

PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit: #####-###
Expiration Date: Month DD, YYYY
Installation ID: 189-0312
Project: 2023-11-040

Installation Name and Address

Bridgeton Landfill, LLC
13570 St. Charles Rock Road
Bridgeton, MO 63044
St. Louis County

Owner/Operator Name and Address

Bridgeton Landfill, LLC
13570 St. Charles Rock Road
Bridgeton, MO 63044

Installation Description:

Bridgeton Landfill, LLC owns and operates a municipal solid waste landfill in Bridgeton, Missouri. The installation began operations in 1952 and has been closed since 2005, with a final capacity at closure of approximately 17,000,000 cubic yards. Current activities at the facility include leachate and landfill gas management. The installation is an area source of HAPs. The installation is subject to NSPS IIII, NSPS WWW, MACT AAAA, and 40 CFR Part 62, Subpart OOO. The landfill must maintain a Part 70 Operating Permit as a requirement of 40 CFR Part 62, Subpart OOO.

Month DD, YYYY
Effective Date

Director or Designee
Department of Natural Resources

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STATEMENT OF BASIS

The purpose of this Statement of Basis is to explain the facts and reasoning behind the decisions made while drafting this permit. This Statement of Basis is not enforceable and only sets forth the legal and factual basis for the applicable requirements applied in the permit. The permit itself is contained within Sections I through VI of this document.

This Statement of Basis does not establish policy or guidance.

INSTALLATION DESCRIPTION

Bridgeton Landfill, LLC owns and operates a municipal solid waste landfill in Bridgeton, Missouri. The installation began operations in 1952 and has been closed since 2005, with a final capacity at closure of approximately 17,000,000 cubic yards. Current activities at the facility include leachate and landfill gas management. The landfill gas is currently managed and controlled through the use of a gas collection and control system (GCCS), as well as several flares. The leachate management system employs the use of two regenerative thermal oxidizers for supplemental odor control.

The installation is an area source of HAPs. The landfill must maintain a Part 70 Operating Permit as a requirement of 40 CFR Part 62, Subpart OOO. If the landfill meets the conditions for control system removal, as specified in §62.16714(f), 40 CFR Part 62, Subpart OOO would no longer require the permittee to maintain a Part 70 Operating permit. At that time, the permittee would be required to obtain an Intermediate State Operating permit, as the installation is a synthetic minor source for SO_x emissions.

The installation is not on the List of Named Installations found at 10 CSR 10-6.020(3)(B), Table 2; therefore, fugitive emissions are not counted towards major source applicability.

Installation Emissions Profile (tpy)

Pollutants	MoEIS Reported Actual Emissions					
	2021	2022	2023	2024	2025	
PM ₁₀	0.80	1.41	1.39	1.29	1.14	2.44
PM _{2.5}	0.80	1.41	1.39	1.29	1.14	2.44
SO _x	30.47	22.95	22.06	13.54	10.92	<100.0
NO _x	6.89	6.45	6.08	3.75	3.47	19.11
VOC	2.40	2.29	2.21	15.63	13.85	45.61
CO	29.12	27.78	27.55	5.02	4.55	11.92
Combined HAP	6.53	6.27	6.03	5.94		9.63

Updated Potential to Emit for the Installation

The potential emissions from the landfills and flares were calculated using emission factors found in AP-42 Section 2.4 "Municipal Solid Waste Landfills" (August 2024). In the table above, the PTE column contains calculated values for point source emissions from the flares but does not include the fugitive emissions from the haul roads. The flare emissions are calculated at the maximum flowrate value determined using LandGEM v3.1 and the landfill emissions are

¹ Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted.

back calculated from the flares MHDR assuming a destruction efficiency of 98% (provided by the manufacturer of the flares). Site-specific values observed at the landfill were used for the methane and sulfur content in the calculations. AP-42 default values for landfill gas from non co-disposal landfills were used for the emission factors, NMOC content, and VOC content.

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1. Part 70 Operating Permit Application, received November 29, 2023; revised August 28, 2025
2. 2020, 2021, 2022, 2023, and 2024 EIQs
3. U.S. EPA document AP-42, Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition
4. WebFIRE
5. All permits discussed in the Construction Permit History

Construction Permit History

St. Louis County Construction Permit #7864A and 7865A, Issued July 23, 2025

- These amendments were issued to remove the minimum temperature setpoint and continuous operation requirements.
- Special Condition 1 supersedes all Special Conditions of the following permits:
 - St. Louis County Construction Permit #7737 and #7738
 - St. Louis County Construction Permit #7804
 - St. Louis County Construction Permit #7803
- Special Conditions 2 and 3 are included in Permit Condition 005.

Construction Permit 042018-005B, Issued July 16, 2024

- This permit amendment was issued to clarify the Special Conditions of previous permits issued to the installation.
- Special Condition 1 supersedes all Special Conditions of the following permits:
 - Construction permits 042018-005 and 042018-005A
 - All construction permits issued by the St. Louis County Department of Health under delegation of the Air Pollution Control Program issued previously, except for Construction Permits #7864 and 7865
- Special Conditions 2 and 7 are included in Permit Condition PW002.
- Special Conditions 3 and 4 are included in Permit Condition 004.
- Special Condition 5 contains testing requirements that have been fulfilled and were therefore not included in this permit.
- Special Condition 6 contains recordkeeping requirements that are included in Permit Conditions PW002 and 004.

St. Louis County Construction Permit #7980, Issued July 9, 2018

- This permit was issued for the installation of an elevated storage silo to store soda ash used in the leachate treatment process.
- All Special Conditions were superseded by Permit 042018-005B.

Construction Permit 042018-005A, Issued June 12, 2018

- This amendment was issued to clarify testing requirements of Permit 042018-005.
- All Special Conditions were superseded by Permit 042018-005B.

Construction Permit 042018-005, Issued April 3, 2018

- This permit established operational requirements for four flares used for landfill gas generation control.
- All Special Conditions were superseded by Permit 042018-005B.

St. Louis County Construction Permit #7864 and 7865, Issued August 25, 2014

- This permit was issued for the installation of two regenerative thermal oxidizers used for odor control of the Leachate Management System.
- The Special Conditions of this permit were replaced by St. Louis County Construction Permit #7864A and 7865A. Therefore, no Special Conditions from this permit were included in this operating permit.

St. Louis County Construction Permit #7839 and 7840, Issued June 19, 2014

- This permit was issued for the use of one 3,500 scfm flare and one emergency diesel-fired engine.
- All Special Conditions were superseded by Permit 042018-005B.

St. Louis County Construction Permit #7787, #7788, and #7790, Issued August 7, 2013

- This permit was issued for the replacement of two existing flares and the installation of one flare.
- All Special Conditions were superseded by Permit 042018-005B.

St. Louis County Construction Permit #7735 and #7736, Issued September 27, 2012

- This permit was issued for the installation of two flares.
- All Special Conditions were superseded by Permit 042018-005B.

NSPS Applicability

40 CFR Part 60, Subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;*

Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984;*

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023;*

AND

Subpart Kc, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023

The above regulations apply to facilities that meet the following criteria

Subpart...	Constructed/ Modified/ Reconstructed...	With contents and capacities...
K	Between June 11, 1973, and May 19, 1978	Petroleum liquids, >40,000 gallons
Ka	Between May 19, 1978, and July 23, 1984	Petroleum liquids, >40,000 gallons
Kb	Between July 23, 1984, and October 4, 2023	Volatile organic liquids, ≥19,813 gallons
Kc	After October 4, 2023	Volatile organic liquids, ≥ 20,000 gallons

- All tanks at the facility were constructed between July 23, 1984, and October 4, 2023. Therefore, Subparts K, Ka, and Kc are not applicable to the tanks.
- The two off-road diesel tanks and three gasoline tanks are all two small (1,000 gallons or less) and are therefore not applicable to Subpart Kb.
- EP-015 (the leachate treatment tanks) and the 97,000-gallon treated leachate tank are all larger than 19,813 gallons. However, the maximum true vapor pressure of the tanks is lower than 3.5 kPa (the maximum true vapor pressure of leachate is approximately 3.0 kPa, depending on the concentrations of different solutes). All tanks are therefore exempt from Subpart Kb per §60.110b(b).

40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014

- This regulation applies to a municipal solid waste landfill that commenced construction, reconstruction, or modification on or after May 30, 1991, but before July 18, 2014
- This rule applies to the landfill. However, the landfill is subject to more stringent standards in 10 CSR 10-6.310. Therefore, the permittee is in compliance with this subpart while demonstrating compliance with 10 CSR 10-6.310 and no further requirements for this subpart are applied.

40 CFR Part 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014

- This subpart applies to a municipal solid waste landfill that commenced construction, reconstruction, or modification after July 17, 2014.
- This landfill has not experienced any reconstruction or modification, as defined in §60.761, after July 17, 2014. This regulation is therefore not applicable to the landfill.

40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

- This subpart applies to stationary compression ignition internal combustion engines with a model year of 2007 or later (for engines with a displacement of less than 30 liters per cylinder).
- This rule applies to all emergency engines at the facility and has been applied in Permit Condition 003.

40 CFR Part 60, Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

- This regulation applies to stationary spark ignition internal combustion engines.
- The emergency engines at the installation are compression ignition internal combustion engines, not spark ignition internal combustion engines. Therefore, this subpart is not applicable to the installation.

MACT Applicability

40 CFR Part 63, Subpart AAAA – *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*

- This subpart is applicable to new and existing municipal solid waste landfills.
- This subpart is applicable to the facility and applied in Permit Condition 002.

40 CFR Part 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

- This regulation establishes emission and operation limitations for stationary reciprocating internal combustion engines at both major and area sources of HAPs.
- The installation is subject to this rule. However, §63.6590(c)(1) states that new or reconstructed stationary RICE located at an area source may demonstrate compliance with MACT ZZZZ by demonstrating compliance with NSPS IIII. Since the facility is already subject to NSPS IIII, no further requirements apply to the engines under MACT ZZZZ.

NESHAP Applicability

40 CFR Part 61, Subpart M – *National Emission Standard for Asbestos*

- This regulation applies to installations that handle asbestos-containing material. Because the installation accepted asbestos-containing waste, this regulation is applicable to the installation and has been applied to Permit Condition PW001.

10 CSR 10 Chapter 5 Applicability

10 CSR 10-5.220 *Control of Emissions During Petroleum Liquid Storage, Loading, and Transfer*

- This rule applies to petroleum liquid storage tanks with a capacity greater than 40,000-gallons. None of the petroleum tanks at this facility meet the size requirement of this rule. Therefore, this rule is not applicable to the facility.

10 CSR 10-5.490 *Municipal Solid Waste Landfills*

- This rule applies to all municipal solid waste landfills in St. Louis City and Franklin, Jefferson, St. Charles, and St. Louis Counties that have accepted waste any time since November 8, 1987. This rule incorporates the regulations of 40 CFR Part 62, Subpart OOO to determine compliance.
- This rule is applicable to the installation and has been applied in Permit Condition 001.

10 CSR 10-5.500 *Control of Emissions from Volatile Organic Liquid Storage*

- This rule applies to all storage vessels with a capacity larger than 40,000 gallons that are used to store volatile organic liquids.
- Tanks with a design capacity less than 40,000 gallons and tanks with a design capacity greater than 40,000 gallons storing volatile organic liquids with a maximum true vapor pressure less than 0.5 psia are subject only to subsections (4)(E) and (4)(H) of 10 CSR 10-5.500 (per 10 CSR 10-5.500(1)(B)1. and 2.). All tanks at the facility meet one of these criteria. The applicable regulations for these rules can be found in Permit Condition 007.

10 CSR 10 Chapter 6 Applicability

10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*

- This rule applies to EP-023 and has been applied in Permit Condition 006.
- The following emission units are internal combustion engines exempt per 10 CSR 10-6.220(1)(A):
 - EP-019, EP-021, and EP-024
- The following emissions units are fugitive and exempt per 10 CSR 10-6.220(1)(K):
 - EP-01
- The following emission units burn only gaseous fuel and are exempt per 10 CSR 10-6.220(1)(L):
 - EP-011, EP-012, and EP-014, EP-018a, and EP-018b
- The tanks at this facility do not produce visible emissions.

10 CSR 10-6.261 *Control of Sulfur Dioxide Emissions*

- None of the emission units at this facility are subject to 10 CSR 10-6.261.
- This rule applies to indirect heating sources that emit sulfur dioxides.
- The following emission units are not subject per 10 CSR 10-6.261(1) as they are not indirect heating sources:
 - EP-019, EP-021, EP-024

10 CSR 10-6.310 *Restriction of Emissions from Municipal Solid Waste Landfills*

- This rule applies to each municipal solid waste landfill that commenced construction, reconstruction, or modification on or before July 17, 2014, and has accepted waste any time since November 8, 1987. This rule incorporates the regulations of 40 CFR Part 62, Subpart OOO to determine compliance.

- This rule is applicable to the installation, however, the installation is subject to more stringent limitations in 10 CSR 10-5.490. Compliance with 10 CSR 10-5.490 demonstrates compliance with this rule.

CAM Applicability

40 CFR Part 64 - CAM

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

Greenhouse Gas Emissions

Missouri regulations do not require the installation to report CO₂e emissions in their EIQ; therefore, the installation's CO₂e emissions were not included within this permit.

Other Regulatory Determinations

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 Reconstruction Since July 17, 2014*

- This subpart is applicable to municipal solid waste landfills that commenced construction, reconstruction, or modification on or before July 17, 2014 and have accepted was at any time since November 8, 1987.
- This subpart is incorporated by reference into 10 CSR 10-6.310. The installation is therefore subject to the requirements of this regulation.
 - This landfill meets the definitions of "closed landfill subcategory" and "legacy controlled" landfill. The applicable requirements for these categories can be found in Permit Condition 001.

Since the issuance of the last operating permit, the installation has installed a 1,000-gallon diesel tank and one 95-gallon gasoline tank.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the

installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

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I. Installation Equipment Listing

Emission Units With Limitations

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having Emission Unit-Specific Emission Limitations in Section III of this permit. These emission units are also subject to the Plant Wide Emission Limitations in Section II of this permit.

Emission Unit	Description	Control Equipment	Applicable Requirements
EP-01	Municipal Solid Waste Landfill – fugitive landfill gas emissions	GCCS, EP-011, EP-012, EP-014	10 CSR 10-5.490 40 CFR Part 62, Subpart OOO 40 CFR Part 63, Subpart AAAA Permit 042018-005B
EP-011	3,500 scfm non-enclosed flare (2012)	None	10 CSR 10-5.490 40 CFR Part 62, Subpart OOO 40 CFR Part 63, Subpart AAAA Permit 042018-005B
EP-012	4,000 scfm non-enclosed flare (2013)		10 CSR 10-5.490 40 CFR Part 62, Subpart OOO 40 CFR Part 63, Subpart AAAA Permit 042018-005B
EP-014	2,500 scfm non-enclosed flare (2013)		10 CSR 10-5.490 40 CFR Part 62, Subpart OOO 40 CFR Part 63, Subpart AAAA Permit 042018-005B
EP-016A/17A	One 316,000-gallon and Four 1,000,000-gallon leachate treatment tanks		SLC Permit #7864A and 7865 10 CSR 10-5.500
EP-018a	2.75 MMBtu/hr Regenerative Thermal Oxidizer		SLC Permit #7864A and 7865
EP-018b	2.75 MMBtu/hr Regenerative Thermal Oxidizer		SLC Permit #7864A and 7865
EP-019	1,341 hp Diesel-fired Emergency Generator (2013)		NSPS IIII
EP-021	728 hp Diesel-fired Emergency Generator (2014)		NSPS IIII
EP-024	237 hp Diesel-fired Emergency Generator (2018)		NSPS IIII
EP-I07	1,000-gallon Off-Road Diesel Tank		10 CSR 10-5.500

EP-I08	One 95-gallon Gasoline Tank		10 CSR 10-5.500
EP-I09	528-gallon Off-Road Diesel Tank		10 CSR 10-5.500
EP-I10	24 Leachate Frac Tanks, 21,000-gallon each		
EP-I11	97,000-gallon Treated Leachate Tank		10 CSR 10-5.500
EP-023	Elevated Soda Ash Storage Silo (located at WWTP)	Baghouse	

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations.

PERMIT CONDITION PW001

10 CSR 10-6.080 *Emission Standards for Hazardous Air Pollutants*
40 CFR Part 61, Subpart M, *National Emission Standard for Asbestos*

Standards for Inactive Waste Disposal Sites:

1. The permittee shall comply with one of the following: [§61.151(a)]
 - a) Either discharge no visible emissions to the outside air from the inactive waste disposal site; or [§61.151(a)(1)]
 - b) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or [§61.151(a)(2)]
 - c) Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or [§61.151(a)(3)]
 - d) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds to dust to control surface air emissions may be used instead of the methods in §61.151(a)(1), (2), and (3). Use the agent in a manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Director to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent. [§61.151(a)(4)]
2. Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with §61.151(a)(2) or (a)(3). [§61.151(b)]
 - a) Display all warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must: [§61.151(b)(1)]
 - i) Be posted in such a manner and location that a person can easily read the legend; and [§61.151(b)(1)(i)]
 - ii) Conform to the requirements for 51 cm x 36 cm (20" x 14") upright format signs specifically in 29 CFR 1910.145(d)(4) and this paragraph; and [§61.151(b)(1)(ii)]

- iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph. [§61.151(b)(1)(iii)]

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic, or Block
Do Not Create Dust	1.9 cm (3/4 inch) Sans Serif, Gothic, or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

- b) Fence the perimeter of the site in a manner adequate to deter access by the general public. [§61.151(b)(2)]
- c) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Director to determine whether a fence or a natural barrier adequately deters access by the general public. [§61.151(b)(3)]
3. The permittee may use an alternative control method that has received prior approval of the Administrator rather than comply with the requirements of §61.151(a) or (b). [§61.151(c)]
4. Notify the Director in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under NESHAP M, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Director at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice: [§61.151(d)]
- a) Schedule starting and completion dates. [§61.151(d)(1)]
- b) Reason for disturbing the waste. [§61.151(d)(2)]
- c) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Director may require changes in the emission control procedures to be used. [§61.151(d)(3)]
- d) Location of any temporary storage site and the final disposal site. [§61.151(d)(4)]

Recordkeeping/Reporting:

1. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(5)(C)1.C(II)(b)I and 10 CSR 10-6.065(5)(C)1.G(V)]
2. The permittee shall report any exceedance of the emission limitation of §61.151(a)(1) no later than 10 days after the end of the month during which any record indicates an exceedance. [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
3. The permittee shall report any deviations from the operational limitations of §61.151(a)(2) through (4), and §61.151(b) through (d), recordkeeping, and reporting requirements of this permit condition in the semi-annual monitoring report and annual compliance certification. [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
4. All reports and certifications shall be submitted to both of the following: [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
- a) The Air Pollution Control Program's Compliance/Enforcement Section at:
- i) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov
- or**

- ii) Any means that comply with 40 CFR Part 3.
- b) The St. Louis County Department of Health at 6121 N. Hanley Rd., Berkley, MO 63134
or AirComplianceReporting.dph@stlouiscountymo.gov.

