

STATE OF MISSISSIPPI AIR POLLUTION CONTROL TITLE V PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Greenway Environmental Services, LLC
(d.b.a. Green Meadow Sustainable Solutions)
4451 Highway 61 North
Fayette, Jefferson County, Mississippi

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with Title V of the Federal Clean Air Act (42 U.S.C.A. § 7401 - 7671) (i.e., the “Federal Act”) and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Permit Issued: [DATE]

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires: [DATE 5 YEARS FROM ISSUANCE]

Permit No.: 1320-00019

TABLE OF CONTENTS

SECTION 1. GENERAL CONDITIONS3

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES 14

SECTION 3. EMISSION LIMITATIONS & STANDARDS..... 15

SECTION 4. COMPLIANCE SCHEDULE.....26

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS27

SECTION 6. ALTERNATIVE OPERATING SCENARIOS.....55

SECTION 7. TITLE VI REQUIREMENTS56

APPENDIX A LIST OF ABBREVIATIONS USED IN THIS PERMIT

SECTION 1. GENERAL CONDITIONS

- 1.1 The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(6)(a).)

- 1.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(6)(b).)

- 1.3 The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(6)(c).)

- 1.4 Prior to its expiration, this permit may be reopened in accordance with the following provisions:

- (a) This permit shall be reopened and revised under any of the following circumstances:

- (1) Additional applicable requirements under the Federal Act become applicable to a major Title V source with a remaining permit term of three (3) or more years. Such a reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended.
- (2) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
- (3) The Permit Board or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- (4) The Administrator or the Permit Board determines that the permit must be revised or revoked to ensure compliance with the applicable requirements.

- (b) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings shall not be initiated before a notice of such intent is provided to the Title V source by the Mississippi Department of Environmental Quality (MDEQ) at least thirty (30) days in advance of the date that the permit is to be reopened, except that the Permit Board may provide a shorter time period in the case of an emergency.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.G.)

- 1.5 The permittee shall furnish to MDEQ within a reasonable time any information MDEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to MDEQ copies of records required to be kept by the permittee or, for information claimed to be confidential, the permittee shall furnish such records to DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(6)(e).)

- 1.6 The permit does not convey any property rights of any sort, or any exclusive privilege.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(6)(d).)

- 1.7 The provisions of this permit are severable. If any provision of this permit (or the application of any provision of this permit to any circumstances) is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof (or their application to other persons or sets of circumstances) shall not be affected thereby.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(5).)

- 1.8 The permittee shall pay to MDEQ an annual fee based on a fee schedule established by the Mississippi Commission on Environmental Quality (i.e., the "Commission"). The fee schedule shall be set each year by order of the Commission in accordance with the procedure outlined in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6.

- (a) A portion of the fee shall be based on the permittee's annual quantity of emissions. The permittee shall elect for "actual emissions" or "allowable emissions" to be used in determining the annual quantity of emissions unless the Commission determines by order that the method chosen by the applicant for calculating actual emissions fails to reasonably represent actual emissions.
 - (i) "Actual emissions" shall be calculated using emission monitoring data or direct emissions measurements for the pollutant(s); mass balance calculations such as the amounts of the pollutant(s) entering and leaving

process equipment and where mass balance calculations can be supported by direct measurement of process parameters, such direct measurement data shall be supplied; published emission factors such as those relating release quantities to throughput or equipment type (e.g., air emission factors); or other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgments where such judgments are derived from process and/or emission data which supports the estimates of maximum actual emission.

- (ii) “Allowable emissions” are those emissions limited by this permit as well as those emissions not expressly limited by this permit but otherwise allowed by this permit, as represented in the Title V application.
- (iii) Notwithstanding paragraphs (i) and (ii), a minimum annual fee shall be assessed in accordance with the fee schedule established by the Commission when calculating this portion of the fee.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B.(1).)

- (b) A portion of the fee shall be based on the complexity of this permit, as determined by the number of air regulations applicable to the permittee on the date of the fee calculation in accordance with the fee schedule established by the Commission. Only air regulations required to be addressed by this permit may be included in the annual fee schedule.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B.(2).)

- (c) By July 1 of each year, the permittee shall submit a completed annual fee reporting form to MDEQ accompanied by all necessary calculations and supporting information to verify actual emissions. If the annual fee reporting form is not filled out completely and accurately or certified in accordance with Regulation 11 Miss. Admin. Code Pt. 2, R. 6.2.E., “allowable emissions” or other information necessary to determine the appropriate annual fee shall be used in the fee calculation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B.(3)(c).)

- (d) If the Commission determines that there is not sufficient information available to the permittee to accurately complete and submit the annual fee reporting form by July 1, but such information becomes available and is submitted to MDEQ after July 1, the fee calculation and assessment may be altered according to the annual fee schedule. No fee actually paid to the DEQ shall be refunded due to a change in the fee calculation.

If a fee is recalculated such that the amount assessed for an annual period is reduced and the permittee has already paid all or a portion of the fee, the revised

fee assessment may not be reduced to an amount less than what the permittee has already paid regardless of the results of the recalculation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B(3)(d).)

- (e) The fee shall be due September 1 of each year. However, the permittee may elect a quarterly payment method of four (4) equal payments with the payments due September 1, December 1, March 1 and June 1. The permittee shall notify MDEQ that the quarterly payment method will be used by September 1.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E(1).)

- (f) If at any time within the year the Commission determines that the information submitted by the permittee is insufficient or incorrect, MDEQ will notify the permittee of the deficiencies and the adjusted fee schedule. Past due fees as a result of the adjusted fee assessment will be due at the time of the next scheduled quarterly payment.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E.(1)(b).)

- (g) If an annual fee is not paid within thirty (30) days after the due date, a penalty of ten (10) percent of the amount due shall at once accrue and be added thereto. If the fee is not paid in full (including any interest and penalty within sixty (60) days of the due date), the Permit Board may revoke the permit upon proper notice and hearing as required by law.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E.(1)(a).)

- (h) If the permittee disagrees with the calculation or applicability of an annual fee, the permittee may petition the Commission in writing for a hearing in accordance with State Law. Any disputed portion of the fee for which a hearing has been requested will not incur any penalty or interest from and after the receipt by the Commission of the hearing petition.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D.)

- 1.9 No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(8).)

- 1.10 Any document required by this permit to be submitted to MDEQ shall contain a certification by a responsible official that states that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.2.E.)

- 1.11 The permittee shall allow MDEQ (or an authorized representative), upon the presentation of credentials and other documents as may be required by law, to perform the following:
- (a) Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - (b) Have access to and copy (at reasonable times) any records that must be kept under the conditions of this permit;
 - (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - (d) As authorized by the Federal Act, sample or monitor (at reasonable times) substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C.(2).)

- 1.12 Except as otherwise specified or limited herein, the permittee shall have necessary sampling ports and ease of accessibility for any new air pollution control equipment, obtained after May 8, 1970, and vented to the atmosphere.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I.(1).)

- 1.13 Except as otherwise specified or limited herein, the permittee shall provide the necessary sampling ports and ease of accessibility when deemed necessary by the Permit Board for air pollution control equipment that was in existence prior to May 8, 1970.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I.(2).)

- 1.14 Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance upon satisfying one of the following conditions:

- (a) Such applicable requirements are included and are specifically identified in the permit; or
- (b) The Permit Board, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the permittee and the permit includes such determination (or a concise summary thereof).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F.(1).)

- 1.15 Nothing in this permit shall alter or affect the following:
- (a) The provisions of Section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section;
 - (b) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 - (c) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Federal Act.
 - (d) The ability of EPA to obtain information from a source pursuant to Section 114 of the Federal Act.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F.(2).)

- 1.16 The permittee shall comply with the requirement to register a Risk Management Plan if permittee's facility is required to register such a plan pursuant to Section 112(r) of the Federal Act.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.H.)

- 1.17 Expiration of this permit terminates the permittee's right to operate unless a timely and complete renewal application has been submitted. A timely application is one that is submitted at least six (6) months prior to the date of permit expiration.

If the permittee submits a timely and complete application for permit issuance (including for renewal), the failure to have a Title V permit is not a violation of the applicable regulations until the Permit Board takes final action on the permit application. This protection shall cease to apply if, subsequent to the completeness determination, the permittee fails to submit by the deadline specified in writing by MDEQ any additional information identified as being needed to process the application.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.2.A.(1)(c), R. 6.4.B., and 6.4.C.(2).)

- 1.18 The permittee is authorized to make changes within their facility without requiring a permit revision [i.e., Section 502(b)(10) of the Federal Act] if the following criteria are met:

- (a) The changes are not modifications under any provision of Title I of the Federal Act;
- (b) The changes do not exceed the emissions allowable under this permit;
- (c) The permittee provides the Administrator and the Department with written notification in advance of the proposed changes [i.e., at least seven (7) days or

such other time frame as provided in other regulations for emergencies] and the notification includes the following information:

- (1) A brief description of the change(s),
 - (2) The date on which the change will occur,
 - (3) Any change in emissions, and
 - (4) Any permit term or condition that is no longer applicable as a result of the change;
- (d) The permit shield shall not apply to any Section 502(b)(10) change.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.F.(1).)

- 1.19 Should the Executive Director of MDEQ declare an “Air Pollution Emergency Episode”, the permittee will be required to operate in accordance with either the permittee's prepared “Emission Control Action Program(s)” or, in the absence of a prepared Emission Control Action Program, the appropriate requirements and “Emission Reduction Objectives” specified in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 3. – “Regulations for the Prevention of Air Pollution Emergency Episodes” – for the level of emergency declared and the permittee’s source of air contamination.

(Ref.: 11 Miss. Admin. Code Pt. 2, Ch. 3.)

- 1.20 Except as otherwise provided herein, a modification of the permittee’s facility may require a Permit to Construct in accordance with the provisions specified in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. – “Permit Regulations for the Construction and/or Operation of Air Emissions Equipment” – and may require modification of this permit in accordance with Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6. – “Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act.”

