Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Title V, Operating
Permit: V-26-002

Bituminous Resources, Inc.
dba Hopkins County Regional Landfill
419 Claude Young Road
White Plains, KY 42464

January 9, 2026
Amy K. Tempus-Doom, P.E., Reviewer

SOURCE ID:	21-107-00155
AGENCY INTEREST:	38541
ACTIVITY:	APE20250004

Table of Contents

SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 4953 - Refuse Systems (solid waste landfills)

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☐ Yes ☒ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Hopkins
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☒ CO ☐ NO_X ☒ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The Bituminous Resources, Inc. dba Hopkins County Regional Landfill (HCRL) located in Hopkins County, KY is primarily a municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991 and has a design capacity greater than 2.5 million cubic meters by volume. This landfill had a calculated emission rate of more than 50 megagrams per year of non-methane organic compounds (NMOC) in 2015 and installed a GCCS in 2011. The landfill has the ability to send the landfill gas to an open flare or an onsite renewable natural gas (RNG) facility. The RNG plant processes raw landfill gas from the GCCS owned and operated by HCRL through membrane separation and adsorption processes to refine the methane concentration and remove contaminants to achieve pipeline-grade specifications for natural gas. The final product is injected into an existing natural gas pipeline.

The landfill consists of Unit 1, which accepted waste from 2005 until the present, Unit 2, which accepted waste from 2014 until the present, and Units 3 and 4, which have not begun accepting waste yet. Final cap has not been placed on any part of the landfill.

The source is required to obtain a Title V permit by 401 KAR 52:020, Section 1(4). The source includes a landfill and associated equipment including a Gas Collection and Control System (GCCS), flares, fuel (gasoline and diesel) tanks, haul roads, site construction, leachate storage tanks, and an industrial liquid waste solidification facility.

The Division does not currently have an approved state plan implementing 40 CFR 60, Subpart Cf (EG) and accordingly, the U.S. EPA implements the requirements of the EG through the federal plan codified in 40 CFR 62, Subpart OOO.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-26-002 Activity: APE20250004

Received: April 19, 2025 Application Complete Date(s): April 28, 2025

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No NSR Applicable? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☐Yes ☒No

Description of Action:
The Bituminous Resources, Inc. dba Hopkins County Regional Landfill (HCRL) submitted an application on April 19, 2025 to renew the current Title V permit, V-18-053 R2. There were no changes or construction requested with this submittal.

The Division updated permit language to be consistent and clear, and added the requirements of 40 CFR 60, Subpart Cf into the permit in anticipation of the EPA's approval of Kentucky's state plan. The requirements that are predicated on the approval of the state plan are included in Section I of the permit. The rest of the requirements are included in Section B and co-cited with the corresponding requirements from 40 CFR 63, Subpart AAAA where appropriate.

An updated gas collection and control plan was submitted on March 14, 2025 and approved by the Division (AAP20250002) on March 17, 2025. Below are the determinations made by the Division regarding the GCCS plan and alternatives sought by the facility.

The Division approves of the general revised design plan as submitted on March 14, 2025 and outlined in Sections 1, 2, 3, and 4.

HCRL has requested several alternative monitoring/recordkeeping/reporting scenarios in Section 5 of the design plan and operating clarifications in Section 6 of the design plan. Below is a detailed response for each one. For the sake of brevity, where appropriate, only the relevant sentences from the source have been included in this letter.

Request #5.1: "Monitoring of the parameters in §§62.16716 through §§62.16726/§§ 63.1957 through §§63.1983 may be performed with a portable monitoring instrument such as a GEM 2000/500, LMS, Envision Meter, or equivalent. The monitoring equipment will be verified to provide accurate measurement of all parameters for which it is used to measure. (See Appendix D-1)"

Division's Response: The Division approves of the use of portable gas composition analyzers in conjunction with Method 3A to monitor the oxygen level at a wellhead. Pursuant to 40 CFR 63.1961(a)(2)(iii), a portable gas composition analyzer may be used to monitor the oxygen level at a wellhead provided that the analyzer is calibrated and meets all QA/QC requirements according to Method 3A. ASTM D6522-11 may be used as an alternative to Method 3A for wellhead monitoring as long as all the quality assurance is conducted as required by ASTM D6522-11. The

portable gas composition analyzer may be used for other monitoring, provided that the analyzer meets the methods and requirements in the rule.