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PERMIT CONDITION PW002

10 CSR 10-6.060 Construction Permits Required
Permit 042018-005B, Issued July 16, 2024

Emission Limitation:

1. The permittee shall emit less than 100.0 tons of sulfur dioxide in any consecutive 12-month period from the entire installation. [Special Condition 2]

Recordkeeping:

1. Plant Wide Sulfur Dioxide Emissions [Special Condition 6.A]
 - a) The permittee shall use Attachment E. This calculation shall be used to determine compliance with the emission limitation above. [Special Condition 6.A.1]
2. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request. [Special Condition 6.B]

Reporting:

1. The permittee shall report no later than 10 days after records indicate an exceedance of any of the limitations to both of the following: [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
 - a) The Air Pollution Control Program's Compliance/Enforcement Section at:
 - i) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov or
 - ii) Any means that comply with 40 CFR Part 3.
 - b) The St. Louis County Department of Health at 6121 N. Hanley Rd., Berkley, MO 63134 or AirComplianceReporting.dph@stlouiscountymo.gov.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]

Exceedances:

1. If records required by this permit show the permittee exceeds the SO₂ emission limitations established in Emission Limitation 1., the permittee shall submit an application to obtain a new construction permit, which is based upon the current level of emissions, within 60 days of the date the emission limit is exceeded. [Special Condition 7]

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the CFR, the CSR, and Missouri's SIP for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance.

PERMIT CONDITION 001 10 CSR 10-5.490, <i>Municipal Solid Waste Landfills</i> 40 CFR Part 62, Subpart OOO, <i>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</i>		
Emission Unit	Description	Control Equipment
EP-01	Municipal Solid Waste Landfill – fugitive landfill gas emissions	GCCS, EP-011, EP-012, EP-014
EP-011	3,500 scfm non-enclosed flare	None
EP-012	4,000 scfm non-enclosed flare	None
EP-014	2,500 scfm non-enclosed flare	None

Standards for Municipal Solid Waste Landfill Emissions:

1. *Landfills.* The permittee must collect and control MSW landfill emissions. [§62.16714(a)]
2. *Collection system.* The permittee must install a gas collection and control system meeting the requirements in §62.16714(b)(2) through (3) and §62.16714(c) at the MSW landfill meeting the conditions of §62.16714(a). [§62.16714(b)]
 - a) *Active.* An active collection system must: [§62.16714(b)(2)]
 - i. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment. [§62.16714(b)(2)(i)]
 - ii. Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been in place for a period of 5 years or more if active; or 2 years or more if closed or at final grade. [§62.16714(b)(2)(ii)]
 - iii. Collect gas as a sufficient extraction rate. [§62.16714(b)(2)(iii)]
 - iv. Be designed to minimize off-site migration of subsurface gas. [§62.16714(b)(2)(iv)]
 - b) *Passive.* A passive collection system must: [§62.16714(b)(3)]
 - i. Comply with the provisions of §62.16714(b)(2)(i), (ii), and (iv). [§62.16714(b)(3)(i)]
 - ii. Be installed with liners on the bottoms and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 CFR 258.40. [§62.16714(b)(3)(ii)]
3. *Control system.* Control the gas collected from within the landfill through the use of control devices meeting the following requirements, except as provided in 40 CFR 60.24. [§62.16714(c)]
 - a) A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 60.18 except as noted in §62.16722(d); or [§62.16714(c)(1)]
 - b) All emissions from any atmospheric vent from the gas treatment system are subject to the requirements of §62.16714(b) or (c). For the purposes of 40 CFR Part 62 Subpart

OOO, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of §62.16714(b) or (c).
[§62.16714(c)(4)]

4. *Removal criteria.* The collection and control system may be capped, removed, or decommissioned in the following criteria are met: [§62.16714(f)]
- a) The landfill is a closed landfill (as defined in §62.16730). A closure report must be submitted to the Administrator as provided in §62.16724(f). [§62.16724(f)(1)]
 - b) The collection and control system has been in operation for a minimum of 15 years, or the permittee demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow. [§62.16714(f)(2)]
 - c) Following the procedures specified in §62.16718(b), the calculated NMOC emission rate at the landfill is less than 25 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. [§62.16714(f)(3) and 10 CSR 10-5.500(3)(D)2.]
 - d) For the closed landfill subcategory (as defined in §62.16730), following the procedures specified in §62.16718(b), the calculated NMOC emission rate at the landfill is less than 25 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. [§62.16714(f)(4) and 10 CSR 10-5.500(3)(D)2.]

Operational Standards for Collection and Control Systems:

1. The permittee must comply with the provisions for the operational standards in §62.16716 (as well as the provisions in §62.16720 and §62.16722), or the operational standards in §63.1958 of MACT AAAA (as well as the provisions of §63.1960 and §63.1961 of MACT AAAA), or both as an alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of §62.16714(b) and (c). Once the permittee begins to comply with §63.1958 of MACT AAAA, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of §62.16716. [§62.16716]²

Test Methods and Procedures:

Calculate the landfill NMOC emission rate and conduct a surface emission monitoring demonstration according to the provisions of this section. [§62.16718]

1. After the installation and startup of a collection and control system in compliance with 40 CFR Part 62 Subpart OOO, the permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in §62.16714(f), using Equation 3: [§62.16718(b)]

$$M_{\text{NMOC}} = 1.89 \times 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}} \quad (\text{Equation 3})$$

Where:

M_{NMOC} = Mass emission rate of NMOC, megagrams per year

² As of September 27, 2021, Bridgeton Landfill notified the Air Pollution Control Program that the installation had opted to comply with the provisions of MACT AAAA as described above

Q_{LFG} = Flow rate of landfill gas, cubic meters per minute

C_{NMOC} = NMOC concentration, parts per million by volume as hexane

- a. *Flow rate.* The flow rate of landfill gas, Q_{LFG} , must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions in Section 10 of EPA Method 2E of 40 CFR Part 60 Appendix A-1. [§62.16718(b)(1)]
- b. *NMOC concentration.* The average NMOC concentration, C_{NMOC} , must be determined by collection and analyzing the landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using EPA Method 25 or EPA Method 25C of 40 CFR Part 60 Appendix A-7. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The permittee must divide the NMOC concentration from EPA Method 25 or Method 25C by six to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. [§62.16718(b)(2)]
- c. *Gas flow rate method.* The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Administrator. [§62.16718(b)(3)]
 - i. Within 60 days after the date of calculating the NMOC emission rate for purposes of determining when the system can be capped or removed, the permittee must submit the results according to §62.16724(j)(2). [§62.16718(b)(3)(i)]
2. When calculating emissions for Prevention of Significant Deterioration (PSD) purposes, the permittee must estimate the NMOC emission rate for comparison to the PSD major source and significant levels in §51.166 and § using AP-42 or other approved measurement procedures. [§62.16718(c)]
3. For the performance test required in §62.16714(c)(1), the net heating value of the combusted landfill gas as determined in 40 CFR 60.18(f)(3) is calculated from the concentration of methane in the landfill gas as measured by EPA Method 3C. A minimum of three 30-minute EPA Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. EPA Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under 40 CFR 60.18(f)(4). [§62.16718(d)]
 - a. *Performance test results.* Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of the performance tests required by §62.16718(b) or (d), including any associated fuel analyses, according to §62.16724(j)(1). [§62.16718(d)(1)]
4. For the performance test required in §62.16714(c)(2), EPA Method 25 or 25C (EPA Method 25C may be used at the inlet only) of 40 CFR Part 60 Appendix A-7 must be used to determine compliance with the 98 weight-percent efficiency or the 20 parts-per-million by volume outlet NMOC concentration level, unless another method to demonstrate compliance has been approved by the Administrator as provided by §62.16724(d)(2). EPA Method 3, 3A, or 3C of 40 CFR Part 60 Appendix A-2 must be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 parts-per-million NMOC as carbon (8 parts-per-million NMOC as hexane), EPA Method 25A should be used in place of EPA Method 25. EPA Method 18 of 40 CFR Part 60 Appendix A-6 may be used in conjunction with EPA Method 25A on a limited basis (compound specific, e.g., methane) or EPA Method 3C may be used to determine methane. The methane as carbon should be subtracted from the EPA Method

25A total hydrocarbon value as carbon to give NMOC concentration as carbon. The permittee must divide the NMOC concentration as carbon by 6 to convert the CNMOC as carbon to CNMOC as hexane. Equation 4 must be used to calculate efficiency: [§62.16718(e)]

$$\text{Control Efficiency} = \frac{\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}}{\text{NMOC}_{\text{in}}} \quad (\text{Equation 4})$$

Where:

NMOC_{in} = Mass of NMOC entering control device

NMOC_{out} = Mass of NMOC exiting control device

- a. Performance test submission. Within 60 days after the date of completing each performance test (as defined in 40 CFR 60.8), the permittee must submit the results of the performance tests, including any associated fuel analyses, according to §62.16724(j)(1). [§62.16718(e)(1)]

Compliance Provisions:

1. Follow the compliance provisions in §62.16720 (as well as the provisions in §62.16716 and §62.16722), or the compliance provisions of §63.1960 of MACT AAAA (as well as the provisions of §63.1958 and §63.1961 of MACT AAAA), or both as alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of §62.16714(b) and (c). Once the permittee begins to comply with the provisions of §63.1960 of MACT AAAA, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of §62.16720. [§62.16720]³

Monitoring of Operations:

Follow the monitoring provisions in §62.16722 (as well as the provisions in §62.16716 and §62.16720), except as provided in §62.16724(d)(2), or the monitoring provisions of §63.1961 of MACT AAAA (as well as §63.1958 and §63.1960 of MACT AAAA), or both as an alternative means of compliance, for an MSW landfill with a gas collection and control system used to comply with the provisions of §62.16714(b) and (c). Once the permittee begins to comply with the provisions of §63.1961 of MACT AAAA, the permittee must continue to operate the collection and control device according to those provisions and cannot return to the provisions of §62.16722. [§62.16722]³

Reporting Guidelines:

Follow the reporting provisions listed in this section, except as provided under §60.24 of NSPS A and §62.16711(g), (h), and §62.16724(d)(2). [§62.16724]

1. The permittee is not subject to the following reports of this subpart, provided the permittee submitted these reports under the provisions of NSPS WWW on or before July 17, 2014:

³ As of September 27, 2021, Bridgeton Landfill notified the Air Pollution Control Program that the installation had opted to comply with the provisions of MACT AAAA as described above

[§62.16711(g)]

- a) Initial design capacity report specified in § 62.16724(a). [§62.16711(g)(1)]
 - b) Initial or subsequent NMOC emission rate report specified in § 62.16724(c), provided that the most recent NMOC emission rate report indicated the NMOC emissions were below 50 megagrams per year. [§62.16711(g)(2)]
 - c) Collection and control system design plan specified in § 62.16724(d). [§62.16711(g)(3)]
 - d) Closure report specified in §62.16724(f). [§62.16711(g)(4)]
 - e) Equipment removal report specified in § 62.16724(g). [§62.16711(g)(5)]
 - f) Initial annual report specified in § 62.16724(h). [§62.16711(g)(6)]
 - g) Initial performance test report in § 62.16724(i). [§ 62.16711(g)(7)]
2. *Closure report.* No additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). [§62.16724(f)]
 3. *Annual report.* If complying with §63.1958, §63.1960, and §63.1961 of MACT AAAA, as allowed in §62.16716, §62.16720, and §62.16722, the permittee must follow the semi-annual report requirements in §63.1981(h) of MACT AAAA in lieu of §62.16724(h). [§62.16724(h)]
 4. *Electronic reporting.* The permittee must submit reports electronically according to §62.16724(j)(1) and (2). [§62.16724(j)]
 - a) Within 60 days after the date of completing each performance test (as define in 40 CFR 60.8), the permittee must submit the results of each performance test according to the following procedures: [§62.16724(j)(1)]
 - i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (https://www3.epa.gov/ttn/chief/ert/ert_info.html) at the time of the test, the permittee must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). The CEDRI can be accessed through the EPA's CDX (<https://cdx.epa.gov/>). Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternative file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website, once the XML schema is available. If the permittee claims that some of the performance test information being submitted is confidential business information (CBI), they must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.
 - ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA'S ERT website at the time of the test, the permittee must submit the results of the performance test to the Administrator at the appropriate address

listed in 40 CFR 60.4. [§62.16724(j)(1)(ii)]

- b) The permittee, who is required to submit reports following the procedure specified in §62.16724(j), must submit reports to the EPA via the CEDRI (CEDRI can be accessed through the EPA's CDX). The permittee must use the appropriate electronic report in CEDRI for this subpart or an alternate electronic file format consistent with the XML schema listed on the CEDRI website (<https://www3.epa.gov/ttn/chief/cedri/index.html>). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the appropriate address listed in 40 CFR 60.4 of this chapter. Once the form has been available in CEDRI for 90 calendar days, the permittee must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted. [§62.16724(j)(2)]
- 5. *Corrective action and the corresponding timeline.* If complying with the operational provisions of §63.1958, §63.1960, and §63.1961, as allowed in §62.16716, §62.16720, and §62.16722, the permittee must follow the corrective action and the corresponding timeline reporting requirements in §63.1981(j) of MACT AAAA in lieu of §62.16724(k)(1) and (2). [§62.16724(k)]
- 6. *Tier 4 notification.* [§62.16724(m)]
 - a) The permittee must provide notification of the date(s) upon which it intends to demonstrate site-specific surface methane emissions are below 500 parts-per-million methane, based on the Tier 4 provisions of §62.16718(a)(6). The landfill must also include a description of the wind barrier to be used during the SEM in the notification. Notification must be postmarked not less than 30 days prior to such date. [§62.16724(m)(1)]
 - b) If there is a delay to the scheduled Tier 4 SEM date due to weather conditions, including not meeting the wind requirements in §62.16718(a)(6)(A), the permittee shall notify the Administrator by email or telephone no later than 48 hours before any known delay in the original test date, and arrange an updated date with the Administrator by mutual agreement. [§62.16724(m)(2)]
- 7. *24-hour temperature report.* If the permittee chooses to comply with the provisions in §63.1958, §63.1960, and §63.1961 of MACT AAAA, as allowed in §62.16716, §62.16720, and §62.16722, they must submit the 24-hour temperature report according to §63.1981(k) of MACT AAAA. [§62.16724(q)]

Recordkeeping:

- 1. Except as provided in §62.16724(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in §62.16726(b)(1) through (5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of control device vendor specifications must be maintained until removal. [§62.16726(b)]
 - a) To demonstrate compliance with §62.16714(b): [§62.16726(b)(1)]

- i) The maximum expected gas generation flow rate as calculated in §62.16720(a)(1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Administrator. [§62.16726(b)(1)(i)]
 - ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §62.16728(a)(1). [§62.16726(b)(1)(ii)]
 - b) To demonstrate compliance with §62.16714(c)(1) through the use of a non-enclosed flare, the flare type (*i.e.*, steam assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR 60.18; and continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the plot flame or flare flame is absent. [§62.16726(b)(4)]
2. Except as provided in §62.16724(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §62.16722 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. [§62.16726(c)]
- a) The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §62.16722. [§62.16726(c)(2)]
 - b) If the permittee uses a non-enclosed flare to comply with the provisions of 40 CFR Part 62 Subpart OOO, they must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §62.16722(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent. [§62.16726(c)(4)]
 - c) The permittee must keep records of periods when the collection system or control device used for compliance with §62.16714(e) is not operating. [§62.16726(c)(5)]
3. Except as provided in §62.16724(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the collection system and providing a unique identification location label on each collector that matches the labeling on the plot map. [§62.16726(d)]
- a) The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under §62.16720(b). [§62.16726(d)(1)]
 - b) The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §62.16728(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §62.16728(a)(3)(ii). [§62.16726(d)(2)]
4. If the permittee chooses to comply with the provisions in §63.1958, §63.1960, and §63.1961, as allowed in §62.16716, §62.16720, and §62.16722, they must keep the records in §62.16726(e)(6) and must keep the records according to §63.1983(e)(1) through (5) of MACT AAAA in lieu of §62.16726(e)(1) through (5). [§62.16726(e)]
- a) If the permittee chooses to comply with §63.1958, §63.1960, and §63.1961 of MACT AAAA, as allowed in §62.16716, §62.16720, and §62.16722, they must keep records of the date upon which the permittee started complying with the provisions of MACT

AAAA. [§62.16726(e)(6)]