“Modification” is defined as any physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

- (a) Routine maintenance, repair, and replacement;
- (b) Use of an alternative fuel or raw material by reason of an order under Sections 2 (a) and (b) of the “Federal Energy Supply and Environmental Coordination Act of 1974” (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the “Federal Power Act”;

- (c) Use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;
- (d) Use of an alternative fuel or raw material by a stationary source which:
 - (1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. and/or Ch. 5.; or
 - (2) The source is approved to use under any permit issued under Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. and/or Ch. 5.;;
- (e) An increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. or Ch. 5.; or
- (f) Any change in ownership of the stationary source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C.(15).)

1.21 An administrative permit amendment may be made by the Permit Board authorizing changes in ownership or operational control consistent with the following procedure:

- (a) The Permit Board shall take action within sixty (60) days after receipt of a completed request for a permit transfer, unless a public hearing is scheduled. The Permit Board may incorporate such changes without providing notice to the public or affected State(s) provided that it designates any such permit revision as having been made pursuant to this paragraph.
- (b) A permit transfer shall be approved upon satisfaction of the following:
 - (1) The applicant for transfer approval can demonstrate to the Permit Board it has the financial resources, operational expertise, and environmental compliance history over the last five (5) years to insure compliance with the terms and conditions of the permit to be transferred, except where this conflicts with State Law, and
 - (2) The Permit Board determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the DEQ.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.D(4)(a) and (b).)

- 1.22 This permit is a Federally approved operating permit under Title V of the Federal Act. All terms and conditions in this permit, including any provisions designed to limit the permittee's potential to emit, are enforceable by the Administrator and citizens under the Federal Act as well as the Commission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.B(1).)

- 1.23 Except as otherwise specified or limited herein, the open burning of residential, commercial, institutional, or industrial solid waste, is prohibited. This prohibition does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, debris from emergency clean-up operations, and ordnance.

Open burning of land-clearing debris must not use starter or auxiliary fuels which cause excessive smoke (rubber tires, plastics, etc.); must not be performed if prohibited by local ordinances; must not cause a traffic hazard; must not take place where there is a High Fire Danger Alert declared by the Mississippi Forestry Commission or an Emergency Air Pollution Episode Alert imposed by the Executive Director of DEQ; and must meet the following buffer zones:

- (a) Open burning without a forced-draft air system must not occur within 500 yards of an occupied dwelling.
- (b) Open burning utilizing a forced-draft air system on all fires to improve the combustion rate and reduce smoke may be done within 500 yards of but not within fifty (50) yards of an occupied dwelling.
- (c) Burning must not occur within 500 yards of commercial airport property, private airfields, or marked off-runway aircraft approach corridors unless written approval to conduct burning is secured from the proper airport authority, owner or operator.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.G.)

- 1.24 Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

- (a) Upsets (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)
 - (1) For an upset, the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

- (i) An upset occurred and that the source can identify the cause(s) of the upset;
 - (ii) The source was at the time being properly operated;
 - (iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;
 - (iv) That within five (5) working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other non-compliance, and the corrective actions taken and;
 - (v) That as soon as practicable but no later than twenty-four (24) hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.
- (2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.
 - (3) This provision is in addition to any upset provision contained in any applicable requirement.
 - (4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third-party enforcement actions.
- (b) Start-ups and Shutdowns (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)
- (1) Start-ups and shutdowns are part of normal source operation. Emission limitations apply during start-ups and shutdowns unless source specific emission limitations or work practice standards for start-ups and shutdowns are defined by an applicable rule, regulation, or permit.
 - (2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in Regulation 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for start-ups and shutdowns. Source specific emission limitations or work practice standards established for start-ups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B.(2)(a) through (e).

- (3) Where an upset as defined in Rule 1.2 occurs during start-up or shutdown, see the “Upset” requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

- 1.25 The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements specified in 40 CFR Part 61, Subpart M (National Emission Standard for Asbestos), as adopted by reference in Regulation 11 Miss Admin. Code Pt. 2, R. 1.8. The permittee shall not be required to obtain a modification of this permit to perform the referenced activities.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.8.)

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-001	Municipal Solid Waste Landfill [Permitted Design Capacity: 23,557,00 cubic yards and 17,096,441 megagrams; the landfill will receive non-hazardous commercial waste, household waste, industrial waste, institutional waste, and asbestos-containing material.
AA-002	No. 1 Leachate Storage Tank [Design Capacity: 255,000 gallons]
AA-003	Three (3) 5.5 MMBTU / hour Natural Gas-Fired (Assisted) Flares [used to mitigate odor – not part of an official GCCS]
AA-004	Unpaved Roads [<i>fugitive emissions</i>]

SECTION 3. EMISSION LIMITATIONS & STANDARDS

A. FACILITY-WIDE EMISSION LIMITATIONS & STANDARDS

3.A.1 Except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial, or waste disposal process, which exceeds forty (40) percent opacity subject to the exceptions provided in (a) and (b):

- (a) Start-up operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per start-up in any one hour and not to exceed three (3) start-ups per stack in any twenty-four (24) hour period.
- (b) Emissions resulting from soot blowing operations shall be permitted provided such emissions do not exceed sixty (60) percent opacity and provided further that the aggregate duration of such emissions during any twenty-four (24) hour period does not exceed ten (10) minutes per billion BTU gross heating value of fuel in any one hour.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.A.2 Except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.A.1. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

3.A.3 The permittee shall not cause, permit, or allow the emission of particles or any contaminants in sufficient amounts or of such duration from any process as to be injurious to humans, animals, plants, or property, or to be a public nuisance, or create a condition of air pollution.

- (a) The permittee shall not cause or permit the handling, transporting, or storage of any material in a manner which allows or may allow unnecessary amounts of particulate matter to become airborne.
- (b) When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance to property other than that from which it originated or to violate any other provision of Regulation 11 Miss. Admin. Code Pt. 2, Ch. 1, the Commission may order such corrected in a way that all air and gases or air and gas-borne material leaving the building or equipment are controlled or removed prior to discharge to the open air.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.C.)

B. EMISSION POINT SPECIFIC EMISSION LIMITATIONS & STANDARDS

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter	Limit / Standard
AA-001	40 CFR Part 61, Subpart M – National Emission Standards for Asbestos 40 CFR 61.140 and 61.154; Subpart M	3.B.1	Asbestos Waste	General Applicability
	40 CFR 61.154(g); Subpart M	3.B.2		Closure Requirements
	40 CFR Part 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification after July 17, 2014 40 CFR 60.760(a) and 60.762(d)(2); Subpart XXX	3.B.3	NMOCs	General Applicability

- 3.B.1 For Emission Point AA-001, the permittee is subject to and shall comply with all requirements found in 40 CFR Part 61, Subpart M – National Emission Standard for Asbestos.

For this permit, the permittee is applicable to standards that apply to the active disposal of asbestos waste.

(Ref.: 40 CFR 61.140 and 61.154; Subpart M)

- 3.B.2 For Emission Point AA-001, the permittee shall comply with the provisions specified in 40 CFR 61.151, Subpart M upon closure of the landfill.

(Ref.: 40 CFR 61.154(g); Subpart M)

- 3.B.3 For Emission Point AA-001, the permittee is subject to and shall comply with all applicable requirements found in 40 CFR Part 60, Subpart XXX – Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, or Modification after July 17, 2014.

In the event the MSW landfill is “closed” (as defined by Subpart XXX), the permittee is no longer subject to the requirement to maintain a Title V Operating Permit **if** the landfill is not otherwise subject to the Title V Program requirements **and** the permittee was never required to install a control system as required in 40 CFR 60.762(b)(2), Subpart XXX.

(Ref.: 40 CFR 60.760(a) and 60.762(d)(2); Subpart XXX)

C. INSIGNIFICANT AND TRIVIAL ACTIVITY EMISSION LIMITATIONS & STANDARDS

Applicable Requirement	Condition Number	Pollutant / Parameter	Limit / Standard
11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.C.1	PM	0.6 lb. / MMBTU
11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.C.2	SO ₂	4.8 lb. / MMBTU

- 3.C.1 The maximum permissible emission of ash and/or particulate matter (PM) from fossil fuel burning installations of less than ten (10) million BTU (MMBTU) per hour heat input shall not exceed 0.6 pounds per MMBTU per hour heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D.(1)(a).)

- 3.C.2 The maximum discharge of sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per MMBTU heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A.(1).)

D. WORK PRACTICE STANDARDS

Emission Point	Applicable Requirement	Condition Number	Pollutant / Parameter	Limit / Standard
AA-001	40 CFR 61.154(a), (c), (d), and 61.157(b); Subpart M	3.D.1	Asbestos Waste	Operational Requirements (Asbestos Waste Deposits)
	40 CFR 61.154(b); Subpart M	3.D.2		Signage and Fencing Requirements (Unless Otherwise Noted)
	40 CFR 61.154(g) and 61.151(a)(1) – (3); Subpart M	3.D.3		Closure Requirements (Asbestos Waste Deposits)
	40 CFR 60.769(a); Subpart XXX	3.D.4	Gas Collection System	Construction Requirements
	40 CFR 60.763(e), (f) and 60.765(e), Subpart XXX	3.D.5	GCCS	Operational Requirements
	40 CFR 60.762(b)(2)(ii) and 60.763(a) – (d); Subpart XXX	3.D.6	Gas Collection System	Operational Requirements
	40 CFR 60.769(b); Subpart XXX	3.D.7	Gas Collection Devices	Construction Requirements
	40 CFR 60.762(b)(2)(iii) and 60.763(f); Subpart XXX	3.D.8	Gas Control System	Operational Requirements (as applicable)
	40 CFR 60.769(c); Subpart XXX	3.D.9		Operational Requirements

3.D.1 For Emission Point AA-001, the permittee shall operate any section in which asbestos-containing waste is deposited in accordance with one of the following options:

- (a) There must be no visible emissions to the outside air from the active waste disposal site;
- (b) The permittees shall cover the section at either the end of each operating day or once every 24-hour period (while the section is in continuous operation) in accordance with one of the following requirements:
 - (1) No less than six (6) inches of compacted non-asbestos-containing material; or
 - (2) A resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control.