Request #5.2: "The requirements of 40 CFR §62.16720(b)/§63.1960(b) states that each collection device shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 5 years or more in active areas or 2 years or more if closed or at final grade. It is important to note that there may be occasions when HCRL decides to install collection devices included in the Revision prior to the onset of Federal EG/NESHAP requirements. Based on the abovementioned regulatory citation, a collection device installed prior to the requirements of Federal EG/NESHAP will not be subject to the operational and/or record-keeping requirements of Federal EG/NESHAP until the age of the initial waste meets the 5-yr/2-yr rule. To make certain that KDAQ is made fully aware of these special circumstances, HCRL will include information in the annual report required by Federal EG/NESHAP/Title V indicating the date of initial collection device installation and the Federal EG/NESHAP compliance date. A copy of some correspondence prepared by the EPA Region IV (letter dated May 31, 2007) has been included in Appendix D-3."

Division's Response: The Division concurs that the operational and recordkeeping requirements of the NESHAP do not apply to gas collectors installed in non-NESHAP areas.

Request #5.3: "During filling operations, vertical extraction wells periodically need to be "raised" and/or temporarily disconnected (i.e., the well casing extended 15-25 ft vertically) in order to not be buried under lifts of trash. The time frame between when a well is raised, and when the waste height and/or final cover is high enough to safely access the sample ports can often range from a few weeks to a few months. This can result in missed monthly readings at the well, since the well casing is too high for the technician to safely reach.

Since the EG/NESHAP allows for exclusion of surface monitoring in "dangerous areas" of the site, it is reasonable to request an alternative to monitoring wells that are deemed dangerous for personnel to access (i.e., raised, active and construction areas). As such, the site proposes that monthly readings be taken only at wells that can be safely accessed.

The number of wells that will be covered by the monitoring exemption at any one time will constitute only a fraction of the wells located at the site. If the facility cannot bring the waste height up to the new grade and re-attach the well within a reasonable amount of time (90 days), then HCRL personnel will initiate modifications to the lateral/wellhead for monitoring such as cutting the well back down and re-attaching it for monitoring. Using this alternative, the vast majority of the wellheads at the site will still be monitored on a monthly basis under the alternative proposed by HCRL, and an appropriate alternative monitoring and reporting procedure will be utilized."

Division's Response: The Division approves this request. All instances when extraction devices were excluded from monitoring because they were located in "dangerous" areas should be detailed in the Semi-Annual Report prepared to address that reporting period.

Request #5.4: "HCRL will incorporate the steps detailed in Section H – Alternate Operating Scenarios (Alternate Operating Scenario 2) of the Title V Operating Permit to request a higher operating value for temperature."

Division's Response: The Division approves the use of the procedure outlined in Section H of the Title V permit to request or revise Higher Operating Values (HOVs) for temperature at HCRL.

Request #5.5: "Subpart AAAA, §63.1961(a)(5) states that when a facility seeks to demonstrate compliance with the operational standard for temperature found in §63.1958(c)(1), the facility must initiate enhanced monitoring at each well with a landfill gas temperature greater than 62.8 degrees Celsius [145 degrees Fahrenheit]. That enhanced monitoring includes, among other things, measuring the carbon monoxide concentrations using Method 10 (40 CFR 60, Appendix A), as specified by §63.1961(a)(5)(vi). In lieu of Method 10, we plan to incorporate EPA Alt-143 as detailed in the EPA Determination letter included in Appendix D-3, or EPA Alt-144 as detailed in the EPA Determination letter included in Appendix D-4."

Division's Response: The Division approves the use of ALT-143 or ALT-144 in lieu of Method 10.

Request #6.2: "The as-built can only be generated/updated for a landfill after construction projects that include upgrades and additions to the gas collection system are completed. After construction has taken place, the survey crew performs quality checks and completes a shakedown process to ensure the construction was performed properly. Therefore, since there is no defined frequency for preparing/updating an as-built of the gas collection system, the landfill will update the as-built on an annual basis in years that changes, or construction of the gas collection system are performed.