5. The permittee must keep for at least 5 years up-to-date, readily accessible records of all SEM and information related to monitoring instrument calibrations conducted according to Sections 8 and 10 of EPA Method 21 of Appendix A-7 of 40 CFR Part 60, including the following items: [§62.16726(g)]
 - a) Calibration records. [§62.16726(g)(1)]
 - i) Date of calibration and initials of operator performing the calibration. [§62.16726(g)(1)(i)]
 - ii) Calibration gas cylinder identification, certification date, and certified concentration. [§62.16726(g)(1)(ii)]
 - iii) Instrument scale(s) used. [§62.16726(g)(1)(iii)]
 - iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value. [§62.16726(g)(1)(iv)]
 - v) If the permittee makes their own calibration gas, a description of the procedure used. [§62.16726(g)(1)(v)]
 - b) Digital photographs of the instrument setup. The photographs must be time and date-stamped and taken at the first sampling location prior to sampling and at the last sampling location after sampling at the end of each sampling day, for the duration of the Tier 4 monitoring demonstration. [§62.16726(g)(2)]
 - c) Timestamp of each surface scan reading. [§62.16726(g)(3)]
 - i) Timestamp should be detailed to the nearest second, based on when the sample collection begins. [§62.16726(g)(3)(i)]
 - ii) A log for the length of time each sample was taken using a stopwatch (e.g., the time the probe was held over the area). [§62.16726(g)(3)(ii)]
 - d) Location of each surface scan reading. The permittee must determine the coordinates using an instrument with an accuracy of at least 4 meters. Coordinates must be in decimal degrees with at least five decimal places. [§62.16726(g)(4)]
 - e) Monitored methane concentration (parts per million) of each reading. [§62.16726(g)(5)]
 - f) Background methane concentration (parts per million) after each instrument calibration test. [§62.16726(g)(6)]
 - g) Adjusted methane concentration using the most recent calibration (parts per million). [§62.16726(g)(7)]
 - h) For readings taken at each surface penetration, the unique identification location label matching the label specified in §62.16726(d). [§62.16726(g)(8)]
 - i) Records of the operating hours of the gas collection system for each destruction device. [§62.16725(g)(9)]
6. Except as provided in §62.16724(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in §62.16722(a)(1), (2), and (3). [§62.16726(h)]
7. Any records required to be maintained by 40 CFR Part 62 Subpart OOO that are submitted electronically via the EPA's CDX may be maintained in electronic format. [§62.16726(i)]

Specifications for Active Collection Systems:

Follow the specifications for active collection systems in this section. [§62.16728]

1. To demonstrate compliance with §62.16714(b), the permittee must site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless

alternative procedures have been approved by the Administrator. [§62.16728(a)]

- a. The collection devices within the interior must be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: Depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.
[§62.16728(a)(1)]
- b. The sufficient density of gas collection devices determined in §62.16728(a)(1) must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.
[§62.16728(a)(2)]
- c. The placement of gas collection devices determined in §62.16728(a)(1) must control all gas producing areas, except as provided in §62.16728(a)(3)(i) and (ii).
[§62.16728(a)(3)]
 - i. Any segregate area of asbestos or nondegradable material may be excluded from collection if documented as provided under §62.16726(d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area and must be provided to the Administrator upon request. [§62.16728(a)(3)(i)]
 - ii. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Administrator upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill. [§62.16728(a)(3)(ii)]
 1. The NMOC emissions from each section proposed for exclusion must be computed using Equation 7: [§62.16728(a)(3)(ii)(A)]

$$Q_i = 2kL_oM_i(e^{-kt_i})(C_{NMOC})(3.6 \times 10^{-9}) \quad (\text{Equation 7})$$

Where:

Q_i = NMOC emission rate from the i^{th} section, megagrams per year

k = Methane generation rate constant, year⁻¹

L_o = Methane generation potential, cubic meters per megagrams solid waste

M_i = Mass of degradable solid waste in the i^{th} section, megagrams

t_i = Age of the solid waste in the i^{th} section, years

C_{NMOC} = Concentration of NMOC, parts-per-million by volume

3.6×10^{-9} = Conversion factor

2. If the permittee is proposed to exclude, or cease gas collection and control from, nonproductive physically separated (e.g., separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically

- separated closed area must be computed using either Equation 3 from §62.16718 or Equation 7 in §62.16728(a)(3)(ii)(A). [§62.16728(a)(3)(ii)(B)]
- iii. The values from k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applies by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o , and C_{NMOC} provided in §62.16718 or the alternative values from §62.16718 may be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the waste when estimating emissions provided the nature, location, age and amount of the nondegradable material is documented as provided in §62.16728(a)(3)(i). [§62.16728(a)(3)(iii)]
2. To demonstrate compliance with §62.16714(b), the permittee must construct the gas collection devices using the following equipment or procedures: [§62.16728(b)]
- a. The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration. [§62.16728(b)(1)]
- b. Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be design so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around the pipe perforations should be of a dimension so as not to penetrate or block perforations. [§62.16728(b)(2)]
- c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. [§62.16728(b)(3)]
3. To demonstrate compliance with §62.16714(c), the permittee must convey the landfill gas to a control system in compliance with §62.16714(c) through the collection header pipe(s). The gas move equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: [§62.16728(c)]
- a. For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exist, the procedures in §62.16728(c)(2) must be used. [§62.16728(c)(1)]
- b. For new collection systems, the maximum flow rate must be in accordance with §62.16720(a)(1). [§62.16728(c)(2)]

PERMIT CONDITION 002

10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations*
40 CFR Part 63, Subpart AAAA, *National Emission Standards for Hazardous Air Pollutants:*
Municipal Solid Waste Landfills

Emission Unit	Description	Control Equipment
EP-01	Municipal Solid Waste Landfill – fugitive landfill gas emissions	GCCS, EP-011, EP-012, EP-014
EP-011	3,500 scfm non-enclosed flare	None
EP-012	4,000 scfm non-enclosed flare	None
EP-014	2,500 scfm non-enclosed flare	None

General Requirements:

1. The permittee must meet the requirements of MACT AAAA. The requirements of MACT AAAA apply at all times, including during periods of SSM, and the SSM requirements of the General Provisions of 40 CFR Part 63 Subpart A do not apply. [§63.1930(b)]
2. The permittee is no longer required to comply with the requirements of MACT AAAA when the landfill meets the collection and control system removal criteria in §63.1957(b). [§63.1950]
3. *Removal criteria.* The collection and control system may be capped, removed, or decommissioned if the following criteria are met: [§63.1957(b)]
 - a. The landfill is a closed landfill (as defined in §63.1990). A closure report must be submitted to the Director as provided in §63.1981(f); [§63.1957(b)(1)]
 - b. The gas collection and control system has been in operation a minimum of 15 years or the permittee demonstrates that the gas collection and control system will be unable to operate for 15 years due to declining gas flow; and [§63.1957(b)(2)]
 - c. Following the procedures specified in §63.1959(c), the calculated NMOC emission rate at the landfill is less than 50 Mg/yr on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart. [§63.1957(b)(3)]
4. The permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if the requirements of MACT AAAA have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.1955(c)]

Operational Standards:

The permittee who operates an MSW landfill with a gas collection and control system used to comply with the provisions of §63.1957 must: [§63.1958]

1. Operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: [§63.1958(a)]
 - a. 5 years or more if active; or [§63.1958(a)(1)]
 - b. 2 years or more if closed or at final grade; [§63.1958(a)(2)]

2. Operate the collection system with negative pressure at each wellhead except under the following conditions: [§63.1958(b)]
 - a. A fire or increased well temperature. The permittee must record instances when positive pressure occurs in efforts to avoid a fire. These records must be submitted with the semi-annual reports as provided in §63.1981(h); [§63.1958(b)(1)]
 - b. Use of a geomembrane or synthetic cover. The permittee must develop acceptable pressure limits in the design plan; [§63.1958(b)(2)]
 - c. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes must be approved by the Director as specified in §63.1981(d)(2); [§63.1958(b)(3)]
3. §63.1958(c).
 - a. Operate each interior wellhead in the collection system with a landfill gas temperature less than 62.8 degrees Celsius (145 degrees Fahrenheit). [§63.1958(c)(1)]
 - b. The permittee may establish a higher operating temperature value at a particular well. A higher operating value demonstration must be submitted to the Director for approval and must include supporting data demonstrating that the elevated parameter neither causes fires nor significantly inhibits anaerobic decomposition by killing methanogens. The demonstration must satisfy both criteria in order to be approved (*i.e.*, neither causing fires nor killing methanogens is acceptable). [§63.1958(c)(2)]
4. §63.1958(d)
 - a. Operate the collection system so that the methane concentration is less than 500 parts per million (ppm) above background at the surface of the landfill. To determine if this level is exceeded, the permittee must conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals and where visual observation indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [§63.1958(d)(1)]
 - b. The permittee must: [§63.1958(d)(2)]
 - i. Conduct surface testing using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in §63.1960(d). [§63.1958(d)(2)(i)]
 - ii. Conduct surface testing at all cover penetrations. Thus, the permittee 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. [§63.1958(d)(2)(ii)]
 - iii. Determine the latitude and longitude coordinates of each exceedance using an instrument with accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. [§63.1958(d)(2)(iii)]
5. Operate the system as specified in §60.753(e) of NSPS WWW, except: [§63.1958(e)]
 - a) Operate the system in accordance to §63.1955(c) such that all collected gases are vented to a control system designed and operated in compliance with §63.1959(b)(2)(iii). In the event the collection or control system is not operating: [§63.1958(e)(1)]
 - i) The gas mover system must be shut down and all valves in the collection and

control system contributing to venting of the gas to the atmosphere must be closed within 1 hour of the collection and control system not operating; and
[§63.1958(e)(1)(i)]

- ii) Efforts to repair the collection and control system must be initiated and completed in a manner such that downtime is kept to a minimum, and the collection and control system is returned to operation. [§63.1958(e)(1)(ii)]
- 1. Operate the control system at all times when the collected gas is routed to the system. [§63.1958(f)]
- 2. If monitoring demonstrates that the operation requirements in §63.1958(b), (c), or (d) are not met, corrective action must be taken as specified in §63.1960(a)(3) and (5) or (c). If corrective actions are taken as specified in §63.1960, the monitored exceedance is not a deviation of the operational requirements in this section. [§63.1958(g)]

NMOC Calculation Procedures:

- 1. The permittee must either comply with §63.1959(b)(2) or calculate an NMOC emission rate for the landfill using the procedures specified in §63.1959(a). The NMOC emission rate must be recalculated annually, except as provided in §63.1981(c)(1)(ii)(A). [§63.1959(b)]
 - a) If the calculated NMOC emission rate is equal to or greater than 50 Mg/yr using Tier 1, 2, or 3 procedures, the permittee must either: [§63.1959(b)(2)]
 - i. *Collection system.* Install and start up a collection and control system that captures the gas generated within the landfill as required by §63.1959(b)(2)(ii)(B) or (C) and §63.1959(b)(2)(iii) within 30 months after: [§63.1959(b)(2)(ii)]
 - (1) The first annual report in which the NMOC emission rate equals or exceeds 50 Mg/yr, unless Tier 2 or Tier 3 sampling demonstrates that the NMOC emission rate is less than 50 Mg. [§63.1959(b)(2)(ii)(A)]
 - (2) An active collection system must: [§63.1959(b)(2)(ii)(B)]
 - (a) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control system equipment; [§63.1959(b)(2)(ii)(B)(1)]
 - (b) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade; [§63.1959(b)(2)(ii)(B)(2)]
 - (c) Collect gas at a sufficient extraction rate; and [§63.1959(b)(2)(ii)(B)(3)]
 - (d) Be designed to minimize off-site migration of subsurface gas. [§63.1959(b)(2)(ii)(B)(4)]
 - (3) A passive collection system must: [§63.1959(b)(2)(ii)(C)]
 - (a) Comply with the provisions specified in §63.1959(b)(2)(ii)(B)(1), (2), and (3); and [§63.1959(b)(2)(ii)(C)(1)]
 - (b) Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners must be installed as required under 40 CFR §258.40. [§63.1959(b)(2)(ii)(C)(2)]
 - ii. *Control system.* Route all the collected gas to a control system that complies with the requirements in either §63.1959(b)(2)(iii)(A), (B), and (C) [§63.1959(b)(2)(iii)]
 - (1) A non-enclosed flare designed and operated in accordance with the parameters established in §63.11(b) except as noted in §63.1959(e); or [§63.1959(b)(2)(iii)(A)]

(2) All emissions from the atmospheric vent from the gas treatment system are subject to the requirements of §63.1959(b)(2)(iii)(A) For purposes of MACT AAAA, atmospheric vents located on the condensate storage tank are not part of the treatment system and are exempt from the requirements of §63.1959(b)(2)(iii)(A) [§63.1959(b)(2)(iii)(D)]

2. After the installation and startup of a collection and control system in compliance with MACT AAAA, the permittee must calculate the NMOC emission rate for purposes of determining when the system can be capped, removed, or decommissioned as provided in §63.1957(b)(3), using Equation 3: [§63.1959(c)]

$$M_{NMOC} = 1.89 \times 10^{-3} Q_{LFG} C_{NMOC} \text{ (Equation 3)}$$

Where:

M_{NMOC} = Mass emission rate of NMOC, Mg/yr

Q_{LFG} = Flow rate of landfill gas, m³ per minute

C_{NMOC} = Average NMOC concentration, ppmv as hexane

1.89×10^{-3} = Conversion factor

- a) The flow rate of landfill gas, Q_{LFG} , must be determined by measuring the total landfill gas flow rate at the common header pipe that leads to the control system using a gas flow measuring device calibrated according to the provisions of Section 10 of EPA Method 2E to 40 CFR Part 60 Appendix A-1. [§63.1959(c)(1)]
- b) The average NMOC concentration, C_{NMOC} , must be determined by collecting and analyzing landfill gas sampled from the common header pipe before the gas moving or condensate removal equipment using the procedures in EPA Method 25 or 25C of 40 CFR Part 60 Appendix A-7. The sample location on the common header pipe must be before any condensate removal or other gas refining units. The permittee must divide the NMOC concentration from Method 25 or 25C by 6 to convert from C_{NMOC} as carbon to C_{NMOC} as hexane. [§63.1959(c)(2)]
- c) The permittee may use another method to determine landfill gas flow rate and NMOC concentration if the method has been approved by the Director. [§63.1959(c)(3)]
- i. Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.7), the permittee must submit the results of each performance test, including any associated fuel analyses, according to §63.1981(l)(1). [§63.1959(c)(3)(i)]
3. For the performance test required in §63.1959(b)(2)(iii)(A), the net heating value of the combusted landfill gas as determined in 40 CFR 63.11(b)(6)(ii) is calculated from the concentration of methane in the landfill gas as measured by EPA Method 3C. A minimum of three 30-minute EPA Method 3C samples are determined. The measurement of other organic components, hydrogen, and carbon monoxide is not applicable. EPA Method 3C may be used to determine the landfill gas molecular weight for calculating the flare gas exit velocity under 40 CFR 63.11(b)(7). [§63.1959(e)]
- a) Within 60 days of completing each performance test (as defined in 40 CFR 63.7), the permittee must submit the results of the performance tests, including any associated fuel analyses, required by §63.1959(c) or (e) according to §63.1981(l)(1). [§63.1959(e)(1)]
4. The performance tests required in §63.1959(b)(2)(iii)(A) must be conducted under such conditions as the Director specifies to the permittee based on representative performance

of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown unless specified by the Director. The permittee may not conduct performance tests during periods of malfunction. permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, the permittee shall make available to the Director such records as may be necessary to determine the conditions of performance tests. [§63.1959(f)]

Compliance Provisions:

1. Except as provided for in §63.1981(d)(2), the specified methods in §63.1959(a)(1) through (5) must be used to determine whether the gas collection system is in compliance with §63.1959(b)(2)(ii). [§63.1960(a)]
 - a) For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with §63.1959(b)(2)(ii)(C)(1), either Equation 5 or Equation 6 must be used. The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Director. The methane generation rate constant (k) and methane generation potential (L_o) kinetic factors should be those published in the most recent AP-42 or other site-specific values demonstrated to be appropriate and approved by the Director. If k has been determined as specified in §63.1959(a)(4), the value of k determined from the test must be used. A value of no more than 15 years must be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure. [§63.1960(a)(1)]
 - i) For sites with unknown year-to-year solid waste acceptance rate: [§63.1960(a)(1)(i)]

$$Q_m = 2L_oR(e^{-kc} - e^{-kt}) \quad (\text{Equation 5})$$

Where:

Q_m = Maximum expected gas generation flow rate, m³/year

L_o = Methane generation potential, m³/Mg solid waste

R = Average annual acceptance rate, Mg/yr

k = Methane generation rate constant, year⁻¹

t = Age of the landfill at equipment installation plus the time the permittee intends to use the gas mover equipment or active life of the landfill, whichever is less. If the equipment is installed after closure, t is the age of the landfill at installation, years

c = Time since closure, years (for an active landfill c = 0)

2 = Constant

- ii) For sites with known year-to-year solid waste acceptance rate: [§63.1960(a)(1)(ii)]

$$Q_m = \sum_{i=1}^n 2k L_o M_i (e^{-kt_i}) \quad (\text{Equation 6})$$

Where:

Q_m = Maximum expected gas generation flow rate, m³/year

k = Methane generation rate constant, year⁻¹

L_o = Methane generation potential, m³/Mg solid waste

M_i = Mass of solid waste in the i^{th} section, Mg

t_i = Age of the i^{th} section, years

- iii) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, Equation 5 or Equation 6 in §63.1960(a)(1)(i) and (ii). If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, or calculations using Equation 5 or Equation 6 in §63.1960(a)(1)(i) or (ii) or other methods must be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment. [§63.1960(a)(1)(iii)]
- b) For the purposes of determining sufficient density of gas collectors for compliance with §63.1959(b)(2)(ii)(B)(2), the permittee must design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Director, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [§63.1960(a)(2)]
- c) For the purposes of demonstrating whether a gas collection system flow rate is sufficient to determine compliance with §63.1959(b)(2)(ii)(B)(3), the permittee must measure gauge pressure in the gas collection header applies to each individual well monthly. Any attempted corrective measure must not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Director for approval. If a positive pressure exists, follow the procedures in §60.755(a)(3) of NSPS WWW, except: [§63.1960(a)(3)]
 - i) If a positive pressure exists, action must be initiated to correct the exceedance within 5 days, except for the three conditions allowed under §63.1958(b). [§63.1960(a)(3)(i)]
 - (1) If negative pressure cannot be achieved without excess air infiltration within 15 days of the first measurement of positive pressure, the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after positive pressure was first measured. The permittee must keep records according to §63.1983(e)(3). [§63.1960(a)(3)(i)(A)]
 - (2) If corrective actions cannot be implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the positive pressure measurement. The permittee must submit the items listed in §63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to §63.1983(e)(4). [§63.1960(a)(3)(i)(B)]
 - (3) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director, according to §63.1981(j). The permittee must keep records according to §63.1983(e)(5). [§63.1960(a)(3)(i)(C)]
- d) To demonstrate compliance with the temperature and nitrogen or oxygen operational standards in §63.1958(c), for the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee must follow the procedures as specified in

§60.755(a)(5), except: [§63.1960(a)(4)]

- i) To demonstrate compliance with the operational standard in §63.1958(c), the permittee must monitor each well monthly for temperature for the purpose of identifying whether excess air infiltration exists. If a well exceeds the operating parameter for temperature as provided in §63.1958(c)(1), action must be initiated to correct the exceedance within 5 days. Any attempted corrective measure must not cause exceedances of other operational or performance standards.

