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

July 20, 2021

Ms. Laura Niemann, P.E.
Project Engineer
Environmental Information Logistics, LLC
130 E. Main Street
Caledonia, Michigan 49316

Dear Ms. Niemann:

This letter is in response to your letter, dated May 20, 2021, requesting a site-specific regulatory interpretation regarding procedures for calculating the nonmethane organic compound (NMOC) emission rate at the Morehead Landfill located in Morehead, Kentucky. At the time of your request, the Morehead Landfill was subject to Title 40 Code of Regulations (CFR) Part 60, Subpart WWW (Standards of Performance for Municipal Solid Waste Landfills), but the landfill is now subject to 40 CFR Part 62, 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), which had an effective date of June 21, 2021. Therefore, the regulatory interpretation provided in this letter addresses provisions in Part 62, Subpart OOO, rather than those in Part 60, Subpart WWW.

Subpart OOO requires that owners and operators of landfills with a design capacity equal to or greater than 2.5 million megagram (Mg) and equal to or greater than 2.5 million cubic meters calculate their facility's NMOC emission rate on an annual basis. Under Subpart OOO, owners and operators of landfills whose calculated NMOC emission rate is equal to or greater than 34 Mg/year are required to install, operate, and maintain a gas collection and control system (GCCS). Your letter requested approval to use an alternative NMOC emission rate calculation method for an area of the Morehead Landfill where a GCCS that is not required by Subpart OOO is installed and operating. Based upon our review, your request will be acceptable under conditions outlined in this letter.

§62.16718 provides two equations for calculating NMOC emission rates. The equation in §62.16178(a)(1)(i)(A) is for landfills where actual year-to-year solid waste acceptance rates are known, and the equation in §62.16178(a)(1)(ii)(A) is for landfills where the actual year-to-year solid waste acceptance information is not available. As an alternative to using either of these equations to calculate the NMOC emission rate for the Morehead Landfill, your letter requested approval to use the equation promulgated at §62.16718(b). Under Subpart OOO, this equation is used for calculating NMOC emission rates when determining whether a GCCS installed in order to comply with Subpart OOO can be capped, removed, or decommissioned.

Under the alternative you proposed, the annual NMOC emission rate from the Morehead Landfill would be determined as follows:

1. Tier 2 testing will be conducted in order to determine a site-specific NMOC concentration for calculating the NMOC emission rate at the landfill. This testing is scheduled for August 2021, and Tier 2 samples will be collected at the flare station that is part of the landfill's existing GCCS. Sampling must be conducted before any gas moving, condensate removal, or treatment system equipment. A total of four samples will be collected, one of which will serve as a spare in case one of the other samples is unusable.

2. Landfill gas collected at the Morehead Landfill is burned in an onsite flare, and a calibrated mass flow meter continuously measures the amount of landfill gas sent to the flare. This mass flow meter will be used to determine the volume of landfill gas collected and burned at the Morehead Landfill on an annual basis.

3. The annual NMOC emission rate for the Morehead Landfill will be calculated using the equation in §62.16718(b). The inputs for the equation will be the NMOC concentration from the Tier 2 testing, and the total annual flow rate measured with the mass flow meter at flare inlet.

Your request to use the equation in §62.16718(b) as an alternative to the equations in §62.16718(a) is based upon the following factors:

1. Landfill rule implementation guidance issued by the EPA indicates that, if a landfill has an existing GCCS, the equation normally used for calculating NMOC emission rates to determine whether a GCCS can be removed, can also be used for determining whether a landfill's NMOC emission rate exceeds the threshold which triggers the requirement for installation of a GCCS. The guidance document which discussed this option is entitled *Municipal Solid Waste Landfill New Source Performance Standards and Emission Guidelines Questions and Answers*. This guidance was initially published in 1998 and was updated in 2002.