To the extent that HCRL requests an alternate timeline or an HOV for a well, an updated map will be available that includes the location of the well included in the request, even if the request is made prior to the annual update."

Division's Response: The Division acknowledges this statement in the GCCS plan and concurs that map updates will be necessary when an alternate timeline or an HOV is requested by HCRL. For clarification, no changes to the final GCCS design can be made without approval of a revised GCCS plan, however, to meet the requirement in 40 CFR 63.1983(d), annual map updates may be acceptable.

V-26-002 Emission Summary		
Pollutant	2024 Actual (tpy)[2]	PTE V-26-002 (tpy)[1]
CO	30.27	234.36
NOx	6.64	54.75
PT	169.28	12.47
PM_{10}	46.48	12.98
$PM_{2.5}$	12.11	12.98
SO_2	24.27	163.61
VOC	7.05	5.59
Lead	0	0.000045
Greenhouse Gases (GHGs)		
Carbon Dioxide	105,339	175991
Methane	25,998	9840
Nitrous Oxide	6.57	1.61
CO_2 Equivalent (CO_2e)		451943

V-26-002 Emission Summary		
Pollutant	2024 Actual (tpy)[2]	PTE V-26-002 (tpy)[1]
Hazardous Air Pollutants (HAPs)		
2,4,5-Trichlorophenol	0	3.34
Cresols	0	1.67
Dichloromethane	-[3]	1.33
HCl	0.78	5.07
Toluene	1.50	4.05
Xylenes	0.55	1.46
Combined HAPs:	3.94	24.03

[1]Note: Potential to emit totals include federally enforceable controls, and contributions from Flare #3 (5000 scfm) only, as it is the worst case emissions scenario, and the RNG plant and all flares cannot run at the same time, i.e. if Flare #3 is running at the maximum throughput, nothing else can run. Totals do not include fugitive emissions, except HAPs.
[2]Note: Actual reported emissions include fugitive emissions.
[3]Note: Pollutant not currently tracked in EIS.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 001 - Municipal Solid Waste (MSW) Landfill

Initial Construction Date: 2005

Process Description: A MSW landfill that accepted that waste after November 8, 1987, commenced construction, reconstruction, or modification on or before July 17, 2014 and having a design capacity equal to or greater than 2.5 million megagrams by mass and 2.5 million cubic meters by volume, and an NMOC emission rate (Calculated according to 40 CFR 63.1959) greater than 50 Mg/yr.

This landfill installed a Gas Collection and Control System (GCCS) in 2011. This system can send gas to EU 005, EU 008, EU 009, and/or EU 010.

The landfill consists of Unit 1, which accepted waste from 2005 until the present, Unit 2, which accepted waste from 2014 until the present, and Units 3 and 4, which have not begun accepting waste yet. Final cap has not been placed on any part of the landfill.

Permitted Design Capacity: 13,944,000 cubic yards (10,660,953 cubic meters)

Applicable Regulations:

401 KAR 53:010, *Ambient air quality standards*, This regulation contains the primary and secondary ambient air quality standards for sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, lead, hydrogen sulfide, gaseous fluorides, total fluorides, and odors are specified in Appendix A of 401 KAR 53:010.

401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills*, applies to each MSW landfill that commenced construction, modification, or reconstruction on or before July 17, 2014. This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.*

401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, applies to each municipal solid waste (MSW) landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959.

401 KAR 63:010, *Fugitive emissions*, applies to each affected facility which emits or could emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapters 50 through 68.

401 KAR 63:015, *Flares*, applies to each affected facility which means flares as defined in 401 KAR 63:015, Section 2.

40 CFR 60.18, *General control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 60.

40 CFR 61, Subpart M, *National Emission Standard for Asbestos*, applies to each active asbestos waste disposal site.

40 CFR 63.11, *Control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 63.

Comments: Emission factors from AP 42 - Table 2.4.1 (May 2025) and LandGEM. H_2S monitoring for the landfill gas collection system has been included in the permit and is used for accurate quantification of fugitive H_2S emissions and in determination of SO_2 levels produced in the flare. Previous experience indicates the H_2S concentration in AP 42-Table 2.4.1 (May 2025) and LandGEM underestimates levels

Emission Unit 001 - Municipal Solid Waste (MSW) Landfill

actually seen at landfills.