The permittee shall obtain written approval from MDEQ prior to the usage of any other equally effect dust suppression agent. For purpose of this

option, any used, spent, or other waste oil is not considered a dust suppression agent.

- (c) Upon written approval from EPA, the permittee may use an alternative emission control method that meets the criteria specified in 40 CFR 61.149(c)(2), Subpart M.

(Ref.: 40 CFR 61.154(a), (c), (d), and 61.157(b); Subpart M)

- 3.D.2 For Emission Point AA-001, the permittee shall install and maintain warning signs and fencing at the landfill in accordance with the following requirements **unless** a natural barrier adequately deters access by the general public or the permittee complies with Condition 3.D.1(b)(1):

- (a) Warning signs must be displayed at all entrances and at intervals of 330 feet or less along the property line of the site or along the perimeter of the sections where asbestos-containing waste material is deposited. The warning signs must meet the specific requirements found in 40 CFR 61.154(b)(1)(i) – (iii), Subpart M.
- (b) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public;
- (c) Upon request and supply of appropriate information, MDEQ will determine whether a fence or a natural barrier adequately deters access by the general public.

(Ref.: 40 CFR 61.154(b); Subpart M)

- 3.D.3 For Emission Point AA-001, the permittee shall close sections where asbestos-containing waste material is deposited in accordance with one of the following options:

- (a) There must be no visible emissions to the outside air from the inactive section(s);
- (b) The permittee shall cover the asbestos-containing waste material with at least six (6) inches of compacted non-asbestos-containing material and grow / maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material; or
- (c) Cover the asbestos-containing waste material with at least two (2) feet of compacted non-asbestos-containing material and maintain it to prevent exposure of the asbestos-containing waste.

(Ref.: 40 CFR 61.154(g) and 61.151(a)(1) – (3); Subpart M)

- 3.D.4 For Emission Point AA-001, the permittee shall construct active collection wells, horizontal collectors, surface collectors, and/or other extraction devices at a sufficient density throughout all gas producing areas in accordance with the following procedures when the installation / operation of a gas collection system is deemed necessary by

Condition 5.B.5 [unless alternative procedures have been approved by MDEQ]:

- (a) The collection devices within the interior must be certified by a professional engineer to demonstrate that comprehensive control of surface gas emissions can be achieved. As such, the following issues must be specifically addressed in the design plan for a collection system:
 - (1) Depths of refuse;
 - (2) Refuse gas generation rates and flow characteristics;
 - (3) Cover properties;
 - (4) Gas system expandability;
 - (5) Leachate and condensate management;
 - (6) Accessibility;
 - (7) Compatibility with filling operations;
 - (8) Integration with closure end use;
 - (9) Air intrusion control, corrosion resistance;
 - (10) Fill settlement;
 - (11) Resistance to the refuse decomposition heat; and
 - (12) Ability to isolate individual components or sections for repair or troubleshooting without shutting down entire collection system.
- (b) The sufficient density of the specified gas collection devices must address landfill gas migration issues and augmentation of the collection system through the use of an active or passive system at the landfill perimeter or exterior.
- (c) The placement of the specified gas collection devices must control all gas producing areas, except under the following circumstances:
 - (1) Any segregated area of asbestos or nondegradable material may be excluded from the collection system if properly documented [as required by Condition 5.B.15(d)].
 - (2) Any nonproductive area of the affected source may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than one (1) percent of the total non-methane organic compounds (NMOC) emissions and properly documented [as required by Condition 5.B.15(d)].

A separate NMOC emissions estimate must be made for each section proposed for exclusion by using Equation 1, and the sum of all such sections must be compared to the NMOC emissions estimate for the landfill:

$$Q_i = 2 k L_O M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9}) \quad \text{(Eqn. 1)}$$

where

Q_i = NMOC emission rate from the i^{th} section, in megagrams (Mg) per year;

k = Methane generation rate constant, in year⁻¹;

L_O = The methane generation potential, in cubic meters per Mg solid waste;

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

t_i = The age of solid waste in the i^{th} section, in years;

C_{NMOC} = The concentration of non-methane organic compounds, in parts per million by volume (ppm_v).

The “ k ” value and “ C_{NMOC} ” determined during field testing [as outlined in Condition 5.B.5(b) and (c)] must be used if field testing has been performed in determining the total NMOC emission rate or the “*radii of influence*” (i.e., the distance from the well center to a point in the affected source where the pressure gradient applied by the blower or compressor approaches zero).

If field testing has not been performed, the default values provided for “ k ”, “ L_O ” and “ C_{NMOC} ” in Condition 5.B.4 [or any approved alternative value(s) as a result of Condition 5.B.5(c)(5)] must be used.

The mass of nondegradable solid waste contained within a given section may be subtracted from the total mass of the section when estimating emissions if properly documented [as required by Condition 5.B.15(d)].

If the permittee seeks to exclude or cease gas collection / control from nonproductive physically separated (e.g., separately lined) closed areas that already have gas collection systems, NMOC emissions from each physically closed area must be computed using either “Equation 3” or “Equation 6”.

(Ref.: 40 CFR 60.769(a); Subpart XXX)

- 3.D.5 For Emission Point AA-001, the permittee shall operate a gas collection and control system (GCCS) in such a manner that all collected gases are vented to the control system designed and operated in accordance with Condition 3.D.8. In addition, the permittee shall at all times operate the control system when the collected gas is routed to the system.

In the event the collection or the control system is not operating, the permittee shall shut down the gas mover system shall be shut down and close all valves in the system that contribute to the venting of gas to the atmosphere within one (1) hour of the collection or control system not operating.

In lieu of applicable conditions, the provisions of this condition shall apply during periods of start-up, shutdown, and malfunction.

(Ref.: 40 CFR 60.763(e), (f) and 60.765(e), Subpart XXX)

3.D.6 For Emission Point AA-001, the permittee shall install and operate a gas collection system in accordance with the following requirements (as applicable) as a component of the overall GCCS:

(a) For an active collection system:

- (1) The system must 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 gas control system equipment;
- (2) The system must collect gas from each area, cell, or group of cells in the landfill in which initial solid waste has been in place for a period of five (5) years if active; or two (2) years or more if closed or at final grade;
- (3) The system must collect gas at a sufficient extraction rate; and
- (4) The system must be designed to minimize off-site migration of sub-surface gas.

(b) For a passive collection system:

- (1) The system must 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 gas control system equipment;
- (2) The system must collect gas from each area, cell, or group of cells in the landfill in which initial solid waste has been in place for a period of five (5) years if active; or two (2) years or more if closed or at final grade;
- (3) The system must collect gas at a sufficient extraction rate; and
- (4) The system must 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 by 40 CFR 258.40, Subpart F.

(c) Operate with negative pressure at each wellhead except under the following conditions:

- (1) A fire or increased well temperature;
- (2) Use of a geo-membrane or synthetic cover;
- (3) A decommissioned well;
- (d) Operate each interior wellhead with a gas temperature less than 131°F. The permittee may establish a higher operating temperature value at a particular well with approval from MDEQ, but the proposed temperature cannot cause fires or significantly inhibit anaerobic decomposition by killing methanogens;
- (e) Operate so that the methane concentration is less than 500 ppm above background at the landfill surface. To determine if this level is exceeded, the permittee shall conduct surface testing using an organic vapor analyzer, a flame ionization detector, or any other portable monitor meeting the specifications outlined in Condition 5.B.5(d)(2)(i)(A) – (D).

The permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the affected source at no more than 30-meter intervals and where visual observations indicate elevated concentrations of gas (e.g., distressed vegetation and cracks or seeps in the cover and all cover penetrations). In addition, the permittee shall monitor any openings that are within an area of the affected source where waste has been placed and a gas collection system is required.

The permittee may establish an alternative traversing pattern that ensures equivalent coverage. In addition, the permittee shall develop a surface monitoring design plan 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.

(Ref.: 40 CFR 60.762(b)(2)(ii) and 60.763(a) – (d); Subpart XXX)

3.D.7 For Emission Point AA-001, the permittee shall construct gas collection devices by using the following equipment criteria as part of the gas collection system specified by Condition 3.D.6:

- (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 meet the following specifications:
 - (1) Convey projected amounts of gases;
 - (2) Withstand installation, static, and settlement forces; and
 - (3) Withstand planned overburden or traffic loads.

- (b) 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 regards to the need to prevent excessive air infiltration.
- (c) Vertical wells must be placed so as not to endanger underlying liners and must address the occurrence of water within the affected source. Holes and trenches constructed for piped wells and horizontal collectors must be of sufficient cross-section to allow for their proper construction and completion.
- (d) Collection devices must be designed 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 pipe perforations should be of a dimension so as not to penetrate or block perforations.
- (e) 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.

(Ref.: 40 CFR 60.769(b); Subpart XXX)

3.D.8 For Emission Point AA-001, the permittee shall install and operate a gas control system in accordance with one of the following options as a component of the overall GCCS:

- (a) A non-enclosed flare designed and operated in accordance with the parameters established in 40 CFR 60.18, Subpart A (except as otherwise noted in 40 CFR 60.764(e), Subpart XXX);
- (b) A control system designed and operated to reduce NMOC by 98 weight-percent (wt.%);
 - (1) When an enclosed combustion device is used as the control system, either reduce NMOC by 98 wt.% or reduce the outlet NMOC concentration to less than twenty (20) parts per million by volume (dry basis as hexane at 3% oxygen).

The reduction efficiency (or ppm_v) must be established by an initial performance test to be completed no later than 180 days after the initial start-up of the approved control system using the EPA Test Methods specified in 40 CFR 70.764(d), Subpart XXX. However, the performance stack test is not required for boilers and process heaters with design heat input capacities equal to or greater than 150 MMBTU per hour that burn gas from the landfill;

- (2) If a boiler or process heater is used as the control device, the gas stream must be introduced into the flame zone;
 - (3) The control device must be operated within the parameter ranges established during the initial or most recent performance test.
- (c) Route the collected gas to a treatment system that processes the gas for subsequent sale or beneficial use. Venting of treated gas from the affected source to the ambient air is not allowed. If the treated gas cannot be routed for subsequent sale or beneficial use, then the treated gas must be controlled in accordance with one of the other options described.