[§63.1960(a)(4)(i)]

- (1) If a landfill gas temperature less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit) cannot be achieved within 15 days of the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit), the permittee must conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after a landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) was first measured. The permittee must keep records according to §63.1983(e)(3).

[§63.1960(a)(4)(i)(A)]

- (2) If corrective actions cannot be fully implemented within 60 days following the temperature measurement for which the root cause analysis was required, the permittee must also conduct a corrective action analysis and develop an implementation schedule to complete the corrective action(s) as soon as practicable, but no more than 120 days following the measurement of the landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit). The permittee must submit the items listed in §63.1981(h)(7) as part of the next semi-annual report. The permittee must keep records according to

§63.1983(e)(4). [§63.1960(a)(4)(i)(B)]

- (3) If corrective action is expected to take longer than 120 days to complete after the initial exceedance, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director, according to §63.1981(h)(7) and (j). The permittee must keep records according to §63.1983(e)(5). [§63.1960(a)(4)(i)(C)]

- (4) If the landfill gas temperature measured at either wellhead or any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured according to the procedures in §63.1961(a)(5)(vi) is greater than or equal to 1,000 ppmv, the corrective action(s) for the wellhead temperature standard (62.8 degrees Celsius or 145 degrees Fahrenheit) must be completed within 15 days. [§63.1960(a)(4)(i)(D)]

- e) To demonstrate compliance with §63.1959(b)(2)(ii)(B)(4) through the use of a collection system not conforming to the specifications provided in §63.1962, the permittee must provide information satisfactory to the Director as specified in §63.1981(d)(3) demonstrating that off-site migration is being controlled. [§63.1960(a)(5)]

- 2. For purposes of compliance with §63.1958(a), the permittee must place each well or design component as specified in the approved design plan as provided in §63.1981(d). Each well must be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: [§63.1960(b)]
 - a. 5 years or more if active; or [§63.1960(b)(1)]
 - b. 2 years or more if closed or at final grade. [§63.1960(b)(2)]
- 3. The following procedures must be used for the surface methane operational standard as

provided in §63.1958(d). [§63.1960(c)]

- a. After installation and startup of the gas collection system, the permittee 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 specifications provided in §63.1960(d). [§63.1960(c)(1)]
- b. The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [§63.1960(c)(2)]
- c. Surface emission monitoring must be performed in accordance with Section 8.3.1 of EPA Method 21 of 40 CFR Part 60 Appendix A-7, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions. [§63.1960(c)(3)]
- d. Any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance and the actions specified in §63.1960(c)(4)(i) through (v) must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operation requirements of §63.1958(d). [§63.1960(c)(4)]
 - i. The location of each monitored exceedance must be marked and the location and concentration recorded. The location must be recorded using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. [§63.1960(c)(4)(i)]
 - ii. Cover maintenance and adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 days of detecting the exceedance. [§63.1960(c)(4)(ii)]
 - iii. If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in §63.1960(c)(4)(v) must be taken, and no further monitoring of that location is required until the action specified in §63.1960(c)(4)(v) has been taken. [§63.1960(c)(4)(iii)]
 - iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in §63.1960(c)(4)(ii) or (iii) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 50 ppm above background, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in §63.1960(c)(4)(iii) or (v) must be taken. [§63.1960(c)(4)(iv)]
 - v. For any location where monitored methane concentration equals or exceeds 500 ppm above background three times within a quarterly period, a new well or other collection device must be installed within 120 days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Director for approval. [§63.1960(c)(4)(v)]
- e. The permittee must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [§63.1960(c)(5)]

4. To demonstrate compliance with the provisions in §63.1960(c), the permittee must comply with the following instrumentation specifications and procedures for surface emission monitoring devices: [§63.1960(d)]
 - a. The portable analyzer must meet the instrument specifications provided in Section 6 of EPA Method 21 of 40 CFR Part 60 Appendix A, except that “methane” replaced all references to “VOC”. [§63.1960(d)(1)]
 - b. The calibration gas must be methane, diluted to a nominal concentration of 500 ppm in air. [§63.1960(d)(2)]
 - c. To meet the performance evaluation requirements in Section 8.1 of EPA Method 21, the instrument evaluation of Section 8.1 of EPA Method 21 must be used. [§63.1960(d)(3)]
 - d. The calibration procedures provided in Sections 8 and 10 of EPA Method 21 must be followed immediately before commencing a surface monitoring survey. [§63.1960(d)(4)]
5. Additional compliance provisions: [§63.1960(e)]
 - a. To demonstrate compliance with the operational standards in §63.1958(e), the provisions of MACT AAAA apply at all times, except during periods of SSM, provided that the duration of SSM does not exceed 5 days for collection systems and does not exceed 1 hour for treatment or control devices. [§63.1960(e)(1)]
 - b. To demonstrate compliance with the operational standard in §63.1958(e)(1), the provisions of MACT AAAA apply at all times, including periods of SSM. During periods of SSM, the permittee must comply with the work practice requirement specified in §63.1958(e) in lieu of the compliance provisions in §63.1960. [§63.1960(e)(2)]
6. Compliance is determined using performance testing, collection system monitoring, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected under §63.1961(b)(1), (c)(1), and (d) are used to demonstrate compliance with the operating standard for control systems. If a deviation occurs, the permittee has failed to meet the control device operating standards described in MACT AAAA and have deviated from the requirements of MACT AAAA. [§63.1964]
7. The SSM provisions of §63.6(e) of MACT A no longer apply to MACT AAAA and the SSM plan developed under §63.1964(a) no longer applies. Compliance with the emissions standards and the operating standards of §63.1958 is required at all times. [§63.1964(b)]

Monitoring:

1. To demonstrate compliance with §63.1959(b)(2)(ii)(B) for an active gas collection system, the permittee must install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: [§63.1961(a)]
 - a) Measure the gauge pressure in the gas collection header on a monthly basis as provided in §63.1960(a)(3); and [§63.1961(a)(1)]
 - b) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as follows: [§63.1961(a)(2)]
 - i. The nitrogen level must be determined using EPA Method 3C of 40 CFR Part 60 Appendix A-2, unless an alternative test method is established as allowed by §63.1981(d)(2). [§63.1961(a)(2)(i)]
 - ii. Unless an alternative test method is established as allowed by §63.1981(d)(2), the oxygen level must be determined by an oxygen meter using EPA Method 3A or 3C or ASTM D6522-11 (incorporated by reference, see §63.14). Determine the oxygen level by using an oxygen meter using EPA Method 3A or 3C or ASTM D6522-11 (if

- sample location is prior to combustion) except that: [§63.1961(a)(2)(ii)]
- (1) The span must be set between 10- and 12-percent oxygen;
[§63.1961(a)(2)(ii)(A)]
 - (2) A data recorded is not required; [§63.1961(a)(2)(ii)(B)]
 - (3) Only two calibration gases are required, a zero and span; [§63.1961(a)(2)(ii)(C)]
 - (4) A calibration error check is not required; and [§63.1961(a)(2)(ii)(D)]
 - (5) The allowable sample bias, zero drift, and calibration drift are ± 10 percent.
[§63.1961(a)(2)(ii)(E)]
- iii. A portable gas composition analyzer may be used to monitor the oxygen levels provided: [§63.1961(a)(2)(iii)]
 - (1) The analyzer is calibrated; and [§63.1961(a)(2)(iii)(A)]
 - (2) The analyzer meets all quality assurance and quality control requirements for EPA Method 3A or ASTM D6522-11. [§63.1961(a)(2)(iii)(B)]
- c) To demonstrate compliance with the temperature and nitrogen or oxygen operational standards in §63.1958(c), the permittee must follow the procedures as specified in §60.756(a)(2) and (3) of NSPS WWW. Monitor temperature of the landfill gas on a monthly basis as provided in §63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2 of 40 CFR Part 60 Appendix A-1. [§63.1961(a)(3)]
 - d) To demonstrate compliance with the operational standard for temperature in §63.1958(c)(1), the permittee must monitor the temperature of the landfill gas on a monthly basis as provided in §63.1960(a)(4). The temperature measuring device must be calibrated annually using the procedure in Section 10.3 of EPA Method 2. Keep records specified in §63.1983(e). [§63.1961(a)(4)]
 - e) To demonstrate compliance with the operational standard for temperature in §63.1958(c)(1), unless a higher operating temperature value has been approved by the Director under MACT AAAA or under NSPS WWW; NSPS XXX; or a federal plan or EPA-approved and effective state plan or tribal plan that implements either NSPS Cc or Cf, the permittee must initiate enhanced monitoring at each well with a measurements of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as follows: [§63.1961(a)(5)]
 - i. Visual observation for subsurface oxidation events (smoke, smoldering ash, damage to well) within the radius of influence of the well. [§63.1961(a)(5)(i)]
 - ii. Monitor oxygen concentration as provided in §63.1961(a)(2). [§63.1961(a)(5)(ii)]
 - iii. Monitor temperature of the landfill gas at the wellhead as provided in §63.1961(a)(4). [§63.1961(a)(5)(iii)]
 - iv. Monitor temperature of the landfill gas every 10 vertical feet of the well as provided in §63.1961(a)(6). [§63.1961(a)(5)(iv)]
 - v. Monitor the methane concentration with a methane meter using EPA Method 3C, EPA Method 18, or a portable gas composition analyzer to monitor the methane levels, provided that the analyzer is calibrated and meets all quality assurance and quality control requirements for EPA Method 3C or EPA Method 18.
[§63.1961(a)(5)(v)]
 - vi. Monitor and determine carbon monoxide concentrations, as follows:
[§63.1961(a)(5)(vi)]
 - (1) Collect the sample from the wellhead sampling port in a passivated canister or multi-layer foil gas sampling bag (such as the Cali-5-Bond Bag) and analyze that

- sample using EPA Method 10 of 40 CFR Part 60 Appendix A-5, or an equivalent method with a detection limit of at least 100 ppmv of carbon monoxide in high concentrations of methane; or [§63.1961(a)(5)(vi)(A)]
- (2) Collect and analyze the sample from the wellhead using EPA Method 10 to measure carbon monoxide concentrations. [§63.1961(a)(5)(vi)(B)]
- (3) When sampling directly from the wellhead, the permittee must sample for 5 minutes plus twice the response time of the analyzer. These values must be recorded. The five 1-minute averages are then averaged to give the carbon monoxide reading at the wellhead. [§63.1961(a)(5)(vi)(C)]
- (4) When collecting samples in a passivated canister or multi-layer foil sampling bag, the permittee must sample for the period of time needed to assure that enough sample is collected to provide five (5) consecutive 1-minute samples during the analysis of the canister or bag content, but no less than 5 minutes plus twice the response time of the analyzer. The five (5) consecutive 1-minute averages are then averaged together to give the carbon monoxide value from the wellhead. [§63.1961(a)(5)(vi)(D)]
- vii. The enhanced monitoring described in §63.1961(a)(5) must begin 7 calendar days after the first measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit); and [§63.1961(a)(5)(vii)]
- viii. The enhanced monitoring in §63.1961(a)(5) must be conducted on a weekly basis. If four consecutive weekly carbon monoxide readings are under 100 ppmv, then enhanced monitoring may be decreased to monthly. However, if carbon monoxide readings exceed 100 ppmv again, the landfill must return to weekly monitoring. [§63.1961(a)(5)(viii)]
- ix. The enhanced monitoring in §63.1961(a)(5) can be stopped once a higher operating value is approved, at which time the monitoring provisions issued with the higher operating value should be followed, or once the measurement of landfill gas temperature at the wellhead is less than or equal to 62.8 degrees Celsius (145 degrees Fahrenheit). [§63.1961(a)(5)(ix)]
- f) For each wellhead with a measurement of landfill gas temperature greater than or equal to 73.9 degrees Celsius (165 degrees Fahrenheit), annually monitor temperature of the landfill gas every 10 vertical feet of the well. This temperature can be monitored either with a removable thermometer or using temporary or permanent thermocouples installed in the well. [§63.1961(a)(6)]
2. To demonstrate compliance with §63.1959(b)(2)(iii) using a non-enclosed flare, the permittee must install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment: [§63.1961(c)]
- a) A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame; and [§63.1961(c)(1)]
- b) A device that records flow to the flare and bypass of the flare (if applicable). The permittee must: [§63.1961(c)(2)]
- i. Install, calibrate, and maintain a gas flow rate measuring device that records the flow to the control device at least every 15 minutes; and [§63.1961(c)(2)(i)]
- ii. Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve is maintained in the

closed position and that the gas flow is not diverted through the bypass line.

[§63.1961(c)(2)(ii)]

3. If the permittee seeks to install a collection system that does not meet the specifications in §63.1962 or seeks to monitoring alternative parameters to those required by §63.1958 through §63.1961, they must provide information satisfactory to the Director as provided in §63.1981(d)(2) and (3) describing the design and operation of the collection system, the operating system that would indicate proper performance, and appropriate monitoring procedures. The Director may specify additional appropriate monitoring procedures.
[§63.1961(e)]
4. To demonstrate compliance with the 500-ppm surface methane operational standard in §63.1958(d) the permittee must monitor surface concentrations of methane according to the procedures in §63.1960(c) and the instrument specifications in §63.1960(d). If the permittee is complying with the 500-ppm surface methane operational standard in §63.1958(d)(2), for location, they must determine the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters and the coordinates must be decimal degrees with at least five decimal places. In the semi-annual report in §63.1981(h), the permittee must report the location of each exceedance in the 500-ppm methane concentration as provided in §63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for the landfill to quarterly monitoring. [§63.1961(f)]
5. The monitoring requirements of §63.1961(a), (b), (c), (d), and (g) apply at all times the affected source is operating, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities. A monitoring system malfunction is an sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. The permittee is required to complete monitoring system repairs in response to monitoring system malfunctions to return the monitoring system to operation as expeditiously as practicable. To demonstrate compliance with the temperature and nitrogen or oxygen operational standards in §63.1958(c)(1), (d)(2), and (e)(1), the standards apply at all times. [§63.1961(h)]

Specifications for Active Collection Systems

1. To demonstrate compliance with §63.1959(b)(2)(i), the permittee must site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Director as provided in §63.1981(d)(2) and (3): [§63.1962(a)]
 - a) The collection devices within the interior must be certified in achieving comprehensive control of surface gas emissions by a professional engineer. The following issues must be addressed in the design: Depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operation, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, resistance to the

refuse decomposition heat, and ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.

[§63.1962(a)(1)]

- b) The sufficient density of gas collection devices determined in §63.1962(a)(1) must address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. [§63.1962(a)(2)]
- c) The placement of gas collection devices determined in §63.1962(a)(1) of this section must control all gas producing areas, except as provided in §63.1962(a)(3)(i) and (ii).