Monitoring of liquid levels for gas wells is included in the permit to ensure adequate gas collection which is dependent on the availability of well perforations. Excessive liquid in wells can also inhibit proper methane production and degrade monitored well parameters causing excessive oxygen intrusion and high temperatures.

The permit also includes alternate operating scenarios for GCCS Removal, Requests for Higher Operating Values (HOV), and Requests for Decommissioning of Gas Collectors.

Emission Unit 005 – Landfill Flare #1

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
Opacity	< 20%	401 KAR 63:015, Section 3	-	Daily qualitative observations and recordkeeping.

Initial Construction Date: 2011

Process Description: Open landfill flare which combusts landfill gas.
Model: LFG Specialties Model PCF82516
Maximum Capacity: 1362 scfm

Applicable Regulations:
401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills,* applies to each MSW landfill that commenced construction, modification, or reconstruction on or before July 17, 2014. This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.*
401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, applies to each municipal solid waste (MSW) landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959.
401 KAR 63:015, *Flares*, applies to each affected facility which means flares as defined in 401 KAR 63:015, Section 2.
40 CFR 60.18, *General control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 60.
40 CFR 63.11, *Control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 63.

Comments:
This flare is a control device installed to meet the requirements of 40 CFR 63.1959(b)(2)(iii). Emission factors from AP-42 Chapter 2.4 (May 2025) and AP-42, Chapter 13.5. Control efficiency for Non Methane Organic Compounds (NMOC) is 98%.

Emission Unit 008 – Landfill Flare #2				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
Opacity	< 20%	401 KAR 63:015, Section 3	-	Daily qualitative observations and recordkeeping.

Initial Construction Date: 2024

Process Description: Open landfill flare which combusts landfill gas.
Maximum Capacity: 2,500 scfm

Applicable Regulations:
401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills,* applies to each MSW landfill that commenced construction, modification, or reconstruction on or before July 17, 2014. This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.*
401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, applies to each municipal solid waste (MSW) landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959.
401 KAR 63:015, *Flares*, applies to each affected facility which means flares as defined in 401 KAR 63:015, Section 2.
40 CFR 60.18, *General control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 60.
40 CFR 63.11, *Control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 63.

Comments:
This flare is a control device installed to meet the requirements of 40 CFR 63.1959(b)(2)(iii). Emission factors from AP-42 Chapter 2.4 (May 2025) and AP-42, Chapter 13.5. Control efficiency for Non Methane Organic Compounds (NMOC) is 98%.

Emission Unit 009 – Landfill Flare #3				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
Opacity	< 20%	401 KAR 63:015, Section 3	-	Daily qualitative observations and recordkeeping.

Emission Unit 009 – Landfill Flare #3

Initial Construction Date: 2024

Process Description: Open landfill flare which combusts landfill gas from EU 001 or off-spec gas from EU 010.
Maximum Capacity: 131 MMBtu/hr (5000 scfm landfill gas; 2453 scfm off-spec gas)

Applicable Regulations:
401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills,* applies to each MSW landfill that commenced construction, modification, or reconstruction on or before July 17, 2014. This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.*
401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, applies to each municipal solid waste (MSW) landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959.
401 KAR 63:015, *Flares*, applies to each affected facility which means flares as defined in 401 KAR 63:015, Section 2.
40 CFR 60.18, *General control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 60.
40 CFR 63.11, *Control device and work practice requirements*, applies to control devices (flare) used to comply with applicable subparts of 40 CFR part 63.

Comments:
This flare is a control device that must meet the requirements of 40 CFR 63.1959(b)(2)(iii). Emission factors from AP-42 Chapter 2.4 (May 2025) and AP-42, Chapter 13.5. Control efficiency for Non Methane Organic Compounds (NMOC) is 98%.

Flare Mode 1 represents combustion of raw landfill gas at a worst-case 55% methane and 750 ppmv H_2S, Flare Mode 2 represents off-spec gas with the highest methane load to the flare of 94% and 4 ppmv of H_2S with a corresponding flow rate of 2453 scfm, and a maximum of 1000 hours per year.