For the purposes of this condition, all emissions from any atmospheric vent of an employed gas treatment system must be controlled in accordance with either paragraph (a) or (b) of this condition, except for atmospheric vents located on a condensate storage tank.

(Ref.: 40 CFR 60.762(b)(2)(iii) and 60.763(f); Subpart XXX)

- 3.D.9 For Emission Point AA-001, the permittee shall convey landfill gas to the control system through the collection header pipe(s) as part of the gas control system requirements specified in Condition 3.D.8.

The gas mover equipment must be sized to handle the maximum gas generation flow rate (" Q_M ") expected over the intended use period of the gas moving equipment – as calculated by Condition 5.B.6.

(Ref.: 40 CFR 60.769(c); Subpart XXX)

SECTION 4. COMPLIANCE SCHEDULE

- 4.1 Unless otherwise specified herein, the permittee shall be in compliance with all requirements contained herein upon issuance of this permit.
- 4.2 Except as otherwise specified herein, the permittee shall submit to the Permit Board and to the Administrator of EPA Region IV – via the Compliance and Emissions Data Reporting Interface (CEDRI) – a certification of compliance with terms and conditions contained in this permit (including emission limitations, standards, or work practices) by January 31 of each year for the preceding calendar year. If the permit was reissued or modified during the preceding calendar year, the compliance certification shall address each version of the permit. Each compliance certification shall include the following information:
- (a) The identification of each term or condition of the permit that is the basis of the certification;
 - (b) The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include (at a minimum) the methods and means required by this permit.
 - (c) If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
 - (d) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent;
 - (e) The identification of each deviation;
 - (f) The identification of exceptions to compliance in any periods during which compliance is required and in which an excursion or exceedance as defined in 40 CFR Part 64 (Compliance Assurance Monitoring) occurred; and
 - (g) Such other facts as may be specified as pertinent in specific conditions elsewhere in this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C.(5)(a), (c), and (d).)

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

A. GENERAL MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

- 5.A.1 The permittee shall install, maintain, and operate equipment and/or institute procedures as necessary to perform the monitoring and recordkeeping specified below.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3).)

- 5.A.2 In addition to the recordkeeping specified below, the permittee shall include with all records of required monitoring the following information:

- (a) The date, place as defined in the permit, and time of sampling or measurements;
- (b) The date(s) analyses were performed;
- (c) The company or entity that performed the analyses;
- (d) The analytical techniques or methods used;
- (e) The results of such analyses; and
- (f) The operating conditions existing at the time of sampling or measurement.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3)(b)(1).)

- 5.A.3 Except where a longer duration is specified in an applicable requirement, the permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3)(b)(2).)

- 5.A.4 Except as otherwise specified herein, the permittee shall submit reports of any required monitoring by July 31 and January 31 of each calendar year for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with Regulation 11 Miss. Admin. Code Pt. 2, R. 6.2.E.

For applicable periodic reporting requirements in 40 CFR Parts 60, 61, and 63, the permittee shall comply with the deadlines in this condition for reporting conducted on a semiannual basis. In addition, any quarterly reports required shall be submitted by the end of the month following each calendar quarter period (i.e., April 30, July 31,

October 31, and January 31), and any required annual reports shall be submitted by January 31 following each calendar year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3)(c)(1).)

(Ref.: 40 CFR 60.19(c), 61.10(g), and 63.10(a)(5); Subpart A)

- 5.A.5 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements (including those attributable to upsets), the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3)(c)(2).)

- 5.A.6 Except as otherwise specified herein, the permittee shall perform emissions sampling and analysis in accordance with EPA Test Methods and with any continuous emission monitoring requirements (if applicable). All test methods shall be those respective versions (or their equivalents) approved by the EPA.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3).)

- 5.A.7 The permittee shall maintain records of any alterations, additions, or changes in equipment or operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3).)

- 5.A.8 Unless otherwise specified in Section 4 of this permit, the monitoring, testing, recordkeeping, and reporting requirements specified in Section 5 herein supersede the requirements of any preceding Permit to Construct and/or operate upon permit issuance.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A.(3).)

B. SPECIFIC MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Monitoring / Recordkeeping Requirement
AA-001	40 CFR 60.154(e); Subpart M	5.B.1	Asbestos Waste	Maintain Waste Shipment Records
	40 CFR 60.154(f); Subpart M	5.B.2		Recordkeeping Requirements
	40 CFR 60.762(b); Subpart XXX	5.B.3	NMOCs	Calculate Mass Emission Rate Annually [or Every 5-Year Period (as applicable)]
	40 CFR 60.764(a)(1)(i) and (ii); Subpart XXX	5.B.4	Total NMOC Emission Rate	Calculation Methods (as applicable)
	40 CFR 60.764(a)(2) – (6), Subpart XXX	5.B.5		Tier Sampling Analysis (as applicable)
	40 CFR 60.765(a)(1); Subpart XXX	5.B.6	Max. Gas Flow Rate	Calculation Methods (as applicable)
	40 CFR 60.765(a)(2); Subpart XXX	5.B.7	Collection System Design	Compliance Demonstration Requirements
	40 CFR 60.765(a)(3)(i) and (ii); Subpart XXX	5.B.8	Operational Pressure	Institute Corrective Actions (if Negative Pressure Cannot be Maintained)
	40 CFR 60.765(a)(5)(i) and (ii); Subpart XXX	5.B.9	Operational Temperature	Institute Corrective Actions (if Temperature Exceeds 131°F)
	40 CFR 60.765(b); Subpart XXX	5.B.10	Gas Collection System	Well Installation Compliance Deadlines
	40 CFR 60.765(c) and 60.766(f); Subpart XXX	5.B.11	Surface Methane Emissions	Monitoring Requirements
	40 CFR 60.766(a) and 40 CFR 60.768(h); Subpart XXX	5.B.12	Pressure Oxygen or Nitrogen Temperature	Monitoring Requirements
	40 CFR 60.766(b) – (d), (g), and (h); Subpart XXX	5.B.13	Control System Design	Operational / Calibration Requirements
	40 CFR 60.764(b); Subpart XXX	5.B.14	Total NMOC Emission Rate	Calculation Method for GCCS Removal (as applicable)
	40 CFR 60.768(a) – (e); Subpart XXX	5.B.15	Waste Acceptance Rate GCCS	Recordkeeping Requirements
	40 CFR 60.768(g); Subpart XXX	5.B.16	Surface Methane Emissions	Recordkeeping Requirements

5.B.1 For Emission Point AA-001, the permittee shall maintain waste shipment records that include the following information for all asbestos-containing waste material received at

the landfill:

- (a) The name, address, and telephone number of the waste generator;
- (b) The name, address, and telephone number of the transporter(s);
- (c) The amount of asbestos-containing waste material received (in cubic yards);
- (d) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers;
- (e) Any attempt made to reconcile a discovered discrepancy with a waste generator regarding the quantity of waste material designated on a waste shipment record and the amount actually received; and
- (f) The date of the receipt.

(40 CFR 61.154(e)(1); Subpart M)

- 5.B.2 For Emission Point AA-001, the permittee shall maintain records on the location, depth / area, and amount (in cubic yards) of asbestos-containing waste material within the affected source on a map or diagram of the disposal area until closure of the landfill.

(Ref: 40 CFR 61.154(f); Subpart M)

- 5.B.3 For Emission Point AA-001, the permittee shall calculate the total NMOC mass emission rate annually in accordance with either the procedures outlined Condition 5.B.4 or Condition 5.B.5 (as applicable).

(Ref.: 40 CFR 60.762(b); Subpart XXX)

- 5.B.4 For Emission Point AA-001, the permittee shall calculate the total NMOC mass emission rate (“ M_{NMOC} ”) using “Equation 2” or “Equation 3” (as applicable). Both equations may be used in conjunction if the actual year-to-year solid waste acceptance rate is known for part of the landfill’s life and the year-to-year solid waste acceptance rate is unknown for the other part of the landfill’s life:

- (a) The permittee shall use “Equation 2” if the actual year-to-year solid waste acceptance rate is known:

$$M_{NMOC} = \sum_{i=1}^n 2 k L_O M_i (e^{-kt_i}) (C_{NMOC}) (3.6 \times 10^{-9}) \quad \text{(Eqn. 2)}$$

where:

M_{NMOC} = The total NMOC emission rate, in Mg per year;

k = 0.05 [methane generation rate constant, in year⁻¹];

$L_O = 170$ [methane generation potential, in cubic meters per Mg solid waste];

M_i = The mass of solid waste in the i^{th} section, in Mg;

t_i = The age of the i^{th} section, in years;

$C_{NMOC} = 4,000.00$, in ppm_v as hexane.

The mass of non-degradable solid may be subtracted from the total mass of solid waste in a specific section of the landfill when calculating the value for " M_i " (if documentation of the nature and amount of such wastes is maintained).

- (b) The permittee shall use "Equation 3" if the actual year-to-year solid waste acceptance rate is unknown:

$$M_{NMOC} = 2 L_O R (e^{-kc} - e^{-kt}) (C_{NMOC}) (3.6 \times 10^{-9}) \quad \text{(Eqn. 3)}$$

where:

M_{NMOC} = The total NMOC emission rate, in Mg per year;

$L_O = 170$ [methane generation potential, in cubic meters per Mg solid waste];

R = The average annual acceptance rate, in Mg per year;

$k = 0.05$ [methane generation rate constant, in year⁻¹];

t = The age of the landfill, in years;

$C_{NMOC} = 4,000.00$, in ppm_v as hexane;

c = Time since closure, years; [for an active affected source, $c = 0$ and $e^{-kc} = 1$].

The mass of non-degradable solid may be subtracted from the total mass of solid waste in a specific section of the landfill when calculating the value for " R " (if documentation of the nature and amount of such wastes is maintained).

(Ref: 40 CFR 60.764(a)(1)(i) and (ii); Subpart XXX)

- 5.B.5 For Emission Point AA-001, the permittee shall comply with the procedures outlined for each "Tier" (as applicable):

(a) **Tier 1**

- (1) The permittee shall compare the " M_{NMOC} " calculated from the procedures outlined in Condition 5.B.4 to the standard of 34 Mg per year.