[§63.1962(a)(3)]

- i. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided under §63.1983(d). The documentation must provide the nature, date of deposition, location and amount of asbestos or nondegradable material deposited in the area and must be provided to the Director upon request. [§63.1962(a)(3)(i)]
- ii. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material must be documented and provided to the Director upon request. A separate NMOC emissions estimate must be made for each section proposed for exclusion, and the sum of all such sections must be compared to the NMOC emissions estimate for the entire landfill. [§63.1962(a)(3)(ii)]

- (1) The NMOC emissions from each section proposed for exclusion must be computed using Equation 7: [§63.1962(a)(3)(ii)(A)]

$$Q_i = 2kL_oM_i(e^{-kt_i})(C_{NMOC})(3.6 \times 10^{-9})$$

Where:

Q_i = NMOC emission rate from the i^{th} section, Mg/yr

k = Methane generation rate constant, year⁻¹

L_o = Methane generation potential, m³/Mg solid waste

M_i = Mass of the degradable solid waste in the i^{th} section, Mg

t_i = Age of the solid waste in the i^{th} section, years

C_{NMOC} = Concentration of NMOC, ppmv

3.6×10^{-9} = Conversion factor

- (2) If the permittee is proposed to exclude, or cease gas collection and control from, nonproductive physically separated (e.g., separately lines) closed areas that already have gas collection systems, NMOC emissions from each physically separated closed area must be computed using either Equation 2 in §63.1959(c) or Equation 7 in §63.1962(a)(3)(ii)(A). [§63.1962(a)(3)(ii)(B)]
- iii. The values for k and C_{NMOC} determined in field testing must be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o , and C_{NMOC} provided in §63.1959(a)(1) or the alternative values from §63.1959(a)(5) must be used. The

mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating the emissions provided that nature, location, age, and amount of nondegradable material is documented as provided in §63.1962(a)(3)(i). [§63.1962(a)(3)(iii)]

2. To demonstrate compliance with §63.1959(b)(2)(ii), the permittee must construct the gas collection devices using the following equipment or procedures: [§63.1962(b)]
 - a) The landfill gas extraction components must be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: Convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system must extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors must be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations must be situated with regard to the need to prevent excessive air infiltration. [§63.1962(b)(1)]
 - b) Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices must be designed so as not to allow indirect short circuiting or air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. [§63.1962(b)(2)]
 - c) Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly must include a positive closing throttle valve, any necessary seals and couplings, access couplings, and at least one sampling port. The collection devices must be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. [§63.1962(b)(3)]
3. To demonstrate compliance with §63.1959(b)(2)(iii), the permittee must convey the landfill gas to a control system in compliance with §63.1959(b)(2)(iii) through the collection header pipe(s). The gas mover equipment must be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: [§63.1962(c)]
 - a) For existing collection systems, the flow data must be used to project the maximum flow rate. If no flow data exists, the procedures in §63.1962(c)(2) must be used. [§63.1962(c)(1)]
 - b) For new collection systems, the maximum flow rate must be in accordance with §63.1960(a)(1). [§63.1962(c)(2)]

Reporting:

1. The permittee must submit the report specified in §63.1981 and the reports specified in Table 1 to MACT AAAA. If the permittee has previously submitted capacity report, amended design capacity report, initial NMOC emission rate report, initial or revised collection and control system design plan, closure report, equipment removal report, or initial performance test under NSPS WWW; NSPS XXX; or a federal plan or EPA-approved and effective state plan or tribal plan that implements either NSPS Cc or Cf, then that submission constitutes compliance with the design capacity report in §63.1981(a), the amended design capacity

report in §63.1981(b), the initial NMOC emission rate report in §63.1981(c), the initial collection and control system design plan in §63.1981(d), the revised design plan in §63.1981(e), the closure report in §63.1981(f), the equipment removal report in §63.1981(g), and the initial performance test report in §63.1981(i). The permittee does not need to re-submit the reports. However, the permittee must include a statement certifying prior submission of the respective report(s) and the date of submittal in the first semi-annual report required in this section. [§63.1981]

2. The permittee must submit to the Director semi-annual reports. The permittee must submit the report following the procedure specified in §63.1981(l). The semi-annual report must contain the information in §63.1981(h)(1) through (8). [§63.1981(h)]
 - a) Number of times that applicable parameters monitored under §63.1958(b), (c), and (d) were exceeded and when the gas collection and control system was not operating under §63.1958(e), including periods of SSM. For each instance, report the date, time, and duration of each exceedance. [§63.1981(h)(1)]
 - i) Provide a statement of the wellhead operational standard for temperature in §63.1958(c)(1), provide a statement of the wellhead operational standard for temperature and oxygen that the permittee is complying with for the period covered by the report. Indicate the number of times each of those parameters monitored under §63.1961(a)(4) were exceeded. For each instance, report the date, time, and duration of each exceedance. [§63.1981(h)(1)(ii)]
 - b) Description and duration of all periods when the gas stream was diverted from the control device or treatment system through a bypass line or the indication of bypass flow as specified under §63.1961. [§63.1981(h)(2)]
 - c) Description and duration of all periods when the control device or treatment system was not operating and length of time the control device or treatment system was not operating. [§63.1981(h)(3)]
 - d) All periods when the collection system was not operating. [§63.1981(h)(4)]
 - e) The location of each exceedance of the 500-ppm methane concentration as provided in §63.1958(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. For location, the permittee records the latitude and longitude coordinates of each exceedance using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places. [§63.1981(h)(5)]
 - f) The date of installation and the location of each well or collection system expansion added pursuant to §63.1960(a)(3) and (4), (b), and (c)(4). [§63.1981(h)(6)]
 - g) For any corrective action analysis for which corrective actions are required in §63.1960(a)(3)(i) or (a)(5) and that take more than 60 days to correct the exceedance, the root cause analysis conducted, including a description of the recommended corrective action(s), the date for corrective action(s) already completed following the positive pressure or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates. [§63.1981(h)(7)]
 - h) The permittee must include the results of all monitoring activities conducted during the period. [§63.1981(h)(8)]
 - i) For each monitoring point, report the date, time, and well identifier along with the value and units of measure for oxygen, temperature (wellhead and downwell), methane, and carbon monoxide. [§63.1981(h)(8)(i)]

- ii) Include a summary trend analysis for each well subject to the enhanced monitoring requirements to chart the weekly readings over time for oxygen, wellhead temperature, methane, and weekly or monthly readings over time, as applicable for carbon monoxide. [§63.1981(h)(8)(ii)]
 - iii) Include the date, time, staff person's name, and description of findings for each visual observation for subsurface oxidation event. [§63.1981(h)(8)(iii)]
- 3. *Corrective action and the corresponding timeline.* The permittee must submit information regarding corrective actions according to §63.1981(j)(1) and (2). [§63.1981(j)]
 - a) For corrective action that is required according to §63.1960(a)(3) or (4) and is not completed within 60 days after the initial exceedance, the permittee must submit a notification to the Director as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature exceedance. [§63.1981(j)(1)]
 - b) For corrective action that is required according to §63.1960(a)(3) or (4) and is expected to take longer than 120 days after the initial exceedance to complete, the permittee must submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Director as soon as practicable but no later than 75 days after the first measurement of positive pressure or temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above unless a higher operating temperature value has been approved by the Administrator for the well under MACT AAAA, NSPS WWW, NSPS XXX, or a Federal plan or EPA approved and effective state plan or tribal plan that implements either NSPS Cc or Cf. The Director must approve the plan for corrective action and the corresponding timeline. [§63.1981(j)(2)]
- 4. *24-hour high temperature report.* To demonstrate compliance with the operational standard for temperature in §63.1958(c)(1) and a landfill gas temperature measured at either the wellhead or at any point in the well is greater than or equal to 76.7 degrees Celsius (170 degrees Fahrenheit) and the carbon monoxide concentration measured is greater than or equal to 1,000 ppmv, then the permittee must report the date, time, well identifier, temperature, and carbon monoxide reading via email to the Director within 24 hours of measurement unless a higher operating temperature value has been approved by the Director for the well under this subpart or under NSPS WWW; NSPS XXX; or a Federal plan or EPA approved and effective state plan or tribal plan that implements either NSPS Cc or Cf. [§63.1981(k)]
- 5. *Electronic reporting.* The permittee must submit reports electronically according to §63.1981(l)(1) and (2). [§63.1981(l)]
- 6. *Claims of EPA system outage.* If the permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the permittee may assert a claim of EPA system outage for failure to comply timely with the reporting requirement. To assert a claim of EPA system outage, the permittee must meet the requirements in §63.1981(m)(1) through (7). [§63.1981(m)]
- 7. *Claims of force majeure.* If the permittee is required to electronically submit a report through CEDRI in the EPA's CDX, the permittee may assert a claim of force majeure for failure to comply timely with the reporting requirements. To assert a claim a force majeure, the permittee must meet the requirements in §63.1981(n)(1) through (5). [§63.1981(n)]
- 8. The permittee shall report no later than 10 days after records indicate an exceedance of any of the emission limitations to the Air Pollution Control Program's Compliance/Enforcement Section at: [10 CSR 10-6.065(5)(C)1.C(III)(c)III]
 - a) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov **or**

- b) Any means that comply with 40 CFR Part 3.
9. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]

Recordkeeping:

1. The permittee must keep records as specified in MACT AAAA. The permittee must also keep records as specified in the general provisions of 40 CFR Part 63 as shown in Table 1 to MACT AAAA. [§63.1983]
2. Except as provided in §63.1981(d)(2), the permittee must keep at least for 5 years up-to-date, readily accessible, on-site records of the design capacity report that triggered §63.1959(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. [§63.1983(a)]
3. Except as provided in §63.1981(d)(2), the permittee must keep up-to-date, readily accessible records for the life of the control system equipment of the data listed in §63.1983(b)(1) through (5) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring must be maintained for a minimum of 5 years. Records of the control device vendor specifications must be maintained until removal. [§63.1983(b)]
 - a) To demonstrate compliance with §63.1959(b)(2)(ii): [§63.1983(b)(1)]
 - i) The maximum expected gas generation flow rate as calculated in §63.1960(a)(1). [§63.1983(b)(1)(i)]
 - ii) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §63.1962(a)(1) and (2). [§63.1983(b)(1)(ii)]
 - b) To demonstrate compliance with §63.1959(b)(2)(iii)(A) through the use of a non-enclosed flare, the flare type (*i.e.*, steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §63.11; continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame or flare flame is absent. [§63.1983(b)(4)]
4. Except as provided in §63.1981(d)(2), the permittee must keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in §63.1961 as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. [§63.1983(c)]
 - a) The permittee must keep up-to-date, readily accessible continuous records of the indication of flow to the control system and the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §63.1961(b)(2)(iii), (c)(2)(ii), and (g)(2). [§63.1983(c)(2)]
 - b) If the permittee uses a non-enclosed flare to comply with the provisions of MACT AAAA, they must keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §63.1961(c), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent. [§63.1983(c)(4)]

- c) If the permittee uses an active collection system designed in accordance with §63.1959(b)(2)(ii) to comply with §63.1959(b)(2), they must keep records of periods when the collection system or control device is not operating. [§63.1983(c)(5)]
 - d) To demonstrate compliance with the operation standard in §63.1958(e)(1), the permittee shall keep records of the date, time, and duration of each startup and/or shutdown period, recording the periods when the permittee was subject to the standard applicable to startup and shutdown. [§63.1983(c)(6)]
 - e) To demonstrate compliance with the operation standard in §63.1983(e)(1), in the event that an affected unit fails to meet an applicable standard, the permittee must record the information in §63.1983(c)(7)(i) through (iii): [§63.1983(c)(7)]
 - i) For each failure, record the date, time, and duration of each failure and the cause of such events (including unknown cause, if applicable). [§63.1983(c)(7)(i)]
 - ii) For each failure to meet an applicable standard; record and retain a list of the affected sources or equipment. [§63.1983(c)(7)(ii)]
 - iii) Record actions taken to minimize emissions in accordance with the general duty of §63.1955(c) and any corrective actions taken to return the affected unit to its normal or usual manner of operation. [§63.1983(c)(7)(iii)]
 - f) In lieu of the requirements specified in §63.8(d)(3) of 40 CFR Part 63 Subpart A, the permittee must keep the written procedures required by §63.8(d)(2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of MACT AAAA, to be made available for inspection, upon request, by the Director. If the performance evaluation plan is revised, the permittee must keep previous (*i.e.*, superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Director, for a period of 5 year after each revision to the plan. The program of corrective action should be included in the plan required under §63.8(d)(2). [§63.1983(c)(8)]
5. Except as provided in §63.1981(d)(2), the permittee must keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. [§63.1983(d)]
- a) The permittee must keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified under §63.1960(b). [§63.1983(d)(1)]
 - b) The permittee must keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as provided in §63.1962(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §63.1962(a)(3)(ii). [§63.1983(d)(2)]
6. Except as provided in §63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of the following: [§63.1983(e)]
- a) All collection and control system exceedances of the operational standards in §63.1958, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [§63.1983(e)(1)]
 - b) The permittee must keep records of each wellhead temperature monitoring value of greater than 55 degrees Celsius (131 degrees Fahrenheit), each wellhead nitrogen level at or above 20 percent, and each wellhead oxygen level at or above 5 percent, except: [§63.1983(e)(2)]
 - i) To demonstrate compliance with the provisions for wellhead temperature in

- §63.1958(c)(1), the records of each wellhead temperature monitoring value of 62.8 degrees Celsius (145 degrees Fahrenheit) or above instead of values greater than 55 degrees Celsius (131 degrees Fahrenheit). [§63.1983(e)(2)(i)]
- ii) If the permittee is required to conduct the enhanced monitoring provisions of §63.1961(a)(5), they must also keep records of all enhanced monitoring activities. [§63.1983(e)(2)(ii)]
 - iii) If the permittee is required to submit the *24-hour temperature report* in §63.1981(k), they must also keep a record of the email transmission. [§63.1983(e)(2)(iii)]
- c) For any root cause analysis for which corrective actions are required in §63.1960(a)(3)(i)(A) or (a)(4)(i)(A), keep a record of the root cause analysis conducted, including a description of the recommended corrective action(s) taken, and the date(s) the corrective action(s) were completed. [§63.1983(e)(3)]
 - d) For any root cause analysis for which corrective actions are required in §63.1960(a)(3)(i)(B) or (a)(4)(i)(B), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, and, for action(s) not already completed, a schedule for implementation, including a proposed commencement and completion dates. [§63.1983(e)(4)]
 - e) For any root cause analysis for which corrective actions are required in §63.1960(a)(3)(i)(C) or (a)(4)(i)(C), keep a record of the root cause analysis conducted, the corrective action analysis, the date for corrective action(s) already completed following the positive pressure reading or high temperature reading, for action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates, and a copy of any comments or final approval on the corrective action analysis or schedule from the Director. [§63.1983(e)(5)]
7. Except as provided in §63.1981(d)(2), the permittee must keep for at least 5 years up-to-date, readily accessible records of all collection and control system monitoring data for parameters measured in §63.1961(a)(1) through (6). [§63.1983(g)]
8. To demonstrate compliance with the operational standard for temperature in §63.1958(c)(1), the permittee must keep the following records. [§63.1983(h)]
- a) Records of the landfill gas temperature on a monthly basis as monitored in §63.1960(a)(4). [§63.1983(h)(1)]
 - b) Records of enhanced monitoring data at each well with a measurement of landfill gas temperature greater than 62.8 degrees Celsius (145 degrees Fahrenheit) as gathered in §63.1961(a)(5) and (6). [§63.1983(h)(2)]
 - i) Any records required to be maintained by MACT AAAA that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation. [§63.1983(h)(2)(i)]
9. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(5)(C)1.C(II)(b)I and 10 CSR 10-6.065(5)(C)1.G(V)]

PERMIT CONDITION 003

10 CSR 10-6.070, *New Source Performance Regulations*

40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Emission Unit	Description
EP-019	1,341 hp Diesel-fired Emergency Generator (2013)
EP-021	728 hp Diesel-fired Emergency Generator (2014)
EP-024	237 hp Diesel-fired Emergency Generator (2018)

MACT ZZZZ Compliance:

1. An affected source that meets any of the criteria in §63.6590(c)(1) through (7) must meet the requirements of 40 CFR Part 63, Subpart ZZZZ, by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for such engines under MACT ZZZZ. [§63.6590(c)]
 - a) A new or reconstructed stationary RICE located at an area source. [§63.6590(c)(1)]

Emission Standards:

1. The permittee must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [§60.4205(b)]
 - a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in §60.4202(a)(1) through (2). [§60.4202(a)]
 - i) For engines with a rated power greater than or equal to 37 KW (50 HP), the Tier 2 or Tier 3 emission standards for new nonroad CI engines for the same rated power as described in 40 CFR Part 1039, Appendix I, for all pollutants and the smoke standards as specified in 40 CFR 1039.105 beginning in model year 2007. [§60.4202(a)(2)]
2. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 over the entire life of the engine. [§60.4206]

Table 2 to Appendix I – Tier 2 Emission Standards (g/kW-hr)

Rated power (kW)	Applicable Units	Model Year	NO _x + NMHC	CO	PM
kW > 560	EP-019 and EP-021	2006 +	6.4	3.5	0.20

Table 3 to Appendix I – Tier 3 Emission Standards (g/kW-hr)

Rated power (kW)	Applicable Units	Model Year	NO _x + NMHC	CO	PM
130 ≤ kW ≤ 560	EP-024	2006 +	4.0	3.5	0.20

Fuel Requirements:

1. The permittee must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel. [§60.4207(b)]
 - a) Except as specified in §1090.300(a), diesel fuel must meet the ULSD per-gallon standards of §1090.305. [§1090.305(a)]
 - b) **Sulfur standard.** Maximum sulfur content of 15 ppm. [§1090.305(b)]
 - c) **Cetane index or aromatic content.** Diesel fuel must meet one of the following standards: [§1090.305(c)]
 - i) Minimum cetane index of 40. [§1090.305(c)(1)]
 - ii) Maximum aromatic content of 35 volume percent. [§1090.305(c)(2)]

Other Requirements

1. After December 31, 2008, the permittee may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines. [§60.4208(a)]
2. In addition to the requirements specified in §60.4202 and §60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in §60.4208(a) through (g) after the dates specified in §60.4208(a) through (g). [§60.4208(h)]
3. The requirements of §60.4208 do not apply to stationary CI ICE that have been modified or reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location. [§60.4208(i)]

Monitoring:

1. The permittee must install a non-resettable hour meter prior to startup of the engine. [§60.4209(a)]

Compliance Requirements:

1. The permittee must do all the following, except as permitted under §60.4211(g): [§60.4211(a)]
 - a) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [§60.4211(a)(1)]
 - b) Change only those emission-related settings that are permitted by the manufacturer; and [§60.4211(a)(2)]
 - c) Meet the requirements of 40 CFR Part 1068, as they apply. [§60.4211(a)(3)]
2. The permittee must comply by purchasing an engine certified to the emission standards in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g). [§60.4211(c)]
3. The permittee must operate the emergency stationary ICE according to the requirements in §60.4211(f)(1) through (3). For the engine to be considered an emergency stationary ICE under NSPS IIII, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in §60.4211(f)(1) through (3), is prohibited. If the permittee does not operate the engine according to the requirements in §60.4211(f)(1) through (3), the engine will not be

considered an emergency engine under NSPS IIII and must meet all requirements for non-emergency engines. [§60.4211(f)]

- a) There is no time limit on the use of emergency stationary ICE in emergency situations. [§60.4211(f)(1)]
- b) The permittee may operate the emergency stationary ICE for the purpose specified in §60.4211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by §60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph. [§60.4211(f)(2)]
 - i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [§60.4211(f)(2)(i)]
- c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in §60.4211(f)(2). Except as provided in §60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [§60.4211(f)(3)]
 - i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all the following conditions are met: [§60.4211(f)(3)(i)]
 - (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; [§60.4211(f)(3)(i)(A)]
 - (2) The dispatch is intended to mitigate local transmission and/or distribution limitations to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. [§60.4211(f)(3)(i)(B)]
 - (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines. [§60.4211(f)(3)(i)(C)]
 - (4) The power is provided only to the facility itself or to support the local transmission and distribution system. [§60.4211(f)(3)(i)(D)]
 - (5) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee. [§60.4211(f)(3)(i)(E)]
4. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows: [§60.4211(g)]

- a) **For EP-024:** The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within one year of startup, or within one year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within one year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. [§60.4211(g)(2)]
- b) **For EP-019 and EP-021:** The permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within one year of startup, or within one year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within one year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. The permittee must conduct subsequent performance testing every 8,760 hours of engine operation or three years, whichever comes first, thereafter, to demonstrate compliance with the applicable emission standards. [§60.4211(g)(3)]

