioning of LFG extraction EW-308B provides comprehensive control of LFG in the proximity of the decommissioned LFG extraction well EW-308A. Additionally, drawings indicate the radiuses of influence of EW-308B and wells in the proximity ensure overlap coverage for the affected area of ECRSWL.

The review of your request was coordinated with the EPA Region 4's Enforcement and Compliance Assurance Division and the EPA's Office of Enforcement and Compliance Assurance and EPA Office of Air Quality Planning and Standards. 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,

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ANTHONY TONEY
Date: 2023.03.23
10:34:37 -04'00'

Caroline Y. Freeman
Director
Air and Radiation Division

cc: Steve Hall, NCDAQ
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