Emission Unit 010 - Renewable Natural Gas Plant

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
Opacity	< 20%	401 KAR 59:010, Section 3(1)(a)	-	Daily qualitative observations and recordkeeping.
PM	Process Weight Rate (P): ≤ 0.5 tons/hour: 2.34 lbs/hr	401 KAR 59:010, Section 3(2)	AP 42 Table 2.4-5 AP 42 Table 1.4-2	Assumed to be in compliance based on the maximum process weight rate and emission factors provided by the application.

Emission Unit 010 - Renewable Natural Gas Plant

Initial Construction Date: 2025

Process Description:
Emission Unit 010 – Renewable Natural Gas (RNG) Plant
The RNG facility receives LFG from the landfill gas collection system. The resulting LFG stream is treated, compressed, and injected into local gas distribution or transmission networks.

Maximum Capacity:
EU 010 – RNG Plant: 5,000 scfm LFG
Regenerative Thermal Oxidizer (RTO): 21.00 MMBtu/hr

Control Devices for EU 010: Thermal Oxidizer and Flare (EU 009)

Applicable Regulations:
401 KAR 53:010, *Ambient air quality standards*, This regulation contains the primary and secondary ambient air quality standards for sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen dioxide, lead, hydrogen sulfide, gaseous fluorides, total fluorides, and odors are specified in Appendix A of 401 KAR 53:010.
401 KAR 59:010, *New process operations*, applies to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates in 401 KAR Chapter 59, commenced on or after July 2, 1975. Applies to EU 010
401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills,* applies to each MSW landfill that commenced construction, modification, or reconstruction on or before July 17, 2014. This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills.*
401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, applies to each municipal solid waste (MSW) landfill that has accepted waste since November 8, 1987 or has additional capacity for waste deposition and has a design capacity equal to or greater than 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) and has estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 63.1959.

Comments:
Emission factors were determined from mass balances, AP-42 Tables 1.4-1 through 1.4-4 and 40 CFR 98 Tables C-1 and C-2 for natural gas usage, and AP-42 Tables 2.4-1, 2.4-2, 2.4-4, and 2.4-5 (May 2025) for landfill gas destroyed.

The RNG plant will initially be designed to process an inlet landfill gas flow rate of 3500 scfm. With the addition of some expansion equipment, the flow could increase to as much as 5000 scfm dependent on the future gas generation at the landfill. Even though the site is not currently generating 5000 scfm of landfill gas from the site, the equipment is being sized proactively to accommodate a worst-case future gas generation scenario.

Emission Unit 003 - Paved and Unpaved Haul Roads

Initial Construction Date: 2005

Process Description: Paved haul roads and unpaved haul roads.
Maximum Capacity: 89,091 VMT paved, 471,606 VMT unpaved
Control Devices: Water trucks

Applicable Regulation:
401 KAR 63:010, *Fugitive emissions*, applies to each affected facility which emits or could emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapters 50 through 68.

Comments: Emission factors from AP 42 - 13.2.1 and AP 42 - 13.2.2. Potential emissions are calculated using the "maximum capacity" listed, however, roads at landfills change often, and the maximum capacity does not reflect the usage of the roads at any given time. The maximum capacity represents the maximum that the PTE was calculated with, and a permit revision application should be submitted if this maximum is not adequate to estimate the potential emissions of the activity in the future.
Unpaved roadways include VMT associated with the heavy equipment for cover operations, dozing, compacting, and cover material loading/unloading.

Emission Unit 002 - Industrial Waste Solidification Process

Initial Construction Date: 2005

Process Description: Mixing of liquid industrial wastes from various sources with dry mediums to form a solid to be landfilled.
Maximum Capacity: 8,345 tons (2,000,000 gal/yr) per year of liquid waste
Control Devices: None

Applicable Regulation:
401 KAR 63:010, *Fugitive emissions*, applies to each affected facility which emits or could emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapters 50 through 68.

State-Origin Requirement:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*

Comments: Emissions from source based on Toxicity Characteristic Leaching Procedure (TCLP) maximum values for listed HAPs and assumption of 100% VOC emission. If more refined data becomes available for each waste, the more refined data should be used by the source for HAP calculations to ensure all HAPs are accounted for.