Testing Requirements:

1. Performance tests must be conducted according to the procedures in §60.4212(a) through (e). [§60.4212]

General Provisions:

1. The permittee shall comply with 40 CFR Part 60, Subpart A as specified in Table 8 to NSPS IIII. [§60.4218(a)]

Notifications, Reporting, and Recordkeeping:

1. The permittee is not required to submit an initial notification. The permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee must record the time of operation of the engine and the reason the engine was in operation during that time. [§60.4214(b)]
2. **For EP-019 and EP-021:** If the emergency stationary CI ICE operates for the purpose specified in §60.4211(f)(3)(i), the permittee must submit an annual report according to the requirements in §60.4214(d)(1) through (3). [§60.4214(d)]
 - a) The report must contain the following information: [§60.4214(d)(1)]
 - i) Company name and address where the engine is located. [§60.4214(d)(1)(i)]
 - ii) Date of the report and beginning and ending dates of the reporting period. [§60.4214(d)(1)(ii)]
 - iii) Engine site rating and model year. [§60.4214(d)(1)(iii)]
 - iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place. [§60.4214(d)(1)(iv)]

- v) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine. [§60.4214(d)(1)(vii)]
 - b) The annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. [§60.4214(d)(2)]
 - c) The annual report must be submitted electronically according to §60.4214(g). [§60.4214(d)(3)]
3. Within 60 days after the date of completing each performance test required by NSPS IIII, the permittee must submit the results of the performance test required under §60.4214 following the procedures specified in §60.4214(f)(1) and (2). [§60.4214(f)]
 4. The permittee must submit notifications or reports to EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). EPA will make all the information submitted through CEDRI available to the public without further notice. Do not use CEDRI to submit information the permittee claims as CBI. If the permittee wishes to assert a CBI claim for some of the information in the report or notification, the permittee must submit a complete file in the format specified in NSPS IIII, including information claimed to be CBI, to EPA following the procedures in §60.4214(g)(1) and (2). Clearly mark the part or all the information that the permittee claims to be CBI. Information not marked as CBI may be authorized for public release without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2. All CBI claims must be asserted at the time of submission. Anything submitted using CEDRI cannot later be claimed CBI. Furthermore, under CAA §114(c), emissions data is not entitled to confidential treatment, and EPA is required to make emissions data available to the public. Thus, emissions data will not be protected as CBI and will be made publicly available. The permittee must submit the same file submitted to the CBI office with the CBI omitted to EPA via EPA's CDX as described earlier in this paragraph. [§60.4214(g)]
 5. If the permittee is required to electronically submit a report through CEDRI in EPA's CDX, the permittee may assert a claim of EPA system outage for failure to timely comply with that reporting requirement. To assert a claim of EPA system outage, the permittee must meet the requirements outlined in §60.4214(h)(1) through (7). [§60.4214(h)]
 6. If the permittee is required to electronically submit a report through CEDRI in EPA's CDX, the permittee may assert a claim of force majeure for failure to timely comply with that reporting requirement. To assert a claim of force majeure, the permittee must meet the requirements outlined in §60.4214(i)(1) through (5). [§60.4214(i)]
 7. Any records required to be maintained by NSPS IIII that are submitted electronically via EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to the Director or EPA as part of an on-site compliance evaluation. [§60.4214(j)]
 8. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(5)(C)1.C(II)(b)I and 10 CSR 10-6.065(5)(C)1.G(V)]
 9. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]

PERMIT CONDITION 004

10 CSR 10-6.060 Construction Permits Required
Permit 042018-005B, Issued July 16, 2024

Emission Unit	Description	Control Equipment
EP-01	Municipal Solid Waste Landfill – fugitive landfill gas emissions	GCCS, EP-011, EP-012, EP-014
EP-011	3,500 non-enclosed flare	None
EP-012	4,000 non-enclosed flare	None
EP-014	2,500 non-enclosed flare	None

Operational Limitations:

1. The permittee shall combust the landfill gas collected by the gas collection system using flares (EP-011, EP-012, and EP-014). [Special Condition 3.A]
2. For units that combust fuel oil, the permittee shall only combust fuel oil with a sulfur content of 15 ppmv or less. [Special Condition 3.C]
3. As long as the permittee is subject to 10 CSR 10-5.490, the permittee shall supplement combustion of the landfill gas with natural gas in the event landfill gas methane concentrations are below 22.5% by volume. [Special Condition 3.D]

Landfill Gas Flow Monitoring and Landfill Gas Sulfur Content Sampling:

1. Landfill gas flow rates: [Special Condition 4.A]
 - a) The permittee shall install and operate flow meters at each flare (EP-011, EP-012, and EP-014) and the main blower station to quantify the gas flow rate. Each flow meter shall be measured and recorded separately. Flare flow rates shall be recorded at least every 15 minutes, consistent with 10 CSR 10-5.490(3)(G). [Special Condition 4.A.1]
 - b) The permittee shall operate and maintain all flow meters used for any compliance demonstrations in accordance with the manufacturer's specifications, which shall be kept on site. All flow meters used for compliance demonstrations must be directly calibrated using EPA Methods on a monthly basis. [Special Condition 4.A.2]
2. Landfill gas sulfur content: [Special Condition 4.B]
 - a) The permittee shall collect landfill gas samples at the main blower station using summa canisters. [Special Condition 4.B.1]
 - b) The permittee shall conduct testing on the landfill gas samples to quantify sulfur compounds using ASTM D5504-12 or an alternative approved by the Air Pollution Control Program's Compliance/Enforcement Section. Testing results shall be in units of ppmv. [Special Condition 4.B.2]
 - c) The permittee shall conduct sampling on the frequency details in Table 042018B. The SO₂ emissions shall be calculated using Attachment E, or an equivalent form, such as an electronic form. [Special Condition 4.B.3]

Table 042018B: LFG Sulfur Content Sampling Frequency

SO₂ Emissions	Sampling shall be performed a minimum of...
If 12 month rolling emissions are less than or equal to 75 tons:	Twice per month, with testing being between 12 and 18 days apart.
If 12 month rolling emissions are less than 75 tons, but greater than or equal to 50 tons:	Monthly.
If 12 month rolling emissions are less than 50 tons:	Annually, to be conducted between 11 and 13 months from the previous test.

Recordkeeping/Reporting:

1. The permittee shall maintain an operating and maintenance log for all flares (EP-011, EP-012, and EP-014) which shall include the following: [Special Condition 3.B]
 - a) Dates of all incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and [Special Condition 3.B.1]
 - b) Dates of all maintenance activities, with inspection schedule, repair actions, and replacements. [Special Condition 3.B.2]
2. The permittee shall maintain an operating and maintenance log for all flow meters used for compliance demonstrations which shall include the following: [Special Condition 4.A.3]
 - i) Dates of all incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and [Special Condition 4.A.3)a.]
 - ii) Dates of all maintenance activities, with inspection schedule, repair actions, and replacements. [Special Condition 4.A.3)b.]
3. The permittee shall maintain all records required by this permit for not less than 5 years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Special Condition 6.B]
4. The permittee shall report no later than 10 days after records indicate an exceedance of any of the limitations to both of the following: [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
 - a) The Air Pollution Control Program's Compliance/Enforcement Section at:
 - i) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov **or**
 - ii) Any means that comply with 40 CFR Part 3.
 - b) The St. Louis County Department of Health at 6121 N. Hanley Rd., Berkley, MO 63134 **or** AirComplianceReporting.dph@stlouiscountymo.gov.
5. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]

PERMIT CONDITION 005

10 CSR 10-6.060 Construction Permits Required
St. Louis County Construction Permit #7864A and #7865A

Emission Unit	Description
EP-015	One 316,000-gallon and Four 1,000,000-gallon leachate treatment tanks
EP-018a	2.75 MMBtu/hr Regenerative Thermal Oxidizer
EP-018b	2.75 MMBtu/hr Regenerative Thermal Oxidizer

Control Device Requirement – Thermal Oxidizer:

1. The permittee shall control emission and odors from the following Leachate Management System equipment using the thermal oxidizer(s): [Special Condition 2.A]
 - a) Four (4) 1-million-gallon leachate treatment tanks [Special Condition 2.A.1]
 - b) One (1) 316,000-gallon leachate treatment tank [Special Condition 2.A.2]
2. Thermal oxidizer control devices shall be operated, maintained, and calibrated in accordance with the manufacturer's specifications. [Special Condition 2.B]
3. The thermal oxidizer(s) shall be equipped with a monitoring device that indicates and records the combustion temperature while in operation. [Special Condition 2.C]
4. The permittee shall maintain an operating and maintenance log for the flow meter which shall include the following information: [Special Condition 2.D]
 - a) Incidents of malfunction, duration of event, probable cause, and corrective actions; and [Special Condition 2.D.1]
 - b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Special Condition 2.D.2]
 - c) An operation log for each RTO. [Special Condition 2.D.3]
 - d) Dates and times of the above. [Special Condition 2.D.4]

Recordkeeping/Reporting:

1. The permittee shall maintain all records required by this permit condition for not less than five (5) years and shall make them available immediately to any Saint Louis County Department of Public Health or Missouri Department of Natural Resources' personnel upon request. [Special Condition 3.A]
2. The permittee shall report to the Saint Louis County Department of Public Health Air Pollution Control Program, 6121 N Hanley Road, Berkeley, MO 63134 (or current address) via email at aircompliancereporting.dph@stlouiscountymo.gov and to Missouri Department of Natural Resources Air Pollution Control Program Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65201 no later than 10 days after the end of the month during which any record required by this permit condition shows an exceedance of a limitation imposed by this permit condition. [Special Condition 3.B]

PERMIT CONDITION 006 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants		
Emission Unit	Description	Control Device
EP-023	Elevated Soda Ash Storage Silo (located at WWTP), MHDR; 25 tpy	Baghouse

Emission Limitation:

1. The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20% for any continuous six-minute period. [10 CSR 10-6.220(3)(A)1]
2. Exception: The permittee may discharge into the atmosphere from any emission unit visible emissions with an opacity up to 40% for one continuous six-minute period in any 60 minutes. [10 CSR 10-6.220(3)(A)2]
3. Failure to demonstrate compliance with 10 CSR 10-6.220(3)(A) solely because of the presence of uncombined water shall not be a violation. [10 CSR 10-6.220(3)(B)]

Monitoring: [10 CSR 10-6.065(5)(C)1.C]

1. The permittee shall conduct visible emissions observation on these emission units using the procedures contained in U.S. EPA Test Method 22. Each Method 22 observation shall be conducted for a minimum of six-minutes. If no visible emissions are observed from the emission unit using Method 22, then no Method 9 is required for the emission unit.
2. For emission units with visible emissions, the permittee shall have a certified Method 9 observer conduct a U.S. EPA Test Method 9 opacity observation. The permittee may choose to forego Method 22 observations and instead begin with a Method 9 opacity observation. The certified Method 9 observer shall conduct each Method 9 opacity observation for a minimum of 30-minutes.
3. For both Method 22 and Method 9, a single observer may conduct observations for up to three emission points within a 15-second interval if the following conditions are met:
 - a) No more than three emission points may be read concurrently.
 - b) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.
 - c) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.
4. Monitoring schedule:
 - a) The permittee shall conduct weekly observations for a minimum of eight consecutive weeks. Should no violation of this regulation be observed during this period then:
 - i) The permittee shall conduct observations once every two weeks for a period of eight weeks. If a violation is noted, the permittee shall revert to weekly monitoring. Should no violation of this regulation be observed during this period then:
 - (1) The permittee shall conduct observations once per month. If a violation is noted, the permittee shall revert to weekly monitoring.
5. If the permittee reverts to weekly monitoring at any time, the monitoring schedule shall progress in an identical manner from the initial monitoring schedule.

6. Observations are only required when the emission units are operating and when the weather conditions allow.
7. Issuance of a new, amended, or modified operating permit does not restart the monitoring schedule.

Record Keeping:

1. The permittee shall maintain records of all observation results for each emission unit using Attachments B and C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program. [10 CSR 10-6.065(5)(C)1.C]
2. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(5)(C)1.C(II)(b)I and 10 CSR 10-6.065(5)(C)1.G(V)]

Reporting:

1. The permittee shall report no later than 10 days after records indicate an exceedance of any of the emission limitations to the Air Pollution Control Program's Compliance/Enforcement Section at: [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
 - a) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov **or**
 - b) Any means that comply with 40 CFR Part 3.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]

PERMIT CONDITION 007

10 CSR 10-5.500, *Control of Emissions from Volatile Organic Liquid Storage*

Emission Unit	Description
EP-015	One 316,000-gallon and Four 1,000,000-gallon leachate treatment tanks
EP-I07	1,000-gallon Off-Road Diesel Tank
EP-I08	One 95-gallon Gasoline Tank
EP-I09	528-gallon Off-Road Diesel Tank
EP-I11	97,000-gallon Treated Leachate Tank
EP-I10	24 Leachate Frac Tanks, 21,000-gallon each

Recordkeeping:

1. The permittee shall maintain readily accessible records of the dimensions of the storage vessel and an analysis of the capacity of the storage vessel. [10 CSR 10-5.500(4)(E)]
2. The permittee shall maintain the records described in 10 CSR 10-5.500(4)(E) for the life of the source. The records required by this rule shall be made available to the Department immediately upon request. [10 CSR 10-5.500(4)(H)]

Reporting:

1. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit. [10 CSR 10-6.065(5)(C)1.C(III)(b)]
2. All reports and certifications shall be submitted to both of the following: [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
 - a) The Air Pollution Control Program's Compliance/Enforcement Section at:
 - i) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov
or
 - ii) Any means that comply with 40 CFR Part 3.
 - b) The St. Louis County Department of Health at 6121 N. Hanley Rd., Berkley, MO 63134
or AirComplianceReporting.dph@stlouiscountymo.gov.

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the CFR, CSR, Missouri's SIP, and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance. The following are only excerpts from the regulation or code and are provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

1. This regulation prohibits the open burning of the following materials:
 - a) Petroleum-based materials, including but not limited to, tires, asphalt roofing material, carpet, and used oils;
 - b) Asbestos containing materials;
 - c) Trade waste, except untreated wood;
 - d) Construction or demolition waste, except untreated wood;
 - e) Salvage operation waste;
 - f) Household waste on or from properties with five or more residential units, such as mobile home parks or multi-family dwellings;
 - g) Household waste originated from another's property; or
 - h) Durable goods.
2. Open burning of certain materials, in certain areas of the state, and/or during specific times of the year are subject to additional requirements. The permittee should review 10 CSR 10-6.045 and local ordinances to see if additional restrictions apply prior to conducting open burning.

10 CSR 10-6.050 Start-up, Shutdown, and Malfunction Conditions

1. In the event of a malfunction, which results in excess emissions that exceeds one hour, the permittee shall notify the Air Pollution Control Program in the form of a written report submitted within two business days. The written report shall include, at a minimum, the following: [10 CSR 10-6.050(3)(A)]
 - a) Name and location of installation; [10 CSR 10-6.050(3)(A)1]
 - b) Name and telephone number of person responsible for the installation; [10 CSR 10-6.050(3)(A)2]
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered; [10 CSR 10-6.050(3)(A)3]
 - d) Identity of the equipment causing the excess emissions; [10 CSR 10-6.050(3)(A)4]
 - e) Time and duration of the period of excess emissions; [10 CSR 10-6.050(3)(A)5]
 - f) Cause of the excess emissions; [10 CSR 10-6.050(3)(A)6]
 - g) Air pollutants involved; [10 CSR 10-6.050(3)(A)7]
 - h) Estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude; [10 CSR 10-6.050(3)(A)8]
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and [10 CSR 10-6.050(3)(A)9]
 - j) Measures taken to remedy the situation which caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations. [10 CSR 10-6.050(3)(A)10]

2. The permittee shall notify the Air Pollution Control Program at least 10 days prior to any maintenance, start-up, or shutdown activity, which is expected to cause an excess release of emissions that exceeds one hour. If notification cannot be given 10 days prior to any maintenance, start-up, or shutdown activity, which is expected to cause an excess release of emissions that exceeds one hour, notification shall be given as soon as practicable prior to the maintenance, start-up, or shutdown activity. If prior notification is not given for any maintenance, start-up, or shutdown activity which resulted in an excess release of emissions that exceeded one hour, notification shall be given within two business days of the release. In all cases, the notification shall be a written report and include, at a minimum, the following: [10 CSR 10-6.050(3)(B)]
 - a) Name and location of installation; [10 CSR 10-6.050(3)(B)1]
 - b) Name and telephone number of person responsible for the installation; [10 CSR 10-6.050(3)(B)2]
 - c) Identity of the equipment involved in the maintenance, start-up, or shutdown activity; [10 CSR 10-6.050(3)(B)3]
 - d) Time and duration of the period of excess emissions; [10 CSR 10-6.050(3)(B)4]
 - e) Type of activity and the reason for the maintenance, start-up, or shutdown; [10 CSR 10-6.050(3)(B)5]
 - f) Type of air contaminant involved; [10 CSR 10-6.050(3)(B)6]
 - g) Estimate of the magnitude of the excess emissions expressed in the units of the applicable emission control regulation and the operating data and calculations used in estimating the magnitude; [10 CSR 10-6.050(3)(B)7]
 - h) Measures taken to mitigate the extent and duration of the excess emissions; and [10 CSR 10-6.050(3)(B)8]
 - i) Measures taken to remedy the situation which caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations. [10 CSR 10-6.050(3)(B)9]
3. Upon receipt of a notice of excess emissions issued by the Missouri Department of Natural Resources or an agency holding a certificate of authority under §643.140, RSMo, the source to which the notice is issued may provide information showing that the excess emissions were the consequence of a malfunction, start-up, or shutdown. Based upon any information submitted by the source operator and any other pertinent information available, the Director or the commission shall decide whether the excess emissions constitute a malfunction, start-up, or shutdown and whether the nature, extent, and duration of the excess emissions warrant enforcement action under §643.080 or §643.151, RSMo. [10 CSR 10-6.050(3)(C)]
 - a) The information provided by the source operator under 10 CSR 10-6.050(3)(C) shall include, at a minimum, the following: [10 CSR 10-6.050(3)(C)2]
 - i) Written notification per 10 CSR 10-6.050(3)(A) for malfunctions which resulted in excess emissions that exceeded one hour; or [10 CSR 10-6.050(3)(C)2.A]
 - ii) Written notification per 10 CSR 10-6.050(3)(B) for maintenance, start-up, or shutdown activities which resulted in excess emissions that exceeded one hour. [10 CSR 10-6.050(3)(C)2.B]
4. The information specified in 10 CSR 10-6.050(3)(C)2 shall be submitted to the Director not later than 15 days after receipt of the notice of excess emissions. Information regarding the type and amount of emissions and time of the episode shall be recorded and kept on file.