- (i) If the calculated " M_{NMOC} " is less than 34 Mg per year, the permittee

shall comply with the reporting requirements outlined in Condition 5.C.5.

- (ii) If the calculated " M_{NMOC} " is equal to or greater than 34 Mg per year, the permittee shall comply with one of the following options:
 - (A) Comply with the reporting requirements outlined in Condition and 5.C.6(d) and install / operate a GCCS within thirty (30) months after the first annual report in which the " M_{NMOC} " equals or exceeds 34 Mg per year;
 - (B) Determine a site-specific NMOC concentration (" C_{NMOC} ") and recalculate the " M_{NMOC} " using "Tier 2" as outlined in Condition 5.B.5(b); or
 - (C) Determine a site-specific methane generation rate constant (" k ") and recalculate the " M_{NMOC} " using "Tier 3" as outlined in Condition 5.B.5(c).

(b) **Tier 2**

- (1) The permittee shall determine a site-specific " C_{NMOC} " using the following procedure:
 - (i) The permittee must install at least two sample probes per hectare, evenly distributed over the affected source's surface that has retained waste for at least two (2) years. If the affected source is larger than twenty-five (25) hectares in area, only fifty (50) samples are required.
 - (ii) The probes should be evenly distributed across the sample area, and the sample probes should be located to avoid known areas of nondegradable solid waste.
 - (iii) The permittee must collect and analyze one sample of landfill gas from each probe to determine " C_{NMOC} " using EPA Test Method 25 or Method 25C (i.e., "Method 25 / Method 25C").
 - (iv) Taking composite samples from different probes into a single cylinder is allowed. However, equal sample volumes must be taken from each probe.
 - (v) For each composite, the sample rate, collection times, beginning and ending cylinder vacuums, or alternative volume measurements must be recorded to verify that composite volumes are equal.
 - (vi) Composite sample volumes should be less than one (1) liter unless evidence can be provided to substantiate the accuracy of smaller

volumes. Terminate compositing before the cylinder approaches ambient pressure where measurement accuracy diminishes.

- (vii) If more than the required number of samples are taken, all samples must be used in the analysis.
 - (viii) The permittee must divide the " C_{NMOC} " from Method 25 / Method 25C analysis by six (6) to convert from the " C_{NMOC} as carbon" to the " C_{NMOC} as hexane".
 - (ix) If the affected source has an active or passive gas collection system in place, Method 25 / Method 25C analysis samples may be collected from these systems instead of surface probes provided that the collection system can be shown to present sampling as representative of the two (2) sampling probes per hectare requirement.
 - (x) For the active collection systems, samples may be collected from the common header pipe. The sample location on the common header pipe must be before any gas moving, condensate removal, or treatment system equipment.
 - (xi) For active collection systems, a minimum of three (3) samples must be collected from the header pipe.
- (2) The permittee shall reevaluate the site-specific " C_{NMOC} " every five (5) years using the procedure outlined in paragraph (b)(1) of this condition.
 - (3) The permittee shall recalculate the " M_{NMOC} " in accordance with Condition 5.B.4 and using the average site-specific " C_{NMOC} " from the collected samples instead of the default value originally provided therein.
 - (4) The permittee shall compare the resulting " M_{NMOC} " to the standard of 34 Mg per year.
 - (i) If the calculated " M_{NMOC} " is less than the referenced standard, the permittee shall recalculate the M_{NMOC} annually in accordance with Condition 5.B.4 using the average site-specific " C_{NMOC} " and comply with the reporting requirements outlined in Conditions 5.C.5.
 - (ii) If the calculated " M_{NMOC} " is equal to or greater than the referenced standard, the permittee shall comply with one of the following options:
 - (A) Comply with the reporting requirements outlined in Condition 5.C.6(d) and install / operate a GCCS within thirty (30) months after the first annual report in which the " M_{NMOC} " equals to or exceeds 34 Mg per year;

- (B) Determine a site-specific methane generation rate constant (“ k ”) and recalculate the “ M_{NMOC} ” using “Tier 3” as outlined in Condition 5.B.5(c); or
- (C) Conduct a surface emission monitoring demonstration using “Tier 4” as outlined in Condition 5.B.5(d).

(c) **Tier 3**

- (1) The permittee shall determine the site-specific “ k ” value using the procedures provided in EPA Test Method 2E (i.e., “Method 2E”).
- (2) The permittee shall calculate the “ M_{NMOC} ” in accordance with Condition 5.B.4 using the site-specific “ k ” value and the average site-specific “ C_{NMOC} ” (as determined by “Tier 2”) instead of the default values for the referenced parameters.
- (3) The permittee shall compare the resulting “ M_{NMOC} ” to the standard of 34 Mg per year.
 - (i) If the calculated “ M_{NMOC} ” is less than the referenced standard, the permittee shall comply with the reporting requirements outlined in Condition 5.C.5;
 - (ii) If the calculated emission rate is equal to or greater than the referenced standard, the permittee shall comply with one of the following options:
 - (A) Comply with the reporting requirements outlined in Condition 5.C.6(d) and install / operate a GCCS within thirty (30) months after the first annual report in which the “ M_{NMOC} ” equals or exceeds 34 Mg per year; or
 - (B) Conduct a surface emission monitoring demonstration using “Tier 4” as outlined in Condition 5.B.5(d).
- (4) The calculation of the site-specific “ k ” value is performed only once, and the permittee shall use the value obtained from this procedure in all subsequent annual “ M_{NMOC} ” calculations.
- (5) The permittee may use other methods to determine the “ C_{NMOC} ” or “ k ” value as an alternative to the procedures specified in “Tier 2” or “Tier 3” if the method has been approved by MDEQ.

(d) **Tier 4**

- (1) The permittee shall only use “Tier 4” if it can be initially demonstrated that the “ M_{NMOC} ” is greater than or equal to 34 Mg per year but less than 50 Mg per year based on either “Tier 1” or “Tier 2”. If both “Tier 1 and “Tier 2”

indicate that NMOC emissions are 50 Mg per year or greater, “Tier 4” cannot be used.

- (2) The permittee shall evaluate surface methane emissions to the standard of 500 parts per million (ppm). The permittee shall conduct surface emission monitoring on a quarterly basis using the following procedure:
 - (i) The permittee shall measure surface concentrations of methane along the entire perimeter of the affected source and along a pattern that traverses the affected source at no more than 30-meter intervals using an organic vapor analyzer, a flame ionization detector, or any other portable monitor that meet the specifications outlined in 40 CFR 60.765(d), Subpart XXX.
 - (ii) The background concentration must be determined by moving the probe inlet upwind and downwind at least thirty (30) meters from the waste mass boundary of the landfill;
 - (iii) Surface emission monitoring must be performed in accordance with Section 8.3.1 of EPA Test Method 21, except that the probe inlet must be placed no more than five (5) centimeters above the affected source’s surface. The constant measurement of distance above the surface should be based on a mechanical device (e.g., a wheel on a pole).

When the on-site average wind speed exceeds four (4) miles per hour (mph) or gust exceeding ten (10) mph, the permittee shall use a wind barrier (similar to a funnel). The average on-site wind speed shall be determined in an open area at 5-minute intervals using an on-site anemometer with a continuous recorder and data logger for the entire duration of the monitoring event.

The wind barrier must surround the surface emission monitor and must be placed on the ground to ensure wind turbulence is blocked. Surface emission monitoring cannot be conducted if the average wind speed is 25 mph.

Surface areas where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover, and all cover penetrations must also be monitored using a device meeting the specifications outlined in Condition 5.B.5(d)(2)(i)(A) – (D);

- (3) If there is any measured methane concentration at 500 ppm or greater from the surface of the landfill, the permittee shall comply with the reporting requirements outlined in Condition and 5.C.6(d) and install / operate a GCCS within thirty (30) months of the most recent NMOC emission rate

report that indicates the “ M_{NMOC} ” equals to or exceeds 34 Mg per year (based on “Tier 2”).

- (4) If after four (4) consecutive quarterly monitoring periods at an active landfill the measured methane concentration is less than 500 ppm from the surface, the permittee shall continue conducting quarterly surface emission monitoring and comply with the reporting requirements outlined in Condition 5.C.6(d)(3).
- (5) If after four (4) consecutive quarterly monitoring periods at a closed landfill the measured methane concentration is less than 500 ppm or greater from the surface, the permittee may reduce the frequency of surface emission monitoring from quarterly to annually and shall comply with the reporting requirement outlined in Condition 5.C.6(d)(3).

(Ref: 40 CFR 60.764(a)(2) – (6), Subpart XXX)

5.B.6 For Emission Point AA-001, the permittee shall demonstrate compliance with the maximum expected gas generation flow rate (“ Q_M ”) specified in Condition 3.D.6(a)(1) and (b)(1) by using either “Equation 4” or “Equation 5”:

- (a) For a landfill with an unknown year-to-year solid waste acceptance rate:

$$Q_M = 2 L_0 R (e^{-kc} - e^{-kt}) \quad (\text{Eqn. 4})$$

where:

Q_M = The maximum expected gas generation flow rate, in cubic meters per year;

L_0 = The methane generation potential, in cubic meters per Mg solid waste;

R = The average annual acceptance rate, in Mg per year;

k = The methane generation rate constant, in year⁻¹;

t = The age of the landfill at equipment installation plus the time the permittee intends to use the gas mover equipment or the active life of the landfill (whichever is less). If the equipment is installed after closure, “ t ” is the age of the landfill at installation, in years;

c = The time since closure, in years (for an active landfill $c = 0$ and $e^{-kt} = 1$).

- (b) For a landfill with a known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2 k L_0 M_i (e^{-kt}) \quad (\text{Eqn. 5})$$

where:

Q_M = The maximum expected gas generation flow rate, in cubic meters per year;

L_O = The methane generation potential, in cubic meters per Mg solid waste;

M_i = The mass of solid was in the i^{th} section, in Mg;

k = The methane generation rate constant, in year⁻¹;

t_i = The age of the i^{th} section, in years.