2. In a letter, dated November 18, 2015, the EPA Region 4 approved the use of the equation in §60.754(b) for calculating the NMOC emission rate for the portion of the Hopkins County Kentucky Landfill where a non-regulatory gas collection system was installed. The equation in §60.754(b) is identical to the equation in §62.16718(b). The basis for this prior approval was two-fold:(1) Allowing the use of the equation was consistent with the EPA's 2002 guidance, and (2) NMOC emission rates using the alternative equation should be more accurate than those calculated using the equation that has the same format as the one in in §62.16178(a). This is because landfill gas flow rates in the alternative equation are measured directly, rather than calculated using multiple parameters (*i.e.,* waste acceptance rates, waste age, and methane generation rates constants), which can cause errors in the calculated emission rate if accurate site-specific information is not available.

Based upon our review of your proposal, the EPA has determined that it will be acceptable under the following conditions:

1. The owner/operator of the Morehead Landfill must maintain and calibrate the mass flow meter at the inlet to the flare station in accordance with manufacturer recommendations. Documentation regarding flow meter maintenance and calibration must be included with each annual emission rate report submitted to satisfy the reporting requirement in §62.16724(c).

2. The owner/operator of the Morehead Landfill must implement a monitoring program to demonstrate that a negative pressure is maintained at each wellhead in the gas collection system. This demonstration shall be provided by conducting quarterly monitoring using procedures and corrective action provisions promulgated at §62.16720(a)(3).

3. The owner/operator of the Morehead Landfill must implement a monitoring program to demonstrate that the surface methane concentration at the facility is less than 500 parts per million by volume (ppmv). This demonstration shall be provided by conducting quarterly monitoring using procedures and corrective action provisions promulgated at §60.16720(c). Monitoring shall be conducted in accordance with §60.16717(d), which requires that the surface methane concentration be measured around the perimeter of the collection area, at 30 meter intervals across the landfill surface, and where visual observations indicate the potential for elevated landfill gas concentrations (*i.e.,* areas where distressed vegetation, cracks or seeps in the landfill cover, or cover penetrations are present).

4. Use of the equation in §62.16718(b) is acceptable for areas of the landfill under the influence of the existing gas collection system. Tier 2 sampling using probes shall be conducted in accordance with procedures in §62.16718(a)(3) in any areas of the landfill not under the influence of the existing gas collection system. The NMOC emission rate for the area of the landfill not under the influence of the gas collection system shall be calculated using area-specific Tier 2 results and the equations in §62.16718(a).

5. The total NMOC emission rate for the Morehead Landfill shall be calculated as the sum of the emission rate in the portion of the landfill under the influence of the gas collection system and the emission rate in the portion of the landfill not under the influence of the gas collection system.

The basis for the EPA's conditional approval of your proposal is that the equation in §62.16718(b) will yield more accurate results than the equations in §62.16718(a) if the gas collection system at the landfill is well designed and operated. In addition, approval to use the equation in §62.16718(b) is consistent with the previous guidance and determinations issued by the EPA. In order for the equation in §62.16718(b) to yield accurate results, an ongoing demonstration that the gas collection system is designed and operating properly is necessary. If the collection system is not designed and operated properly, the gas flow rate at the inlet to the flare could be lower than the actual landfill gas generation rate at the site, leading to a low bias in the NMOC emission rate calculated with the equation in §62.16718(b).

The landfill rule implementation guidance that the EPA updated in 2002 identifies the presence of a properly designed and operated gas collection system as a prerequisite to calculating NMOC emission rates using an equation formated like the one in §62.16718(b). Subpart OOO requires that NMOC emission rates be calculated annually for landfills whose emissions are below 34 Mg/year. Based upon this annual reporting requirement, the EPA determined that the quarterly monitoring specified as a condition for approval for your request is needed in order to provide assurance that the gas collection at the Morehead Landfill is designed and operated in a manner that will prevent NMOC emission rates from being underestimated when using the equation in §62.16718(b).

The review of your regulatory interpretation request was coordinated with the EPA Office of Enforcement and Compliance Assurance (OECA) and the EPA Office of Air Quality Planning and Standards (OAQPS). If you have any questions about the response provided in this letter, please contact Mr. David McNeal of my staff at (404) 562-9102 or at mcneal.dave@epa.gov.

Sincerely,

CAROLINE FREEMAN

Digitally signed by CAROLINE FREEMAN
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Caroline Y. Freeman
Director
Air and Radiation Division

cc: Melissa Duff, KY DEP
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