This data shall be included in emissions reported on any required EIQ. [10 CSR 10-6.050(4)(A)]

5. The information submitted according to 10 CSR 10-6.050(3)(A), (3)(B), and (3)(C)2 shall be kept on file at the installation for a period of five years. This data shall be included in emissions reported on any required EIQ. The information shall be available to the Director upon request. [10 CSR 10-6.050(4)(B)]

10 CSR 10-6.060 Construction Permits Required

1. The permittee shall obtain a construction permit prior to any of the following activities: [10 CSR 10-6.060(1)(C)]
 - a) The beginning of actual construction, modification, or major modification of any installation subject to this rule; [10 CSR 10-6.060(1)(C)1]
 - b) Operation after construction, modification, or major modification; or [10 CSR 10-6.060(1)(C)2]
 - c) Operation of any emission unit that has been permanently shut down. [10 CSR 10-6.060(1)(C)3]

10 CSR 10-6.110 Reporting Emission Data, Emission Fees, and Process Information

1. The permittee shall pay an annual emission fee per ton of primary PM₁₀, SO₂, NO_x, VOC, HAP (excluding HAP reported as PM₁₀ or VOC), and Lead based on previous calendar year emissions and in accordance with 10 CSR 10-6.110(3)(A)2 through (3)(A)7. The emission fee shall be \$58.00/ton emitted in calendar year 2025, \$60.00/ton emitted in calendar year 2026, and \$62.00/ton emitted in calendar year 2027 and beyond. [10 CSR 10-6.110(3)(A)1 **State Enforceable Only**]
2. The permittee shall pay an annual base fee in addition to any applicable emission fees. The annual base fee specified as follows, due June 1 the following year: [10 CSR 10-6.110(3)(A)8 **State Enforceable Only**]

Base Fee	Actual Emissions Threshold (tons)
\$100	0-10
\$250	11-20
\$500	21-100
\$1,500	101-500
\$2,500	501+

3. Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request. [10 CSR 10-6.110(3)(D)]
4. All data collected and recorded in accordance with the provisions of this rule shall be retained by the permittee for not less than five years after the end of the calendar year in which the data was collected, and all these records shall be made available upon the Director's request. [10 CSR 10-6.110(4)]
5. The permittee shall collect information as required in 10 CSR 10-6.110(4). The information required in the emissions report is listed in Table 4 of this rule. All data elements must be reported initially and only changed data elements must be reported subsequently. To ensure permit consistency, the Air Pollution Control Program Emissions Inventory Unit will help identify and quantify the data elements in Table 4 of this rule. [10 CSR 10-6.110(4)(A)]
6. The permittee shall submit a Full Emissions Report annually. [10 CSR 10-6.110(4)(B)2.A]

7. The Full Emissions Report shall be submitted either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on EIQ paper forms. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the Director. [10 CSR 10-6.110(4)(C)1]
8. The Full Emissions Report is due April 1 after each reporting year. If the Full Emissions Report is filed electronically via MoEIS, this due date is extended to May 1. [10 CSR 10-6.110(4)(C)3]

10 CSR 10-6.130 Controlling Emissions during Episodes of High Air Pollution Potential

The permittee shall submit a purple or maroon plan within 60 days of a request from the Director. [10 CSR 10-6.130(4)]

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceal or dilute an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission. [10 CSR 10-6.150(1)]

10 CSR 10-6.165 Restriction of Emission of Odors

This requirement is a State Only permit requirement.

The permittee may not cause, permit, or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary. [10 CSR 10-6.165(3)]

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

1. The permittee shall not cause or allow fugitive particulate matter emissions to- [10 CSR 10-6.170(3)(A)1]
 - a) Remain visible in the ambient air beyond the property line of origin. [10 CSR 10-6.170(3)(A)1.B]
 - b) Go beyond the premises of origin in such quantities that the particulate matter may be found on surfaces beyond the property line of origin due to the following activities: [10 CSR 10-6.170(3)(A)1.A]
 - i) Handling, transporting, or storing of any material; [10 CSR 10-6.170(3)(A)1.A(I)]
 - ii) Construction, repair, cleaning, or demolition of a building or its appurtenances; [10 CSR 10-6.170(3)(A)1.A(II)]
 - iii) Construction or use of a road, driveway, or open area; or [10 CSR 10-6.170(3)(A)1.A(III)]
 - iv) Operation of a commercial or industrial facility. [10 CSR 10-6.170(3)(A)1.A(IV)]
2. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the Director. [10 CSR 10-6.170(3)(A)2]
3. Should it be determined that noncompliance has occurred, the Director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following: [10 CSR 10-6.170(3)(B)]

- a) Revision of procedures involving construction, repair, cleaning, and demolition of buildings and their appurtenances that produce particulate matter emissions; [10 CSR 10-6.170(3)(B)1]
- b) Paving or frequent cleaning of roads, driveways, and parking lots; [10 CSR 10-6.170(3)(B)2]
- c) Application of dust-free surfaces; [10 CSR 10-6.170(3)(B)3]
- d) Application of water; and [10 CSR 10-6.170(3)(B)4]
- e) Planting and maintenance of vegetative ground cover. [10 CSR 10-6.170(3)(B)5]

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1. The Director may require the permittee to conduct tests to determine the quantity or nature, or both, of their air contaminant emissions. [10 CSR 10-6.180(3)(A)]
 - a) The Director may specify test methods to be used and observe testing as it is performed. [10 CSR 10-6.180(3)(A)1]
 - b) All tests must be performed by qualified personnel. [10 CSR 10-6.180(3)(A)2]
 - c) The Director shall be provided a copy of the test results in writing and signed by the person responsible for the tests. [10 CSR 10-6.180(3)(A)3]
- 2. The Director may conduct tests of emissions of air contaminants from any source. Upon the Director's request, the permittee shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants. [10 CSR 10-6.180(3)(B)]

10 CSR 10-6.230 Administrative Penalties

- 1. Pursuant to §643.085, RSMo, and in addition to any other remedy provided by law, upon determination by the Department that a provision of §643.010–§643.250, RSMo, or a standard, limitation, order or rule promulgated, or a term or condition of any permit has been violated, the Director may issue an order assessing an administrative penalty upon the violator. The amount of the administrative penalty will be determined according to 10 CSR 10-6.230(6). In no event may the total penalty assessed per day of violation exceed the statutory maximum specified in §643.151, RSMo. [10 CSR 10-6.230(3)(A)]
- 2. An administrative penalty shall not be imposed until the Department has sought to resolve the violations through conference, conciliation and persuasion and shall not be imposed for minor violations. If the violation is resolved through conference, conciliation and persuasion, no administrative penalty shall be assessed unless the violation has caused, or had the potential to cause, a risk to human health or to the environment, or has caused or has potential to cause pollution, or was knowingly committed, or is not a minor violation. [10 CSR 10-6.230(3)(B)]
- 3. An order assessing an administrative penalty shall be served upon the operator, owner or appropriate representative through United States Postal Service certified mail, return receipt requested, a private courier or messenger service which provides verification of delivery or by hand delivery to the operator's or owner's residence or place of business. An order assessing an administrative penalty shall be considered served if verified receipt is made by the operator, owner or appropriate representative. A refusal to accept, or a rejection of certified mail, private courier or messenger service delivery or by hand delivery of an order assessing an administrative penalty constitutes service of the order. [10 CSR 10-6.230(3)(C)]

4. The Director may at any time withdraw without prejudice any administrative penalty order. [10 CSR 10-6.230(3)(D)]
5. An order assessing an administrative penalty shall describe the nature of the violation(s), the amount of the administrative penalty being assessed and the basis of the penalty calculation. [10 CSR 10-6.230(3)(E)]

10 CSR 10-6.250 Asbestos Projects - Certification, Accreditation, and Business Exemption Requirements

This is a State Only permit requirement.

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the Department to monitor training provided to employees.

10 CSR 10-6.280 Compliance Monitoring Usage

1. For submission of compliance certificates, the permittee may use the following in addition to any specified compliance methods: [10 CSR 10-6.280(3)(A)]
 - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(A)1]
 - b) Monitoring method(s) approved within this operating permit; and [10 CSR 10-6.280(3)(A)2]
 - c) Any other monitoring methods approved by the Director. [10 CSR 10-6.280(3)(A)3]
2. Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of an applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation: [10 CSR 10-6.280(3)(B)]
 - a) Monitoring methods outlined in 40 CFR Part 64; [10 CSR 10-6.280(3)(B)1]
 - b) A monitoring method approved within this operating permit; and [10 CSR 10-6.280(3)(B)2]
 - c) Compliance test methods specified in 10 CSR 10-6.280 cited as the authority for the emission limitations. [10 CSR 10-6.280(3)(B)3]
3. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information gathering methods: [10 CSR 10-6.280(5)]
 - a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030 Sampling Methods for Air Pollution Sources;
 - ii) 10 CSR 10-6.040 Reference Methods;
 - iii) 10 CSR 10-6.070 NSPS;
 - iv) 10 CSR 10-6.075 MACT Regulations; and
 - v) 10 CSR 10-6.080 NESHAP; or [10 CSR 10-6.280(5)(A)]
 - b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed in 10 CSR 10-6.280(3)(B) or (5)(A). [10 CSR 10-6.280(5)(B)]

10 CSR 10-5.040 Control of Emissions From Hand-Fired Equipment

1. The permittee shall not operate applicable hand-fired fuel-burning equipment unless the following conditions are met: [10 CSR 10-5.040(3)]
 - a) Hand-fired equipment shall be operated to minimize emissions at all times. This includes, but is not limited to, following all manufacturers' operation and maintenance guidelines; [10 CSR 10-5.040(3)(A)]
 - b) Hand-fired equipment must be commercially manufactured; [10 CSR 10-5.040(3)(B)]
 - c) Hand-fired equipment may only burn process waste generated onsite; [10 CSR 10-5.040(3)(C)]
 - d) Equipment shall have a permanent stack extending five feet higher than the peak of any roof structure located within 150 feet; [10 CSR 10-5.040(3)(D)]
 - e) Fuel shall be clean wood with a moisture content less than or equal to 25%; and [10 CSR 10-5.040(3)(E)]
 - f) Each piece of equipment shall burn no more than 30 tons of fuel per calendar year. [10 CSR 10-5.040(3)(F)]
2. The permittee shall keep records to determine compliance. [10 CSR 10-5.040(4)(A)]
3. Records verifying that only dry wood was used for fuel may be used to demonstrate compliance with the moisture content requirement. [10 CSR 10-5.040(4)(B)]
4. Records shall be retained by the permittee for a minimum of five years. These records shall be made available to the Director upon request. [10 CSR 10-5.040(4)(C)]

10 CSR 10-5.060 Refuse Not to be Burned in Fuel Burning Installations

This is a Federal Only permit requirement.

The permittee shall not burn or cause or permit the burning of refuse in any installation which is designed for the primary purpose of burning fuel. [10 CSR 10-5.060]

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)

This is a Federal Only permit requirement.

1. The permittee shall comply with the ozone-depleting substances (ODS) Phaseout Program, Exemption Programs, Imports & Exports Program, ODS Destruction Program, Stationary Refrigeration and Air Condition Program, Motor Vehicle Air Conditioning Program, Halons Program, Nonessential Products Ban Program, Labeling Program, and Significant New Alternatives Policy (SNAP) Program requirements at 40 CFR Part 82.
 - a) The ODS Phaseout Program bans the production and import of Class I ODS and phases out the production and import of Class II ODS.
 - b) The Exemption Programs exclude specific uses of ODS from the phaseout, such as CFC-MDIs and methyl bromide.
 - c) The Imports & Exports Program establishes recordkeeping, reporting, and other requirements for importing virgin and used Class I and Class II substances.
 - d) The ODS Destruction Program establishes acceptable practices for destroying ODS in the United States.
 - e) The Stationary Refrigeration and Air Conditioning Program establishes service practices, technician certification, sales restrictions, and other requirements for these appliances and systems.
 - f) The Motor Vehicle Air Conditioning Program establishes servicing, technician certification, small can sales restrictions, and other requirements for these air-conditioning systems.

- g) The Halons Program establishes installation, handling, and emissions requirements for halon fire suppression systems.
- h) The Nonessential Products Ban Program concerns the ban on sale and introduction into interstate commerce of certain products manufactured with or containing ODS.
- i) The Labeling Program establishes labeling requirements for ODS containers or products manufactured with ODS.
- j) The SNAP Program identifies and evaluates substitutes for ozone-depleting substances.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the CFR, CSR, and Missouri's SIP for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

Permit Duration and Extension of Expired Permits

1. This permit is issued for a term of five years, commencing on the date of issuance. [10 CSR 10-6.065(5)(C)1.B]
2. The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than 18 months. [10 CSR 10-6.065(5)(B)1.A(III)]
3. This permit will expire at the end of this period unless renewed. If a timely and complete application for a permit renewal is submitted, but the Air Pollution Control Program fails to take final action to issue or deny the renewal permit before the end of the term of the previous permit, the previous permit shall not expire until the renewal permit is issued or denied. Any permit shield granted under the previous permit shall continue in effect during this period of time. However, the Administrator may invoke its authority under §505(e) of the Act to terminate or revoke and reissue the permit. [10 CSR 10-6.065(5)(E)3.C]

General Record Keeping and Reporting Requirements

1. Record Keeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings when used for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form. [10 CSR 10-6.065(5)(C)1.C(II)(b)I]
 - b) Affected sources under Title IV of the Act have a three-year monitoring data record retention period as required in 40 CFR 75. [10 CSR 10-6.065(5)(C)1.C(II)(b)II]
2. Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program's Compliance and Enforcement Section at:
 - i) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov or
 - ii) Any means that comply with 40 CFR Part 3.
 - b) The permittee shall submit a report of all required monitoring by: [10 CSR 10-6.065(5)(C)1.C(III)(a)]
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of this permit; this includes deviations or 40 CFR Part 64 exceedances. [10 CSR 10-6.065(5)(C)1.C(III)(b)]
 - d) Submit supplemental reports as required or as needed. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken. [10 CSR 10-6.065(5)(C)1.C(III)(c)]

- i) Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported as soon as practicable. [10 CSR 10-6.065(5)(C)1.C(III)(c)I]
- ii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit. [10 CSR 10-6.065(5)(C)1.C(III)(c)II]
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within 10 days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within 10 days after that, together with any corrected or supplemental information required concerning the deviation. [10 CSR 10-6.065(5)(C)1.C(III)(d)]
- f) The permittee may request confidential treatment of information submitted in any report of deviation. [10 CSR 10-6.065(5)(C)1.C(III)(e)]

Risk Management Plan Under §112(r)

1. If applicable, the permittee shall develop and register a risk management plan pursuant to §112(r) of the Act, the permittee shall submit either of the following: [40 CFR 68.215(a)(2)]
 - a) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the dates specified in §68.10(a) through (f) and §68.96(a) and (b)(2)(i). This compliance schedule shall be submitted to: [40 CFR 68.215(a)(2)(i)]
 - i) For anhydrous ammonia: the Air Pollution Control Program's Compliance and Enforcement Section at:
 - (1) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov or
 - (2) Any means that comply with 40 CFR Part 3.
 - ii) For all other 40 CFR Part 68 regulated chemicals: EPA using the RMP* eSubmit system accessible through EPA's Central Data Exchange (CDX)
 - b) As part of the installation's annual compliance certification, a certification statement that the source is in compliance with the requirements of 40 CFR Part 68, including the registration and submission of the RMP. [40 CFR 68.215(a)(2)(ii)]

Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit. [10 CSR 10-6.065(5)(C)1.F]

General Requirements

1. The permittee must comply with all the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and reissuance, permit modification, or denial of a permit renewal application. Note: The grounds for termination of a permit under 10 CSR 10-6.065(5)(C)1.G(I) are the same as the grounds for revocation as stated in 10 CSR 10-6.065(5)(E)8.A(I). [10 CSR 10-6.065(5)(C)1.G(I)]

2. The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit [10 CSR 10-6.065(5)(C)1.G(II)]
3. The permit may be modified, revoked, reopened, reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition. [10 CSR 10-6.065(5)(C)1.G(III)]
4. This permit does not convey any property rights of any sort or grant any exclusive privilege. [10 CSR 10-6.065(5)(C)1.G(IV)]
5. The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing, or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(5)(C)1. [10 CSR 10-6.065(5)(C)1.G(V)]

Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit. [10 CSR 10-6.065(5)(C)1.H]

Reasonably Anticipated Operating Scenarios [10 CSR 10-6.065(5)(C)1.I]

There are no reasonably anticipated operating scenarios.