The “ k ” and “ L_O ” values should be those published in the most recent AP-42 compilation or other site-specific values demonstrated to be appropriate and approved by MDEQ. If the “ k ” value has been determined using “Tier 3” [as outlined in Condition 5.B.5(c)], the site-specific “ k ” value must be used.

A value of no more than fifteen (15) years must be used for the intended use period of the gas mover equipment. The active life of the landfill is its age plus the estimated number of years until closure.

When the GCCS has been installed, actual flow data may be used to project the “ Q_M ” instead of (or in conjunction with) “Equation 4” or “Equation 5”. However, if the landfill is still accepting waste, the actual measured flow data will not equal the “ Q_M ”. Therefore, calculations using “Equation 4” or “Equation 5” must be used to predict the “ Q_M ” over the intended period of use of the gas control system equipment.

(Ref.: 40 CFR 60.765(a)(1); Subpart XXX)

- 5.B.7 For Emission Point AA-001, the permittee shall demonstrate compliance with either Condition 3.D.6(a)(2) or (b)(2) by designing a system of vertical wells, horizontal collectors, and/or other collection devices satisfactory to MDEQ that is capable of controlling and extracting gas from all portions of the landfill in accordance with all applicable operational and performance standards.

(Ref.: 40 CFR 60.765(a)(2); Subpart XXX)

- 5.B.8 For Emission Point AA-001, the permittee shall institute the following actions **if** operation of the gas collection system under negative pressure cannot be maintained as required by Condition 3.D.6(c):

- (a) If a positive pressure exists, the permittee shall initiate action to correct the exceedance within five (5) calendar days, except for the following conditions:
 - (1) A fire or increased well temperature. The permittee shall record instances when positive pressure occurs in efforts to avoid a fire;
 - (2) Use of a geomembrane or synthetic cover. The permittee shall develop acceptable pressure limits in the design plan;

- (3) A decommissioned well. A well may experience a static positive pressure after shutdown to accommodate for declining flows.

Any attempted corrective measure must not cause exceedances of other applicable operational or performance standards.

- (b) If negative pressure cannot be achieved without excess air infiltration within fifteen (15) calendar days of the first measurement of positive pressure, the permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than sixty (60) days after positive pressure was first measured.
- (c) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee shall 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.

(Ref.: 40 CFR 60.765(a)(3)(i) and (ii); Subpart XXX)

- 5.B.9 For Emission Point AA-001, the permittee shall institute the following actions **if** the monitored temperature of a well cannot be maintained within the range referenced in Condition 3.D.6(d):

- (a) If a well exceeds the operating parameter for temperature, the permittee shall initiate action to correct the exceedance within five (5) calendar days. Any attempted corrective measure must not cause exceedances of other applicable operational or performance standards.
- (b) If a landfill gas temperature less than 131°F cannot be achieved within fifteen (15) calendar days of the first measurement of gas temperature greater than 131°F, the permittee shall conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than sixty (60) days after a gas temperature greater than 131°F was first measured.
- (c) If corrective actions cannot be fully implemented within 60 days following the positive pressure measurement for which the root cause analysis was required, the permittee shall 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 gas temperature greater than 131°F.

(Ref.: 40 CFR 60.765(a)(5)(i) and (ii); Subpart XXX)

- 5.B.10 For Emission Point AA-001, the permittee shall demonstrate compliance with Conditions 3.D.6(a)(2) and (b)(2) by installing each well no later than sixty (60) days

after the date in which initially deposited solid waste has been in place for a period of five (5) years if active or two (2) years or more if closed / at final grade.

(Ref.: 40 CFR 60.765(b); Subpart XXX)

5.B.11 For Emission Point AA-001, the permittee shall demonstrate compliance with Condition 3.D.6(e) by adhering to the following requirements:

- (a) After the installation and start-up of a gas collection system, the permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the affected source at 30-meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, a flame ionization detector, or any other portable monitor that meet the specifications outlined in 40 CFR 60.765(d), Subpart XXX.
- (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 thirty (30) meters from the perimeter wells.
- (c) Surface emission monitoring must be performed in accordance with Section 8.3.1 of Method 21, except that the probe inlet must be placed within five (5) to ten (10) centimeters of the ground. Monitoring must be performed during typical meteorological conditions.
- (d) Any reading of 500 ppm or more above background at any location must be recorded as a monitored exceedance, and the permittee shall take the following actions:
 - (1) The location of each monitored exceedance must be marked and recorded along with the concentration.
 - (2) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection near each exceedance must be made and the location must be re-monitored within ten (10) calendar days of detecting the exceedance.
 - (3) If the re-monitoring of the location shows a second exceedance, the permittee shall take additional corrective action(s) and the location must be monitored again within ten (10) days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the permittee shall take the action outlined in paragraph (d)(5) of this condition and no further monitoring of that location is required until that specific action has been taken.
 - (4) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm above background at the 10-day re-

monitoring period [as outlined in either paragraph (d)(2) or (3) of this condition] must be re-monitored one (1) month from the initial exceedance.

If the 1-month re-monitoring shows a concentration less than 500 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 permittee shall take the actions specified in either paragraph (d)(3) or (d)(5) of this condition.

- (5) For any location where the monitored methane concentration equals or exceeds 500 ppm above background three (3) times within a quarterly period, the permittee shall install a new well or other collection device within 120 calendar days of the initial exceedance.

The permittee may implement an alternative remedy to the exceedance and a corresponding timeline for installation upon approval from MDEQ.

For paragraph (d) of this condition, the exceedance is not a violation of the operational requirement specified in Condition 3.D.6(e) if the permittee implements the described actions.

- (e) The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary monthly.
- (f) Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

(Ref.: 40 CFR 60.765(c) and 60.766(f); Subpart XXX)

5.B.12 For Emission Point AA-001, the permittee shall demonstrate compliance with the requirements outlined in Condition 3.D.6(a) by installing both a sampling port and thermometer (or any other temperature measuring device) or access for temperature measurements at each wellhead and adhering to the following monitoring requirements:

- (a) Measure the gauge pressure in the gas collection header monthly.
- (b) Monitor the nitrogen or oxygen concentration in the landfill gas monthly using the following procedures:
 - (1) The nitrogen level must be determined by using EPA Test Method 3C (“Method 3C”), unless an alternative test method is established;
 - (2) The oxygen level must be determined by an oxygen meter using either EPA Test Method 3A (“Method 3A”), Method 3C, or ASTM Standard D6522-11 (“ASTM D6522-11”) [unless an alternative test method is established]. If the sample location is prior to a combustion source, the permittee shall

include the following requirements in the determination:

- (i) The span must be set between ten (10) percent and twelve (12) percent oxygen;
 - (ii) A data recorder is not required;
 - (iii) Only two calibration gases are required, a zero and span;
 - (iv) A calibration error check is not required; and
 - (v) The allowable sample bias, zero drift, and calibration drift are $\pm 10\%$.
- (3) The permittee may use a portable gas composition analyzer to monitor the oxygen levels provided that the analyzer is calibrated **and** the analyzer meets all quality assurance / quality control (QA/QC) requirements specified in either Method 3A or ASTM D6522-11
- (c) Monitor the temperature of the landfill gas monthly. The temperature measuring device must be calibrated annually using the procedure outlined in Section 10.3 of EPA Test Method 2.

In addition, the permittee shall maintain up-to-date records that detail all monitoring data for the parameters within this condition.

(Ref.: 40 CFR 60.766(a) and 40 CFR 60.768(h); Subpart XXX)

- 5.B.13 For Emission Point AA-001, as applicable, the permittee shall demonstrate compliance with the design and operational requirements specified in Condition 3.D.8 by calibrating, maintaining, and operating the following equipment in accordance with the manufacturer's specifications (as applicable):

- (a) If using an enclosed combustor:
- (1) A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of $\pm 1\%$ of the temperature being measured (expressed in $^{\circ}\text{C}$) or $\pm 0.5^{\circ}\text{C}$ (whichever is greater). A temperature monitoring device is not required for boilers or process heaters with design heat input capacity equal to or greater 150 MMBTU per hour; and
 - (2) A device that records flow to the control device and bypass of the control device (if applicable). In addition, the permittee shall perform the following actions:
 - (i) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every fifteen (15) minutes; and

- (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.
- (b) If using a non-enclosed flare:
 - (1) 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
 - (2) A device that records flow to the flare and bypass of the flare (if applicable). Additionally, the permittee shall perform the following actions:
 - (i) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every fifteen (15) minutes; and
 - (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.
- (c) If using a gas treatment system:
 - (1) All associated monitoring systems in accordance with the site-specific treatment system monitoring plan [as required by Condition 5.B.16(f)(2)];
 - (2) A device that records flow to the flare and bypass of the flare (if applicable). Additionally, the permittee shall perform the following actions:
 - (i) Install, calibrate, and maintain a gas flow rate measuring device that must record the flow to the control device at least every fifteen (15) minutes; and
 - (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.
- (d) If using a control device other than a non-enclosed flare, an enclosed combustor, or a treatment system: the permittee shall provide information satisfactory to MDEQ describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures.

The monitoring requirements for any of the listed control device options shall apply at all times the control device is operating (except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system QA/QC activities). However, the permittee shall complete all monitoring system repairs in response to monitoring system malfunctions and return the monitoring system to operation as expeditiously as practicable.

(Ref.: 40 CFR 60.766(b) – (d), (g), and (h); Subpart XXX)

- 5.B.14 For Emission Point AA-001, the permittee shall calculate the total NMOC mass emission rate using “Equation 6” after the installation and start-up of an overall GCCS that complies with applicable requirements to determine when the overall system can be capped, removed, or decommissioned:

$$M_{NMOC} = 1.89 \times 10^{-9} (Q_{LFG}) (C_{NMOC}) \quad \text{(Eqn. 6)}$$

where:

M_{NMOC} = The total NMOC emission rate, in Mg per year;

Q_{LFG} = The landfill gas flow rate, in cubic meters per minute;

C_{NMOC} = The NMOC concentration, in ppmv as hexane.