Emission Unit 006 – Gasoline Storage Tank & Dispensing

Initial Construction Date: 2006

Process Description: Storage of gasoline with a throughput of less than 10,000 gallons/yr.
Storage Capacity: 300 gallon
Maximum Throughput: 10,000 gal/yr dispensed

Applicable Regulation:
401 KAR 63:002, Section 2(4)(ddddd), **40 C.F.R. 63.11110 to 63.11132, Tables 1 to 3 (Subpart CCCCCC)**, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities,* applies to loading of gasoline storage tanks at gasoline dispensing facilities (GDF).

Comments: Emission factors from Tanks 4.01D.

Emission Unit 011 – Emergency CI RICE #1

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
CO	3.5 g/KW-hr	40 CFR 60.4205(b) referencing 40 CFR 60.4202	See notes.	Certified engine or maintenance of engine in a manner consistent with good air pollution control practice for minimizing emissions & an initial performance test
NMHC + NOx	4.0 g/KW-hr	40 CFR 60.4205(b) referencing 40 CFR 60.4202	See notes.	
PM	0.20 g/KW-hr	40 CFR 60.4205(b) referencing 40 CFR 60.4202	See notes.	

Initial Construction Date: 2025

Process Description:
Cummins C150D6D 4-Stroke CI RICE for emergency use.
Maximum Continuous Rating: 324 HP (150 kW)
Fuel: Diesel
Controls: None

Applicable Regulations:
401 KAR 60:005, Section 2(2)(dddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (Subpart IIII), *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005.
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, applies to stationary reciprocating internal combustion engines (RICE) at major or area sources of Hazardous Air Pollutant (HAP) emissions.

Comments:
Emission factors determined from manufacturer specifications, AP-42 Table 3.3-1 and 3.3-2, and 40 CFR 98, Table C-1 and C-2. Emissions estimated at 500 hours/yr to be conservative and account for emergency operation.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
001	None	C_{NMOC} M_{NMOC}	40 CFR 60.754(a)(3)	Once every 5 yrs until >50 Mg	U.S. EPA Method 25C	50 Mg	13 Mg/yr (2013)	157.6 ppmv as Hexane; 152,308 tpy waste disposed	CMN20090003	9/29/2009
001	None	C_{NMOC} M_{NMOC}	40 CFR 60.754(a)(3)	Once every 5 yrs until >50 Mg	U.S. EPA Method 25C	50 Mg	56.01 Mg/yr (2015)	693 ppmv as Hexane; 240,109 tpy waste disposed	CMN20140002	10/1/2014
001	None	H_2S ppm	401 KAR 50:045, Section 1	Annual	U.S. EPA Method 15/16	N/A	390 ppm[1]	TBD[1]	CMN20240003	7/15/2024
001	None	H_2S ppm	401 KAR 50:045, Section 1	Annual	U.S. EPA Method 15/16	N/A	370 ppm[1]	TBD[1]	CMN20250001	7/7/2025
001	None	H_2S ppm	401 KAR 50:045, Section 1	Annual	U.S. EPA Method 15/16	N/A	TBD	TBD	TBD	2026
005	Flare	Net heating value	40 CFR 60.18(f)(3)	Initial	US EPA Method 18	> 7.45 MJ/scm	12.0 MJ/scm	361 scfm	CMN20150002	12/16/2015

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
005	Flare	Actual Exit velocity	40 CFR 60.18(f)(4)	Initial	US EPA Method 1 & 2	< 37.2 m/s	18.9 m/s	361 scfm	CMN20150002	12/16/2015
005	Flare	Visible Emissions	40 CFR 60.18(f)(1)	Initial	US EPA Method 22	No visible emission to exceed total of 5 minutes during any consecutive 2 hours.	No visible emissions	361 scfm	CMN20150002	12/16/2015
008	Flare	Net heating value	40 CFR 63.11(b)(6)(ii)	Initial	US EPA Method 18	> 200 Btu/scf	511.67 Btu/scf	1469.33 scfm	CMN20250001	3/17/2025
008	Flare	Actual Exit velocity	40 CFR 63.11(b)(7)(i)	Initial	US EPA Method 1 & 2	60 ft/s	31.2 ft/sec	1469.33 scfm	CMN20250001	3/17/2025
008	Flare	Visible Emissions	40 CFR 63.11(b)(4)	Initial	US EPA Method 22	No visible emission to exceed total of 5 minutes during any consecutive 2 hours.	No visible emissions	1469.33 scfm	CMN20250001	3/17/2025
009	Flare	Net heating value	40 CFR 63.11(b)(6)(ii)	Initial	US EPA Method 18	> 7.45 MJ/scm	TBD	TBD	TBD	TBD