Compliance Requirements

1. Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official. [10 CSR 10-6.065(5)(C)3.A]
2. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Air Pollution Control Program or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program): [10 CSR 10-6.065(5)(C)3.B]
 - a) Enter upon the permittee's premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit; [10 CSR 10-6.065(5)(C)3.B(I)]
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; [10 CSR 10-6.065(5)(C)3.B(II)]
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and [10 CSR 10-6.065(5)(C)3.B(III)]
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit. [10 CSR 10-6.065(5)(C)3.B(IV)]

3. All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following: [10 CSR 10-6.065(5)(C)3.D]
 - a) Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when these activities, milestones, or compliance were achieved, and [10 CSR 10-6.065(5)(C)3.D(I)]
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted. [10 CSR 10-6.065(5)(C)3.D(II)]
4. The permittee shall submit an annual certification that it complies with all the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. [10 CSR 10-6.065(5)(C)3.E]
 - a) These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. All deviations and 40 CFR Part 64 exceedances and excursions must be included in the compliance certifications. These certifications shall be submitted to: [10 CSR 10-6.065(5)(C)3.E(I)]
 - i) The Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7 at 11201 Renner Blvd., Lenexa, KS 66219 **and**
 - ii) The Air Pollution Control Program's Compliance and Enforcement Section at:
 - (1) PO Box 176, Jefferson City, MO 65102 and AirComplianceReporting@dnr.mo.gov **or**
 - (2) Any means that comply with 40 CFR Part 3.
 - b) The compliance certification shall include the following: [10 CSR 10-6.065(5)(C)3.E(III)]
 - i) The identification of each term or condition of the permit that is the basis of the certification; [10 CSR 10-6.065(5)(C)3.E(III)(a)]
 - ii) The current compliance status, as shown by monitoring data and other information reasonably available to the permittee; [10 CSR 10-6.065(5)(C)3.E(III)(b)]
 - iii) Whether compliance was continuous or intermittent; [10 CSR 10-6.065(5)(C)3.E(III)(c)]
 - iv) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and [10 CSR 10-6.065(5)(C)3.E(III)(d)]
 - v) Such other facts as the Air Pollution Control Program will require to determine the compliance status of this installation. [10 CSR 10-6.065(5)(C)3.E(III)(e)]

Permit Shield

1. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that: [10 CSR 10-6.065(5)(C)6.A]
 - a) The applicable requirements are included and specifically identified in this permit, or [10 CSR 10-6.065(5)(C)6.A(I)]
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in this permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it. [10 CSR 10-6.065(5)(C)6.A(II)]
2. Be aware that there are exceptions to this permit protection. The permit shield does not affect the following: [10 CSR 10-6.065(5)(C)6.B]

- a) The provisions of §303 of the Act or §643.090, RSMo concerning emergency orders; [10 CSR 10-6.065(5)(C)6.B(I)]
- b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance; [10 CSR 10-6.065(5)(C)6.B(II)]
- c) The applicable requirements of the acid rain program; [10 CSR 10-6.065(5)(C)6.B(III)]
- d) The authority of EPA and the Air Pollution Control Program to obtain information; or [10 CSR 10-6.065(5)(C)6.B(IV)]
- e) Any other permit or extra-permit provisions, terms, or conditions expressly excluded from the permit shield provisions. [10 CSR 10-6.065(5)(C)6.B(V)]

Emergency Provisions

1. An emergency or upset means any condition arising from sudden and not reasonably foreseeable events beyond the control of the permittee, including acts of God, which require immediate corrective action to restore normal operation and that causes the installation to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency or upset. An emergency or upset does not include noncompliance caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [10 CSR 10-6.065(5)(C)7.A]

Operational Flexibility

1. An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described in 10 CSR 10-6.065(5)(C)8.A if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. At least seven days in advance of these changes, except as allowed for emergency or upset conditions, the permittee shall notify: [10 CSR 10-6.065(5)(C)8]
 - a) The Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7 at 11201 Renner Blvd., Lenexa, KS 66219 **and**
 - b) The Air Pollution Control Program's Compliance and Enforcement Section at:
 - i) PO Box 176, Jefferson City, MO 65102 **and** AirComplianceReporting@dnr.mo.gov **or**
 - ii) Any means that comply with 40 CFR Part 3.
 - c) §502(b)(10) changes. Changes that, under §502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting, or compliance requirements of this permit. [10 CSR 10-6.065(5)(C)8.A]
 - i) Before making a change under this provision, the permittee shall provide advance written notice, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with this permit and the

Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to EPA and the Air Pollution Control Program at least seven days before the change is to be made. If less than seven days' notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change. This notice shall be sent to: [10 CSR 10-6.065(5)(C)8.A(I)]

(1) The Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7 at 11201 Renner Blvd., Lenexa, KS 66219

and

(2) The Air Pollution Control Program's Compliance and Enforcement Section at:

(A) PO Box 176, Jefferson City, MO 65102 **and**

AirComplianceReporting@dnr.mo.gov **or**

(B) Any means that comply with 40 CFR Part 3.

ii) The permit shield shall not apply to these changes. [10 CSR 10-6.065(5)(C)8.A(II)]

Off-Permit Changes

1. Except as provided in 10 CSR 10-6.065(5)(C)9.A, the permittee may make any change in its permitted operations, activities, or emissions that is not addressed in, constrained by, or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in this permit, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of these off-permit provisions. Off-permit changes shall be subject to the following requirements and restrictions: [10 CSR 10-6.065(5)(C)9]

a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification; [10 CSR 10-6.065(5)(C)9.A]

b) The permittee must provide contemporaneous written notice of the change. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply because of the change. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(5)(B)3. This notice shall be sent to: [10 CSR 10-6.065(5)(C)9.B]

i) The Missouri Compliance Coordinator, Air Branch, Enforcement and Compliance Assurance Division, EPA Region 7 at 11201 Renner Blvd., Lenexa, KS 66219 **and**

ii) The Air Pollution Control Program's Compliance and Enforcement Section at:

(1) PO Box 176, Jefferson City, MO 65102 **and**

AirComplianceReporting@dnr.mo.gov **or**

(2) Any means that comply with 40 CFR Part 3.

c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and [10 CSR 10-6.065(5)(C)9.C]

d) The permit shield shall not apply to these changes. [10 CSR 10-6.065(5)(C)9.D]

Responsible Official [10 CSR 10-6.065(2)(W)]

The application utilized in the preparation of this permit was signed by Matthew Stewart, Team Environmental Manager. If this person terminates employment or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the permittee shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the permittee to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements, and covenants.

Reopening-Permit for Cause

1. This permit shall be reopened for cause if: [10 CSR 10-6.065(5)(E)6.A]
 - a) The Air Pollution Control Program receives notice from EPA that a petition for disapproval of this permit pursuant to 40 CFR 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination; [10 CSR 10-6.065(5)(E)6.A(I)]
 - b) The Air Pollution Control Program or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions limitations, standards, or other terms of this permit; [10 CSR 10-6.065(5)(E)6.A(II)]
 - c) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—: [10 CSR 10-6.065(5)(E)6.A(III)]
 - i) This permit has a remaining term of less than three years; [10 CSR 10-6.065(5)(E)6.A(III)(a)]
 - ii) The effective date of the requirement is later than the date on which this permit is due to expire; or [10 CSR 10-6.065(5)(E)6.A(III)(b)]
 - iii) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit; [10 CSR 10-6.065(5)(E)6.A(III)(c)]
 - d) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into this permit; or [10 CSR 10-6.065(5)(E)6.A(IV)]
 - e) The Air Pollution Control Program or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements. [10 CSR 10-6.065(5)(E)6.A(V)]

Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit. [10 CSR 10-6.065(5)(E)1.C]

VI. Attachments

Attachments follow. Attachment A defines a list of abbreviations and acronyms commonly used throughout this permit.

DRAFT

Attachment A Abbreviations and Acronyms

°C	degrees Celsius	HP	horsepower
°F	degrees Fahrenheit	hr	hour
AAQIA	ambient air quality impact analysis	kgal	1000 gallons
acfm	actual cubic feet per minute	kPa	kilopascals
BACT	best available control technology	kW	kilowatt
BLDS	bag leak detection system	LAER	lowest achievable emission rate
BMPs	best management practices	lb	pound
Btu	British thermal unit	lb/hr	pounds per hour
CAM	compliance assurance monitoring, 40 CFR Part 64	m/s	meters per second
CAS	Chemical Abstracts Service	MACT	maximum achievable control technology, 40 CFR Part 63
CD	control device	MERV	minimum efficiency reporting value
CEMS	continuous emissions monitoring system	Mg	megagrams
CFR	code of federal regulations	mg	milligrams
CO	carbon monoxide	µg/m³	micrograms per cubic meter
CO₂	carbon dioxide	mg/m³	milligrams per cubic meter
CO₂e	carbon dioxide equivalent	MHDR	maximum hourly design rate
COMS	continuous opacity monitoring system	MMBtu	million British thermal units
CSR	code of state regulations	MMgal	million gallons
D/F	dioxins and furans	mmHg	millimeters mercury
dscf	dry standard cubic feet	MMscf	million standard cubic feet
dscm	dry standard cubic meter	MSDS	material safety data sheet
EDS	environmental data sheet	MW	megawatt
EF	emission factor	N/A	not applicable
EIQ	emission inventory questionnaire	N/D	not determined
EP	emission point	NAAQS	national ambient air quality standards
EPA	Environmental Protection Agency	NESHAP	national emissions standards for HAP, 40 CFR Part 61
EU	emission unit	NNSR	nonattainment area new source review
FGD	flue gas desulfurization	NO_x	nitrogen oxides
FIRE	EPA's Factor Information Retrieval System	NSPS	new source performance standards, 40 CFR Part 60
ft	feet	NSR	new source review
ft/s	feet per second	PAL	plantwide applicability limit
g	grams	PFD	process flow diagram
GACT	generally available control technology	PM	particulate matter, includes filterable only
gal	gallons	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter, filterable and condensable
GHG	greenhouse gas	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter, filterable and condensable
gpm	gallons per minute	PM CON	condensable particulate matter
gr	grains	ppb	parts per billion
gr/dscf	grains per dry standard cubic feet		
GWP	global warming potential		
HAP	hazardous air pollutant		
HCl	hydrogen chloride		
HF	hydrogen fluoride		

ppm	parts per million	scfm	standard cubic feet per minute
ppmv	parts per million by volume	SCR	selective catalytic reduction
ppmw	parts per million by weight	SDS	safety data sheet
PSD	prevention of significant Deterioration	SIC	standard industrial classification
psi	pounds per square inch	SIL	significant impact level
psia	pounds per square inch atmosphere	SIP	state implementation plan
psig	pounds per square inch gauge	SMAL	screening model action levels
PTE	potential to emit	SNCR	selective noncatalytic reduction
PW	plantwide	SO_x	sulfur oxides
RACT	reasonably available control technology	SO₂	sulfur dioxide
RAL	risk assessment level	SSM	start-up, shutdown, and malfunction
RBLC	RACT/BACT/LAER clearinghouse	tph	tons per hour
RTR	risk and technology review	tpy	tons per year
SAM	sulfuric acid mist	ULSD	ultra-low sulfur diesel
SCC	source classification code	VMT	vehicle miles traveled
		VOC	volatile organic compounds
		yr	year

Attachment B
Method 22 Visible Emissions Observations

Installation Name		Observer Name	
Location		Date	
Sky Conditions		Wind Direction	
Precipitation		Wind Speed	
Time		Emission unit(s)	
Sketch emission unit(s): indicate observer position relative to emission unit(s); indicate potential emission points and/or actual emission points.			
Start Time (HH:MM:SS)	Stop Time (HH:MM:SS)	Visible Emissions Yes (Y) or No (N)⁴	Comments

⁴ If visible emissions are observed, the installation is not required to complete the entire six-minute observation. The installation shall note when the visible emissions were observed and shall conduct a Method 9 opacity observation.

Attachment C
Method 9 Opacity Observations

Installation Name:	Sketch of the observer's position relative to the emission unit(s)	
Emission Point(s):		
Emission Unit(s):		
Observer Name and Affiliation:		
Observer Certification Date:		
Method 9 Observation Date:		
Height of Emission Point(s):		
Time:	Start of observations	End of observations
Distance of Observer from Emission Point(s):		
Observer Direction from Emission Point(s):		
Height of Observation Point:		
Approximate Wind Direction:		
Estimated Wind Speed:		
Ambient Temperature:		
Description of Sky Conditions (Presence and color of clouds):		
Plume Color:		
Approximate Distance Plume is Visible from Emission Point(s):		

Attachment C Continued
Method 9 Opacity Observations

Minute	Seconds				1- minute Avg. % Opacity ⁵	6- minute Avg. % Opacity ⁶	Steam Plume (check if applicable)		Comments
	0	15	30	45			Attached	Detached	
	Opacity Readings (% Opacity) ⁷								
0						N/A			
1						N/A			
2						N/A			
3						N/A			
4						N/A			
5									
6									
7									
8									
9									
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The emission unit(s) complies if each six-minute average opacity is less than or equal to 20%.
Exception: The emission unit(s) complies if one six-minute average opacity is greater than 20%, but less than 40%.

Was the emission unit(s) in compliance at the time of evaluation (yes or no)?

Signature of Observer

⁵ 1-minute avg. % opacity is the average of the four 15 second opacity readings during the minute.

⁶ 6-minute avg. % opacity is the average of the six most recent 1-minute avg. % opacities.

⁷ Each 15 second opacity reading shall be recorded to the nearest 5% opacity as stated within Method 9.

[illegible]

Attachment E Plant Wide SO₂ Emissions

The permittee shall use this attachment, or an equivalent, to calculate the actual plant wide SO₂ emissions. This attachment, or an equivalent, shall be used to demonstrate compliance with the Plant Wide Emission Limitations in Permit Condition PW001.

Calculation Methodology:

1. The specified time period for all sampling is defined in Table 042018-005B (see Permit Condition 004).
2. The permittee shall use Equation 1 to quantify the sulfur dioxide emissions from the combustion of all flares (EP-011, EP-012, and EP-014), based on the sample results and the time period associated with the sample.
3. The permittee shall use Equation 2 to quantify the sulfur dioxide emission from all other emission sources.
4. The permittee shall use Equation 3 to sum the values from Equations 1 and 2.

Equation 1: Sulfur dioxide emissions from the combustion of landfill gas

$$SO_{2-EQ1} = \frac{Q_{LFG} * \left(\frac{C_{sulfur, ppmv}}{10^6} \right) * \left(\frac{0.02832 \text{ m}^3}{\text{ft}^3} \right) * (MW_{sulfur}) * \left(\frac{0.00220462 \text{ lb}}{\text{g}} \right) * (P) * \left(\frac{1 \text{ ton}}{2,000 \text{ lb}} \right) * (2)}{(R * (273.15 + T))}$$

Where:

SO_{2-EQ1} = SO₂ Emissions from the combustion of landfill gas in all flares (EP-011, 012, 013, and 014).

Q_{LFG} = Total flow of all collected landfill gas, in units of dry standard cubic feet (DSCF) from the previous sampling date to the current sampling date

$C_{sulfur, ppmv}$ = sampling results from ASTM D5504-12 for the current sampling date, in units of parts per million by volume.

MW_{sulfur} = $32.06 \frac{\text{g}}{\text{g-mol}}$.

P = 1 atm, standard atmospheric pressure.

2 = molecular ratio of sulfur to SO₂.

R = ideal gas law constant, $\frac{8.205 \times 10^{-5} \text{ m}^3 * \text{atm}}{\text{K} * \text{g-mol}}$.

T = 25°C or site-specific LFG temperature

Equation 2: Sulfur dioxide emissions from all other sources

$$SO_{2-EQ2} = SO_{2-NG} + SO_{2-E} + SO_{2-LMS}$$

Where:

SO_{2-EQ2} = SO₂ emissions from all sources not included in Equation 1.

SO_{2-NG} = SO₂ emissions from the combustion of natural gas. Calculated by multiplying the plant wide natural gas usage from all sources (in MMSCF) for the specified time period by 0.6 lb SO₂/MMSCF (AP42,

Table 1.4-2), then dividing by 2000 lb/ton. Sources must include the following emission points: all flares using natural gas assist and all other emission units that combust natural gas except the leachate management system thermal oxidizer units. Emissions from the thermal oxidizers (EP-RTO#1 and RTO#2 are not included here, as they are included in the calculation of SO_{2-L} .

SO_{2-EmGe} = SO_2 emissions from the combustion of #2 fuel oil in the emergency generators, and any other sources that combust #2 fuel oil. For the emergency generators, emissions shall be calculated by using the following emission factors, and multiplying by the number of hours each engine is used in the specified time period. These emission factors are based a fuel oil sulfur content of 15 ppmv, and the rated horsepower of each engine.

Emergency Generator	Emission factor (ton SO_2 /hour)	Ef Source
EP-019	7.97×10^{-6}	AP42, Table 3.4-1
EP-021	2.55×10^{-4}	AP42, Table 3.4-1

SO_{2-LM} = SO_2 emissions from the leachate management system process. Includes natural gas combustion and volatilized sulfur in leachate tanks. Volatilized sulfur emissions are estimated based on testing data which indicates 99 tons per year of sulfur passes through the leachate system, of which 1.7% volatilizes. Each ton of volatilized sulfur creates two tons of SO_2 when combusted. Potential SO_2 emissions from volatilized sulfur are estimated at 3.37 tons/year (0.28 tons/month). Natural gas combustion emissions are estimated using the natural gas throughput in MMSCF/month and the emission factor 0.6 lb SO_2 /MMSCF from AP 42 Table 1.4-2. In lieu of calculating actual emissions, the permittee may use the potential emissions of 3.38 tons/year (0.28 tons/month).

Equation 3:

$$SO_{2\ total} = SO_{2-EQ1} + SO_{2-EQ2}$$

Where:

$SO_{2\ total}$ = total plant wide emissions of SO_2 from all sources

The permittee shall record a monthly and 12 month rolling sum of $SO_{2-total}$ as shown in the following table. For the first twelve months after issuance of this permit, the permittee shall conduct this calculation twice per month, as detailed in Table 1. After this initial twelve

month period, the testing schedule is dependent upon the 12 month rolling total emissions, as outlined in Table 1.

Calculation of 12 month rolling total for month/year: _____

Sampling dates	<i>SO₂ total</i>
First sample of this month, Equation 3:	
Second sample of this month, Equation 3:	
[A] Sum of the items above for the current month:	
Calculation of Rolling 12 month sum	
(1) Total Emissions for this month [A]:	
(2) Previous consecutive 11 month emissions total from previous month's worksheets:	
(3) Current consecutive 12 month sum [(1) + (2)]	

*SSM emissions are required to be reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050. However, worst case SO₂ emissions occur when flares are operational 100% of the time. SSM of the flares is anticipated to decrease SO₂ emissions. As a conservative SO₂ emissions estimation method, there is no separate line item to account for SSM flare emissions.

Compliance with the Permit Condition PW002 is demonstrated when the current rolling 12 month sum (4) is less than 100.0 tons.