The “ Q_{LFG} ” and “ C_{NMOC} ” values shall be determined in accordance with the following requirements:

- (a) “ 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 Method 2E;
- (b) The average “ C_{NMOC} ” must be determined in accordance with the requirements specified in Condition 5.B.5(b)(1); and
- (c) The permittee may use another method (or methods) to determine the “ Q_{LFG} ” and/or “ C_{NMOC} ” if the method(s) has been approved by MDEQ.

(Ref.: 40 CFR 60.764(b); Subpart XXX)

- 5.B.15 For Emission Point AA-001, the permittee shall maintain the following information upon such time the permittee is subject to the installation and operation of the GCCS:
- (a) The design capacity report that triggered applicability to Subpart XXX;
 - (b) The current amount of solid waste in-place;
 - (c) The year-by-year waste acceptance rate; and

- (d) All applicable records associated required by 40 CFR 60.768(b) – (e), Subpart XXX.

(Ref.: 40 CFR 60.768(a) – (e); Subpart XXX)

- 5.B.16 For Emission Point AA-001, the permittee shall maintain up-to-date records that detail all surface emissions monitoring and the information related to monitoring instrument calibrations conducted in accordance with Sections 8 and 10 of Method 21 to demonstrate that site-specific surface methane emissions are below 500 ppm by conducting “Tier 4” [as outlined in Condition 5.B.5(d)].

In addition, the permittee shall maintain the following records:

- (a) Calibration records:
- (1) The date of calibration and the initials of operator performing the calibration;
 - (2) The calibration gas cylinder identification, certification date, and certified concentration;
 - (3) The instrument scale(s) used;
 - (4) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value;
 - (5) If an owner or operator makes their own calibration gas, a description of the procedure used.
- (b) Digital photographs of the instrument setup that include the wind barrier. The photographs must be time- and date-stamped and taken at the first sampling location prior to actual sampling and at the last sampling location after actual sampling at the end of each sampling day for the duration of the TIER 4 monitoring demonstration;
- (c) A time-stamp of each surface scan reading:
- (1) The time-stamp should be detailed to the nearest second, based on when the sample collection begins;
 - (2) 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).
- (d) The location of each surface scan reading. The permittee shall determine the coordinates using an instrument with an accuracy of at least four (4) meters. Coordinates must be in decimal degrees with at least five (5) decimal places.
- (e) The monitored methane concentration (in ppm) of each reading.

- (f) The background methane concentration (in ppm) after each instrument calibration test;
- (g) The adjusted methane concentration using most recent calibration (in ppm);
- (h) For readings taken at each surface penetration, the unique identification location label matching the label specified in 40 CFR 60.768(d), Subpart XXX;
- (i) Records of the operating hours of the gas collection system for each destruction device.

(Ref.: 40 CFR 60.768(g); Subpart XXX)

C. SPECIFIC REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Reporting Requirement
AA-001	40 CFR 61.154(e)(1)(iv); Subpart M	5.C.1	Asbestos Waste	Report the Presence of Improperly Enclosed or Uncovered Asbestos-Containing Waste
	40 CFR 61.154(e)(3); Subpart M	5.C.2		Report any Attempted Waste Discrepancy Reconciliations
	40 CFR 61.154(g) and 61.151(d); Subpart M	5.C.3		Notification of Excavation / Disturbance
	40 CFR 61.154(g) and 61.151(e); Subpart M	5.C.4		Notification of Asbestos-Containing Material
	40 CFR 60.767(b); Subpart XXX	5.C.5	NMOCs	Submit NMOC Emission Rate Report
	40 CFR 60.767(c); Subpart XXX	5.C.6	GCCS	Submit a Design Plan
	40 CFR 60.767(d); Subpart XXX	5.C.7		Submit a Revised Design Plan
	40 CFR 60.767(e); Subpart XXX	5.C.8	Closure Requirements	Submit a Closure Report
	40 CFR 60.767(f); Subpart XXX	5.C.9		Submit an Equipment Removal Report
	40 CFR 60.767(g); Subpart XXX	5.C.10	Operational Requirements	Submit an Annual Report for an Active Collection System
	40 CFR 60.767(h) and (i); Subpart XXX	5.C.11	NMOCs Methane	Submit Performance Stack Test Results / Reports
	40 CFR 60.767(j); Subpart XXX	5.C.12	Corrective Actions	Submit Corrective Action Reports
	40 CFR 60.767(l); Subpart XXX	5.C.13	Surface Methane Emissions	Notification on “Tier 4” Monitoring

5.C.1 For Emission Point AA-001, the permittee shall report (in writing) to MDEQ the presence of a significant amount of improperly enclosed or uncovered asbestos-containing waste material (as determined by the permittee) in any waste shipment received. The report shall include a copy of the applicable waste shipment record.

(Ref.: 40 CFR 61.154(e)(1)(iv); Subpart M)

5.C.2 For Emission Point AA-001, the permittee shall immediately report (in writing) to MDEQ regarding the matter **if** any discrepancy reconciliation as outlined in Condition 5.B.1 cannot be completed within fifteen (15) days after receiving the specific waste. The report shall include a description of the discrepancy, all attempts to reconcile the discrepancy, and a copy of the waste shipment record.

(Ref.: 40 CFR 61.154(e)(3); Subpart M)

- 5.C.3 For Emission Point AA-001, the permittee shall notify MDEQ (in writing) at least forty-five (45) days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, 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 MDEQ at least ten (10) working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. All required notices shall include the following information:

- (a) Scheduled starting and completion dates;
- (b) Reason for disturbing the waste;
- (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, MDEQ may require changes in the emission control procedures to be used; and
- (d) Location of any temporary storage site and the final disposal site.

(Ref.: 40 CFR 61.154(g) and 61.151(d); Subpart M)

- 5.C.4 For Emission Point AA-001, the permittee shall record (in accordance with State law) a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search within sixty (60) days of the landfill becoming inactive. This notation will in perpetuity notify any potential purchaser of the property the following information:

- (a) The land has been used for the disposal of asbestos-containing waste material;
- (b) The survey plot and record(s) of the location(s) and quantity of asbestos-containing waste disposed of within the landfill have been filed with MDEQ; and
- (c) The site is subject to 40 CFR Part 61, subpart M.

(Ref.: 40 CFR 61.154(g) and 61.151(e); Subpart M)

- 5.C.5 For Emission Point AA-001, the permittee shall prepare and submit a report to MDEQ that details the " $M_{NMO C}$ " in accordance with the following provisions:

- (a) The initial report must be submitted within ninety (90) days after construction has

commenced on the affected source. All subsequent reports must be submitted no later than one (1) calendar year after the most recent submission, except as provided in paragraph (c) of this condition.

- (b) The report must contain an annual or 5-year estimate of the " M_{NMOC} " calculated using either Condition 5.B.4 (i.e., Equation 1 or Equation 2) or Condition 5.B.14 (i.e., Equation 6).
- (c) If the estimated " M_{NMOC} " as reported in an annual report to MDEQ is less than 34 Mg per year in each of the next five (5) consecutive years, the permittee may elect to submit an estimate of the " M_{NMOC} " for the next 5-year period in lieu of annual reporting. This estimate must include the current amount of solid waste-in-place and the estimated waste acceptance rate for each year of the 5 years for which the " M_{NMOC} " is estimated.

All data and calculations upon which this estimate is based on must be provided to MDEQ. This estimate must be revised at least once every five (5) years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate reported in any year in the 5-year estimate, a revised 5-year estimate must be submitted to MDEQ. The revised estimate must cover the 5-year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.

- (d) The report must include all applicable data, calculations, sample reports and measurements used to estimate annual or 5-year emissions.

The permittee is exempt from the reporting requirements of this condition after during such time as the operating GCCS complies with all applicable design requirements, operational standards, and compliance requirements within Subpart XXX.

(Ref.: 40 CFR 60.767(b); Subpart XXX)

5.C.6 For Emission Point AA-001, the permittee shall submit a GCCS design plan to MDEQ for approval in accordance with the schedule outlined in paragraph (d) of this condition. The GCCS design plan shall be prepared and approved by a certified professional engineer and meet the following requirements:

- (a) The GCCS as described in the design plan must meet the design requirements specified in Conditions 3.D.6 and 3.D.8;
- (b) The GCCS design plan must include any proposed alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions promulgated by Subpart XXX;
- (c) The GCCS design plan must either conform with the specifications for active

collection systems in Conditions 3.D.4, 3.D.7 and 3.D.9 or include a demonstration to MDEQ's satisfaction of the sufficiency of alternative provisions;

- (d) The GCCS design plan must be submitted to MDEQ for approval within one (1) year of either the first " M_{NMOC} " report that demonstrates the M_{NMOC} equals or exceeds 34 Mg per year or the first measured methane concentration of 500 ppm or greater from the surface of the affected source, except for the following provisions:
- (1) If the permittee elects to recalculate the " M_{NMOC} " after determining the average site-specific " C_{NMOC} " [outlined in Condition 5.B.5(b)] and the resulting rate is less than 34 Mg per year, annual periodic reporting must be resumed using the average site-specific " C_{NMOC} " until the calculated emission rate is equal to or greater than 34 Mg per year or the affected source is closed.

The revised " M_{NMOC} " report (with the recalculated emission rate based on "Tier 2" analysis) must be submitted within 180 days of the first calculated exceedance of 34 Mg per year.

- (2) If the permittee elects to recalculate the " M_{NMOC} " after determining a site-specific " k " value [as outlined in Condition 5.B.5(c)] and the resulting " M_{NMOC} " is less than 34 Mg per year, annual periodic reporting must be resumed. The resulting " k " value (in conjunction with the average site-specific " C_{NMOC} ") must be used in the emission rate calculation until such a time as the emissions rate calculation results in an exceedance.

The revised " M_{NMOC} " report based on "Tier 3" and the resulting " k " value must be submitted to MDEQ within one (1) year of the first calculated emission rate equaling or exceeding 34 Mg per year.

- (3) If the permittee elects to demonstrate that the site-specific surface methane emissions are below 500 ppm [as outlined in Condition 5.B.5(d)], the permittee shall submit an annual "Tier 4" surface emissions report until surface emissions readings of 500 ppm methane or greater are detected.

MDEQ may request such additional information as may be necessary to verify the reported instantaneous surface methane emission readings. The "Tier 4" emissions report must clearly identify the location, date and time (to the nearest second), average wind speeds (including wind gusts), and reading of any value 500 ppm methane or greater (other than non-repeatable, momentary readings).

For location purposes, the permittee shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least four (4) meters. The coordinates must be in decimal degrees with at least five (5)

decimal places. The “Tier 4” surface emission report must also include the results of the most recent “Tier 1” and “Tier 2” to verify that the “ M_{NMO} ” does not exceed 50 Mg per year.

- (i) The initial “Tier 4” surface emissions report must be submitted annually, starting within thirty (30) days of completing the fourth consecutive quarter of “Tier 4” surface emissions monitoring that indicates the site-specific surface methane emissions are below 500 ppm.
- (ii) The “Tier 4” surface emissions report must be submitted within one (1) year of the first measured surface exceedance of 500 ppm methane.
- (e) The permittee must notify MDEQ that the design plan is completed and submit a copy of the plan's signature page. MDEQ will then have ninety (90) days to decide whether the design plan should be submitted for review. If MDEQ chooses to review the plan, the approval process continues as described in paragraph (f) of this condition. However, if MDEQ indicates that submission is not required or does not respond within 90 days, the permittee may continue to implement the plan with the recognition that the permittee is proceeding at their own risk.

In the event that the design plan is required to be modified to obtain approval, the permittee must take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.

- (f) Upon receipt of an initial or revised design plan, MDEQ must review the information submitted and either approve it, disapprove it, or request that additional information be submitted. Because of the many site-specific factors involved with landfill gas system design, alternative systems may be necessary.

If MDEQ does not approve a design plan, disapprove a design plan, nor request that additional information be submitted within 90 days of receiving a design plan, the permittee may continue with implementation of the design plan, recognizing they would be proceeding at their own risk.

(Ref.: 40 CFR 60.767(c); Subpart XXX)

5.C.7 For Emission Point AA-001, the permittee shall submit a revised design plan to MDEQ for approval under the following provisions:

- (a) At least ninety (90) days before expanding operations to an area not covered by the previously approved design plan;

- (b) Prior to installing or expanding the gas collection system in a way that is not consistent with the design plan that was submitted to MDEQ as specified in Condition 5.C.6.

(Ref.: 40 CFR 60.767(d); Subpart XXX)

- 5.C.8 For Emission Point AA-001, the permittee shall submit a closure report to MDEQ within thirty (30) days of ceasing the acceptance of waste at the landfill. MDEQ may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements promulgated by 40 CFR 258.60, Subpart F.

If a closure report has been submitted to MDEQ, no additional waste material may be placed into the affected source without filing a notification of modification as described by 40 CFR 60.7(a)(4), Subpart A.

(Ref.: 40 CFR 60.767(e); Subpart XXX)

- 5.C.9 For Emission Point AA-001, the permittee shall submit an equipment removal report to MDEQ thirty (30) days prior to the removal or the operation cessation of any control equipment. The report shall contain the following items:

- (a) A copy of the closure report submitted in accordance with Condition 5.C.8;
- (b) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; and
- (c) Dated copies of three (3) successive " M_{NMOC} " reports demonstrating that the affected source is no longer emitting 34 Mg or greater of NMOC per year.

(Ref.: 40 CFR 60.767(f); Subpart XXX)

- 5.C.10 For Emission Point AA-001, the permittee shall submit to the MDEQ an annual report that includes the following information when using an active collection system designed in accordance with Condition 3.D.6(a):

- (a) The value and length of time for each exceedance of every applicable parameter monitored in Conditions 5.B.12 and 5.B.13;
- (b) The 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;
- (c) The description and duration of all periods when the control device or treatment system was not operating and length of time either component was not operating;

- (d) All periods when the overall gas collection system was not operating;
- (e) The location of each exceedance of the 500 ppm methane concentration criteria outlined in Condition 3.D.6(e) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

For location purposes, the permittee shall determine the latitude and longitude coordinates using an instrument with an accuracy of at least four (4) meters. The coordinates must be in decimal degrees with at least five (5) decimal places.

- (f) The date of installation and the location of each well or collection system expansion added pursuant to Conditions 5.B.8 through 5.B.10 and 5.B.11(d);
- (g) For any corrective action analysis for which corrective actions are required in either Condition 5.B.8 or 5.B.9 and that takes more than sixty (60) days to correct the exceedance:
 - (1) The root cause analysis conducted, including a description of the recommended corrective action(s);
 - (2) The date for corrective action(s) already completed following the positive pressure reading; and
 - (3) For action(s) not already completed, a schedule for implementation, including proposed commencement and completion dates.

(Ref.: 40 CFR 60.767(g); Subpart XXX)

- 5.C.11 For Emission Point AA-001, the permittee shall submit the results of any required performance test to EPA and MDEQ within sixty (60) days of concluding the testing event. The permittee shall use the procedure outlined in either 40 CFR 60.767(i)(1)(i) or (ii), Subpart XXX to submit the results to EPA.

For any initial performance stack test required by Condition 3.D.8, the report shall also include the following information:

- (a) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;
- (b) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;

- (c) Documentation on the presence of asbestos or nondegradable waste material for each area from which collection wells have been excluded based on the presence of asbestos or nondegradable waste material;
- (d) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area;
- (e) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the affected source; and
- (f) The provisions for the control of off-site gas migration.

(Ref.: 40 CFR 60.767(h) and (i); Subpart XXX)

5.C.12 For Emission Point AA-001, the permittee shall submit a report in accordance with the following applicable requirements:

- (a) For corrective action that is required by Condition 5.B.8 or 5.B.9 and is expected to take longer than 120 days from the initial exceedance to complete, the permittee shall submit the root cause analysis, the corrective action analysis, and a corresponding implementation timeline to MDEQ as soon as practicable but no later than seventy (75) days after the first measurement of positive pressure or a temperature monitoring value of 131°F or greater. MDEQ must approve the plan for corrective action and the corresponding timeline.
- (b) For corrective action that is required by Condition 5.B.8 or 5.B.9 and is not completed within sixty (60) days after the initial exceedance, the permittee shall submit a notification to the MDEQ as soon as practicable but no later than seventy-five (75) days after the first measurement of positive pressure or temperature exceedance.

(Ref: 40 CFR 60.767(j); Subpart XXX)

5.C.13 For Emission Point AA-001, the permittee shall provide notification of the date(s) it intends to demonstrate that site-specific surface methane emissions are below 500 ppm methane (based on “Tier 4”). The notification must also include a description of the wind barrier to be used during the surface emission. The referenced notification must be postmarked not less than thirty (30) days prior to the demonstration.

If there is a delay to the initially scheduled “Tier 4” surface emissions monitoring date due to weather conditions [including not meeting the wind requirements outlined in Condition 5.B.4(d)(1)(iii)], the permittee shall notify MDEQ no later than forty-eight (48) hours before any delay or cancellation in the original test date and arrange an updated date with MDEQ by mutual agreement.

(Ref.: 40 CFR 60.767(l); Subpart XXX)

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 None permitted.

SECTION 7. TITLE VI REQUIREMENTS

The following are applicable or potentially applicable requirements originating from Title VI of the Clean Air Act – Stratospheric Ozone Protection. The full text of the referenced regulations may be found on-line at <http://www.ecfr.gov/> under Title 40, or DEQ shall provide a copy upon request from the permittee.

- 7.1 If the permittee produces, transforms, destroys, imports or exports a controlled substance or imports or exports a controlled product, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart A – Production and Consumption Controls.
- 7.2 If the permittee performs service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart B – Servicing of Motor Vehicle Air Conditioners.
- 7.3 The permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart E – The Labeling of Products Using Ozone-Depleting Substances, for the following containers and products:
 - (a) All containers in which a class I or class II substance is stored or transported;
 - (b) All products containing a class I substance; and
 - (c) All products directly manufactured with a process that uses a class I substance, unless otherwise exempted by this subpart or, unless EPA determines for a particular product that there are no substitute products or manufacturing processes for such product that do not rely on the use of a class I substance, that reduce overall risk to human health and the environment, and that are currently or potentially available. If the EPA makes such a determination for a particular product, then the requirements of this subpart are effective for such product no later than January 1, 2015.
- 7.4 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart F – Recycling and Emissions Reduction:
 - (a) Servicing, maintaining, or repairing appliances containing class I, class II or non-exempt substitute refrigerants;
 - (b) Disposing of appliances, including small appliances and motor vehicle air conditioners; or
 - (c) Refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, as

well as persons selling, offering for sale, and/or purchasing class I, class II, or non-exempt substitute refrigerants.

- 7.5 The permittee shall be allowed to switch from any ozone-depleting substance to any acceptable alternative that is listed in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G – Significant New Alternatives Policy Program. The permittee shall also comply with any use conditions for the acceptable alternative substance.
- 7.6 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart H – Halon Emissions Reduction:
- (a) Any person testing, servicing, maintaining, repairing, or disposing of equipment that contains halons or using such equipment during technician training;
 - (b) Any person disposing of halons;
 - (c) Manufacturers of halon blends; or
 - (d) Organizations that employ technicians who service halon-containing equipment.

APPENDIX A

List of Abbreviations Used In this Permit

BACT	Best Available Control Technology
CEM	Continuous Emission Monitor
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COM	Continuous Opacity Monitor
COMS	Continuous Opacity Monitoring System
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
gr./dscf	Grains Per Dry Standard Cubic Foot
HP	Horsepower
HAP	Hazardous Air Pollutant
lb./hr	Pounds per Hour
M or K	Thousand
MACT	Maximum Achievable Control Technology
MM	Million
MMBTU/H	Million British Thermal Units per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 61; or National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR Part 63
NMVOC	Non-Methane Volatile Organic Compounds
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR Part 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 µm in diameter
PM _{2.5}	Particulate Matter less than 2.5 µm in diameter
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOHAP	Volatile Organic Hazardous Air Pollutant
VOC	Volatile Organic Compound