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
009	Flare	Actual Exit velocity	40 CFR 63.11(b)(7)(i)	Initial	US EPA Method 1 & 2	TBD	TBD	TBD	TBD	TBD
009	Flare	Visible Emissions	40 CFR 63.11(b)(4)	Initial	US EPA Method 22	No visible emission to exceed total of 5 minutes during any consecutive 2 hours.	TBD	TBD	TBD	TBD
010	Thermal Oxidizer	VOC & HAP DE and min. combustion chamber temp.	401 KAR 50:055, Section 2(a)	Initial and every 5 years	TBD	N/A	TBD	TBD	TBD	TBD
010	Thermal Oxidizer	H_2S ppm	401 KAR 50:045, Section 1	Initial	U.S. EPA Method 15/16; ASTM D4084; ASTM D5504; or Approved Alt.	N/A	TBD	TBD	TBD	TBD

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
010	Thermal Oxidizer	NMOC	40 CFR 63.1959(b)(2)(iii)(B)	Initial	U.S. EPA Method 25 or 25C; Method 3, 3A, or 3C.	98% reduction or 20-ppmv outlet conc.	TBD	TBD	TBD	TBD

Footnotes:[1]The test reports for these H2S sampling events were not submitted to the Division.

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
N/A		

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 53:010, *Ambient air quality standards*	Site-wide
401 KAR 59:010, *New process operations*	EU 010
401 KAR 60:005, Section 2(2)(dddd), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (Subpart IIII), *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*	EU 011
401 KAR 61:036, *Emission guidelines and compliance times for municipal solid waste (MSW) landfills.* This regulation requires compliance with **40 CFR 60, Subpart Cf,** *Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills*	EU 001, 005, 008, 009, & 010
401 KAR 63:002, Section 2(4)(hhh), 40 C.F.R. 63.1930 through 63.1990, Table 1 (Subpart AAAA), *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*	EU 001, 005, 008, 009, & 010
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*	EU 011
401 KAR 63:002, Section 2(4)(ddddd), **40 C.F.R. 63.11110 through 63.11132, Tables 1 through 3 (Subpart CCCCCC)**, *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities*	EU 006
401 KAR 63:010, *Fugitive emissions*	EU 001, 002, & 003
401 KAR 63:015, *Flares*	EU 005, 008, & 009
401 KAR 63:020, *Potentially hazardous matter or toxic substances*	EU 002
40 CFR 60.18, *General control device and work practice requirements*	EU 005, 008, & 009
40 CFR 61, Subpart M, *National Emission Standard for Asbestos*	Site-wide
40 CFR 63.11, *Control device and work practice requirements*	EU 005, 008, & 009

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
N/A	

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

Air Toxic Analysis

401 KAR 63:020, *Potentially hazardous matter or toxic substances*

The Division for Air Quality (Division) has performed AERMOD on April 23, 2019 for potentially hazardous matter or toxic substances that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
G-07-001	Initial General Title V	APE20070001	3/15/2007	10/16/2007	Initial Title V General Permit	N/A
G-12-001	Renewal General Title V	APE20120001	10/4/2012	2/19/2012	Renewal of Title V General Permit	N/A
V-18-053	Renewal	APE20170004	10/10/2017	10/20/2020	Change from General permit to individual permit	N/A
V-18-053 R1	Sig Rev	APE20230002	3/18/2024	10/4/2024	Addition of EU008; Update reg applicability from 40 CFR 60, Subpart WWW to 40 CFR 63, Subpart AAAA	N/A
V-18-053 R2	Sig Rev	APE20240007	3/11/2025	7/11/2025	Add an RNG Plant (EU 010), flare (EU 009), & Emergency Generator (EU 011)	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GCCS – Gas Collection and Control System
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
H_2S – Hydrogen Sulfide
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
MSW – Municipal Solid Waste
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds