TITLE V OPERATING PERMIT

Permittee:	**Big Sky Environmental Solid Waste Facility**
Location:	**5100 Flat Top Road** **Adamsville, Alabama 35005**
Permit No:	**4-07-1037-05**
Issuance Date:	**DRAFT FOR PUBLIC COMMENT**
Expiration Date:	**N/A – Permit duration will be 5 years from date of issuance of final permit**
Nature of Business:	**Municipal Solid Waste Landfill**

Emissions Unit No.	Emissions Unit Description
001	Municipal Solid Waste Landfill – 3,675,550 Megagrams Design Capacity – Subject to FIP, 40 CFR 62, Subpart OOO– Location Defined by ADEM Solid Waste Permit 37–48
002	Stage I Controlled Gasoline Dispensing Facility with 6,000-Gallon Tank & Dispensing Nozzle

This Permit is issued pursuant to and is conditioned upon the compliance with the provisions of the Jefferson County Board of Health Air Pollution Control Rules and Regulations, the applicable requirements of the Clean Air Act implementation plan for Alabama approved or promulgated by the United States Environmental Protection Agency (EPA) through rulemaking under title I of the Clean Air Act (identified in 40 CFR 52, Subpart B) and other applicable requirements as defined in section 18.1.1(e) of the Jefferson County Board of Health Rules and Regulations, Section 18 of the Alabama Air Pollution Control Act of 1971, Act No. 769 (Regular Session, 1971), Section 22-28-16 of the Alabama Air Pollution Control Act as amended, Orders of the Jefferson County Board of Health, Orders of the Director of the Alabama Department of Environmental Management (ADEM), and any applicable local, state or federal Court Order. This Permit is subject to the accuracy of all information submitted relating to the permit application and to the conditions appended hereto. It is valid from the date of issuance until the expiration date and shall be posted or kept under file at the source location described above and shall be made readily available for inspection at any reasonable time to any and all persons who may request to see it. This Permit is not transferable.

Pursuant to the Clean Air Act, conditions of this permit are federally enforceable by EPA, The Jefferson County Board of Health, ADEM and citizens in general. However, provisions that are not required by the Clean Air Act or under any of its applicable requirements, are considered to be Jefferson County provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate Sections of this Operating Permit and are specifically identified as not being federally enforceable.

Jonathan Stanton, Director
Environmental Health Services

Approved: David Hicks, DO, MPH, FAAFP
Health Officer

In addition to compliance with Alabama Air Pollution Control Act Number 769 (Regular Session, 1971) and Act Number 612 (Regular Session, 1982) and with all applicable Air Pollution Control Rules and Regulations, the conditions which are listed below are hereby contained in and made a part of this permit. For each citation to a Jefferson County Board of Health regulation provided in connection with a permit condition (other than for those permit conditions that are specifically identified in the permit as not being federally enforceable), Appendix A to this permit identifies the corresponding ADEM regulation that has been approved by EPA as part of the Clean Air Act implementation plan for Alabama (identified in 40 CFR 52, Subpart B). The corresponding ADEM regulations, together with the cited Jefferson County Board of Health regulations, serve as the origin and authority for the associated permit term or condition.

GENERAL PERMIT CONDITIONS

No.	General Permit Conditions	Regulations
	Definitions	
1.	For the purposes of this Major Source Operating Permit, the following terms will have the meanings ascribed to in this permit: "40 CFR 51" shall be an acronym for Part 51 of Title 40 of the Code of Federal Regulations. "40 CFR 60" shall be an acronym for Part 60 of Title 40 of the Code of Federal Regulations. "40 CFR 61" shall be an acronym for Part 61 of Title 40 of the Code of Federal Regulations. "40 CFR 63" shall be an acronym for Part 63 of Title 40 of the Code of Federal Regulations. "40 CFR 82" is an acronym for Part 82 of Title 40 of the Code of Federal Regulations. "40 CFR 98" shall be an acronym for Part 98 of Title 40 of the Code of Federal Regulations. "Act" shall mean the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. "Active landfill" means a landfill in which solid waste is being placed or a landfill that is planned to accept waste in the future. "ADEM" shall mean the Alabama Department of Environmental Management. "Administrator" means: 1. For municipal solid waste landfills covered by the federal plan, the Administrator of the EPA or his/her authorized representative (e.g., delegated authority); 2. For municipal solid waste landfills covered by an approved state plan, the director of the state air pollution control agency or his/her authorized representative. "Asbestos containing waste material" shall mean mill tailing or any waste that contains commercial asbestos and is generated by a source that is subject to 40 CFR 61, Subpart M. "Bioreactor" means a portion of a municipal solid waste landfill where any liquid other than leachate (leachate includes landfill gas condensate) is added in a controlled fashion into the waste mass (with or without leachate recirculation) to reach a minimum average	1.3 61.141 62.16730 63.1990 98.2

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	moisture content of at least 40% by weight to accelerate or enhance the anaerobic (without oxygen) biodegradation of waste. "Carbon dioxide equivalent or CO_2e" means the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another greenhouse gas, and is calculated using Equation A-1 of 40 CFR 98. "Closed landfill" means a landfill in which solid waste is no longer being placed, and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed under 40 CFR 60.7(a)(4). Once a notification of modification has been filed, and additional solid waste is placed in the landfill, the landfill is no longer closed. "Department" shall mean the Jefferson County Department of Health. "Design capacity" means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the state, local, or tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site-specific density, which must be recalculated annually. "Deviation" means any instance in which the permittee fails to meet any requirement or obligation established by regulation, including but not limited to any emission limitation, operating limit, work practice standard, or any permit term or condition, or fails to meet any term or condition adopted to implement an applicable requirement, including but not limited to emission limitations during periods of startup, shutdown or malfunction. A deviation is not always a violation. The determination of whether a deviation is a violation is at the discretion of the enforcement authority. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Act. "EPA" means the U.S. Environmental Protection Agency. "Fugitive emissions" means any pollutant released to the atmosphere that is not discharged through a system of equipment that is specifically designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. Fugitive emissions include pollutants released to the atmosphere through windows, doors, vents, or other building openings. Fugitive emissions also include pollutants released to the atmosphere through other general building ventilation or exhaust systems not specifically designed to capture pollutants at the source. "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (4 psia) or greater, which is used as a fuel for internal combustion engines. "GHG" shall be an acronym for greenhouse gases as listed in table A-1 of 40 CFR 98. "HAP" shall be an acronym for Hazardous Air Pollutant as listed in Appendix D of the Rules and Regulations. "Modification" means an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity as of July 17, 2014. Modification does not occur until the owner or operator commences construction on the lateral or vertical expansion.	

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	"Municipal solid waste landfill or MSW landfill" means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA, Subtitle D wastes (§257.2 of Title 40) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned. An MSW landfill may be a new MSW landfill, an existing MSW landfill, or a lateral expansion. "Municipal solid waste landfill emissions or MSW landfill emissions" means gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste. "NMOC" means nonmethane organic compounds, as measured according to the provisions of §62.16718. "NSPS" shall be an acronym for "New Source Performance Standards." "NESHAP" shall be an acronym for "National Emission Standards for Hazardous Air Pollutants." "Permittee" means the holder of an operating permit issued by the Department. "Responsible official" means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and the delegation of authority to such representatives is approved in advance by the Department. "Rules and Regulations" shall mean the Jefferson County Board of Health Air Pollution Control Rules and Regulations. "Saturated material" means, for purposes of 40 CFR 60, Subpart OOO, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition. "Stationary Source" means any building, structure, facility or installation that emits or may emit any regulated pollutant as defined in Part 18.1 of the Rules and Regulations or any pollutant listed in Appendix D of the Rules and Regulations. "Source" shall mean any building, structure, facility, installation, article, machine, equipment, device, or other contrivance which emits or may emit any air contaminant. Any activity which utilizes abrasives or chemicals for cleaning or any other purpose (such as cleaning the exterior of buildings) which emits air contaminants shall be considered a source. "Volatile Organic Compound" means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any such organic compound other than those listed under Part 1.3 of the Rules and Regulations and/or under 40 CFR §51.100(s)(1). "Wet material processing operation(s)" means any of the following:	

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	1. Wet screening operations and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials up to the first crusher, grinding mill or storage bin in the production line; or 2. Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations that process saturated materials up to the first crusher, grinding mill or storage bin in the production line. In addition, the individual definitions as specified in each applicable rule, regulation, or standard shall be utilized where applicable.	
	General Conditions	
2.	**Basis for Permit** This Operating Permit is issued based on provisions contained in all existing Jefferson County Board of Health Air Pollution Control Rules and Regulations (hereinafter called Rules and Regulations in this permit). In the event amendments, revisions or additions are made to these Rules and Regulations, it shall be the responsibility of the permit holder (hereinafter called the permittee in this permit) to comply with such new Rules and Regulations. Additions and revisions to the conditions in this Operating Permit will be made by the Jefferson County Department of Health (hereinafter called the Department), if necessary, to assure that the Rules and Regulations are not violated.	AL Act 769 AL Act 612
3.	**Authority** Nothing in this Operating Permit or conditions appended thereto shall negate any authority granted to this Department or the Health Officer pursuant to Alabama Air Pollution Control Act No. 769 (Regular Session, 1971) and Act No. 612 (Regular Session, 1982) or any regulations promulgated thereunder.	AL Act 769 AL Act 612
4.	**Acceptance of Permit** The permittee is required to bring the operation of a source within the standards of Paragraph 18.2.8(a) of the Rules and Regulations. Commencing construction or operation of the source shall be deemed acceptance of all conditions specified. A Title V Operating Permit with revised conditions may be issued upon receipt of a new application if the permittee demonstrates that the source can operate within the standard of Paragraph 18.2.8(a) of the Rules and Regulations under the revised conditions. This Title V permit supersedes all permits previously issued by the Department to this facility. The permittee shall return the expired permit(s) to the Department within 30 days after this permit is issued.	18.2.4
5.	**Compliance With Existing and Future Regulations** A. The permittee shall comply with all conditions of the Rules and Regulations. B. The permittee shall continue to comply with the applicable requirements with which the company has certified that it is already in compliance. C. The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit, and shall follow any more detailed schedule of compliance set forth in the applicable requirement. D. The permittee shall be subject to MACT standards from the date of publication by EPA and shall comply with the rule by the compliance date.	18.5.6 18.4.8(h) 18.7.3 18.7.6
6.	**Noncompliance** The permittee shall comply with all terms and conditions of the permit. Noncompliance with any term or condition of a permit will constitute a violation of the Act and the Rules and Regulations and may result in enforcement action; including but not limited to, permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.	70.6(a)(6)(i) 18.5.6

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7.	**Compliance Defense** The permittee shall not use as a defense in an enforcement action, that maintaining compliance with permit conditions would have required halting or reducing the permitted activity.	18.5.7
8.	**Credible Evidence** Any credible evidence or information relevant to whether a source may have been in compliance with applicable requirements can be used to establish whether or a not an owner or operator has violated or is in violation of any rule or standard in these Regulations and/or any applicable provisions of 40 CFR 60.	1.18 60.11(g)
9.	**Circumvention** No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminants which would otherwise violate these rules and regulations.	1.15
10.	**Bypass of Control Equipment Prohibited** The permittee shall not bypass, without prior approval from this Department, any air pollution control device. The permittee shall not shut down any air pollution control device unless such shutdown is accompanied by the corresponding shutdown of the respective source which the device is intended to control.	18.2.4
11.	**Shutdown of Control Equipment** In the case of shutdown of air pollution control equipment for scheduled maintenance, the intent shall be reported to this Department at least 24 hours prior to the planned shutdown unless the scheduled shutdown is accompanied with the shutdown of the source being controlled, including the information listed in Section 1.12.1.	1.12.1
12.	**Maintenance of Controls** If a control device is installed at the facility, the following requirements apply: A. The permittee shall equip each fabric filter particulate matter control device with a pressure differential measuring device to measure the pressure drop across the filter media in the control device. The device shall be installed in a location which is easily accessible for inspection by Department personnel. B. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in accordance with the manufacturer's specifications so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emissions of air contaminants shall be maintained near the source and provided to the Department upon request. C. The permittee shall conduct routine inspections on all required control equipment. All inspection results and repair work performed on the pollution control device shall be recorded. These records shall be kept in a permanent form suitable for inspection.	18.2.4 18.5.3(a)(2)
13.	**Nothing in this Operating Permit shall alter or affect the following:** A. The provisions of Section 303 of the 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 Act; or D. The ability of EPA to obtain information from a source pursuant to Section 114 of the Act.	18.10.3
14.	**Additional Information** The permittee shall submit any additional information to the Department to supplement or correct an application promptly after becoming aware of the need for additional or corrected information. Also, the permittee shall submit additional information concerning any new requirements which have become applicable after a complete application has been filed but before a draft permit is released.	18.4.7

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15.	**Display and Availability of Permit** The permittee shall keep this Operating Permit under file or on display at all times at the site where the source is located and shall make the permit available for inspection by any and all persons who may request to see it.	18.2.2
16.	**Payment of Fees** The permittee must have paid all fees required by the Rules and Regulations or the Operating Permit is not valid. Payment of operating permit fees required under Chapter 16 of the Rules and Regulations shall be made on or before the date specified under Section 16.5.1 of the Rules and Regulations of each year. Failure to make payment of fees within 30 days of the specified date shall cause the assessment of a late fee of 3% (of the original fee) per month or fraction thereof.	18.5.11 16.1 16.4 16.5
17.	**Transfer** This permit is not transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another or from one person to another except as provided in Subparagraph 18.13.1(a)(5) of the Rules and Regulations.	18.2.6
18.	**New Air Pollution Sources and Changes to Existing Units** A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants. For a landfill, events triggering a new application include, but are not limited to, the approval by ADEM of an increase in design capacity.	1.5.15 60.7(a)(4)
19.	**Construction Not In Accordance with Applications** If the source permitted herein has not been constructed in accordance with the Operating Permit application and if the changes noted are of a substantial nature in that the amount of air contaminants emitted by the source may be increased or in that the effect is unknown, then the Operating Permit shall be revoked. No further application for an Operating Permit shall be accepted until the source has been reconstructed in accordance with the Operating Permit or until the permittee has proven to the Department that the change will not cause an increase in the emission of air contaminants.	18.2.8(e)
20.	**Expiration** A source's right to operate shall terminate upon the expiration of this Operating Permit unless a timely complete renewal application has been submitted at least 6 months, but not more than 18 months before the date of expiration or the Department has taken final action approving the source's application for renewal by the expiration date. The expiration date of this Operating Permit is printed on the first page of this permit.	18.4.3 18.5.2 18.12.2(b)
21.	**Revocation** This Operating Permit may be revoked for any of the following reasons: A. Failure to comply with any conditions of the permit; B. Failure to establish and maintain such records, make such reports, install, use and maintain such monitoring equipment or methods; and sample such emissions in accordance with such methods at such locations, intervals and procedures as may be prescribed in accordance with Section 1.9.2 of the Rules and Regulations; C. Failure to comply with any provisions of any Department administrative order issued concerning the permitted facility; D. Failure to allow entry and inspections by properly identified Department personnel; E. Failure to comply with the Rules and Regulations; or F. For any other cause, after a hearing which establishes, in the judgment of the Department, that continuance of the permit is not consistent with the purpose of the Act or Rules and Regulations.	18.2.9
22.	**Severability** In case of legal challenge to any portion of this Title V Operating Permit, the remainder of the permit conditions shall continue in force.	18.5.5

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23.	**Reopening for Cause** Under any of the following circumstances, this Operating Permit will be reopened and revised prior to the expiration of the permit: A. Additional applicable requirements under the Clean Air Act become applicable to the permittee with a remaining permit term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirements. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire. B. 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 this permit. C. The Department, ADEM or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. D. The Administrator, ADEM or the Department determines that this permit must be revised or revoked to assure compliance with the applicable requirements.	18.13.5
24.	**Changes or Termination for Cause – No Stay of Permit Conditions** This permit 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 a planned change or anticipated noncompliance will not stay any permit condition.	18.5.8
25.	**Requests for Information** The permittee shall furnish to the Department within 30 days, or for such other reasonable time as the Department may set, any information that the Department may request in writing copies of records required to be kept by the permit to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance. Upon receiving a specific request, the permittee shall also furnish to the Department copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.	18.5.10 70.6(a)(6)(v)
26.	**Entry and Inspections** The permittee shall allow the Department or authorized representative, upon presentation of credentials and other documents that may be required by law, to conduct the following: A. Enter upon the permittee's premises where a source is located or emissions related activity is conducted or where records are kept pursuant to the permit conditions; B. Review and/or copy at reasonable times any records kept pursuant to the permit conditions; C. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices or operations required by the permit; and D. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements. Denial of access upon proper identification is grounds for permit revocation.	1.8 18.7.2 18.2.9(d)
27.	**Flexibility Changes** Certain changes (per Section 502 (b)(10) of the Act) can be made to this Operating Permit without a revision if no modification as defined in the Rules and Regulations would occur and the changes do not exceed the emissions allowed under this permit provided that written notification is sent to the Department and EPA at least 7 days before the change is made. The written notification shall describe the proposed change, the date of the change, any change in emissions, and any term or condition of the permit which is no longer valid due to the change.	18.13.2
28.	**Minor Permit Modifications** Minor permit modification procedures may be used only for those permit modifications that:	18.13.3(a)(1) 18.13.3

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	A. Do not violate any applicable requirement; B. Do not involve significant changes to existing monitoring, reporting, or record keeping requirements in the permit; C. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; D. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include: 1. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Act; and 2. An alternative emissions limit approved pursuant to regulations promulgated under §112(i)(5) of the Act; E. Are not modifications under any provision of title I of the Act; and F. Are not required by Part 18.12 of this Chapter to be processed as a significant modification. An application requesting the use of minor permit modification procedures shall meet the requirements of Section 18.4.8 relative to the modification and shall include the information listed at 18.3.3(b). If the Department notifies the source that the modification does not qualify as a minor modification within 10 days after receiving the application, then the source shall apply for the change as a significant modification. Ten days after the application has been submitted to the Department, the source may make the change for which they applied unless the change does not qualify as a minor modification. After the source makes the change and until the Department takes final action on the permit application, the source must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it. A permit shield granted under Part 18.10 shall not extend to minor permit modifications. The Department may not issue a final permit modification until after EPA's 45-day review period or until EPA has notified the Department that EPA will not object to issuance of the permit modification, whichever is first.	
29.	**Significant Modifications** Modifications that are significant modifications under the PSD (Part 2.4) or nonattainment (Part 2.5) regulations, are modifications under the NSPS or NESHAPS regulations, or otherwise do not meet the requirements for minor permit modifications from Section 18.13.3 of the Rules and Regulations must be incorporated in the Operating Permit using the requirements for sources initially applying for an Operating Permit, including those for applications, public participation, review by affected States, review by ADEM, and review by EPA, as described in Parts 18.4 and 18.15 of the Rules and Regulations.	18.13.4
30.	**Off-Permit Changes** Any change which is not addressed or prohibited in the federally enforceable terms and conditions of the permit may be designated by the owner or operator as an off-permit change, and may be made without revision to the federally enforceable terms and conditions of the operating permit, provided that the change: A. Meets all applicable requirements; B. Does not violate any federally enforceable permit term or condition; C. Is not subject to any requirement or standard under title IV of the Clean Air Act; and D. Is not a modification under title I. The permittee must comply with all applicable state permitting and preconstruction review requirements. Any application pertaining to a change designated by the applicant	18.14

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	as an off-permit change shall be submitted by the applicant to EPA in fulfillment of the obligation to provide written notice, provided, that no change meeting the criteria for an insignificant activity or trivial activity is subject to the procedures set forth in this condition.	
31.	**Property Rights and Privileges** No property rights of any sort or any exclusive privilege are conveyed through the issuance of this Operating Permit.	18.5.9
32.	**Alternative Operating Scenarios** No alternative operating scenarios were identified by the permittee in its application.	18.5.13
33.	**Economic Incentives** No permit revision shall be required under any approved economic incentives, marketable permit emissions trading and other similar programs or processes for changes that are provided for in the Operating Permit.	18.5.12
34.	**Trading of Emissions Increases or Decreases** The permittee did not request authorization to trade emissions increases and decreases.	18.5.14
35.	**Emission Reduction Plan** Upon notification by this Department, the permittee shall submit an Air Pollution Emission Reduction Plan in a format approved by this Department concerning air contaminant emissions reductions to be taken during declared air pollution episodes.	18.2.8(b)
36.	**Obnoxious Odors** This Operating Permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Department inspectors, measures to abate the odorous emissions shall be taken upon determination by this Department that these measures are technically and economically feasible.	6.2.3
37.	**Title IV Requirements (Acid Rain Program)** Where an applicable requirement of Chapter 18 of the Rules and Regulations is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act (the acid rain program), both provisions shall be incorporated into the permit and shall be enforceable by the Department. Emissions exceeding any allowances that the permittee lawfully holds under title IV of the Act or the regulations promulgated thereunder are prohibited. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. No limit shall be placed on the number of allowances held by the permittee, however, allowances may not be used as a defense to noncompliance with any other applicable requirement. Any such allowance shall be accounted for according to the procedures established in the regulations promulgated pursuant to Title IV of the Act.	18.5.1(b) 18.5.4
38.	**Title VI Requirements (Refrigerants)** Any facility having appliances or refrigeration equipment, including air conditioning equipment, which use Class I or Class II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR 82, Subpart A, Appendices A and B, shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR 82, Subpart F. A. No person shall knowingly vent or otherwise release any Class I or Class II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR 82, Subpart F. B. The responsible official shall comply with all reporting and recordkeeping requirements of 40 CFR §82.166. Reports shall be submitted to the U.S. EPA and the Department as required.	40 CFR 82 18.1.1(e)(10) 18.1.1(w)(4)
39.	**Asbestos Demolition and Renovation** Demolition and renovation activities at this facility are subject to the National Emission Standard for Asbestos, 40 CFR 61, Subpart M. To determine the applicable requirements of the Standard, the permittee must thoroughly inspect the affected part of the facility	61.145 61.150 14.2.12 14.2.12(a)(1)

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	where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable asbestos-containing materials, prior to the commencement of the demolition or renovation operation. The permittee shall comply with all applicable sections of the Standard, including notification requirements, emission control and waste disposal procedures. The permittee shall also ensure that anyone performing asbestos-related work at the facility is trained and certified according to the Alabama Department of Environmental Management's regulations for Asbestos Contractor Certification.	
40.	**Prevention of Accidental Releases** The permittee shall comply with the requirements of §112(r) of the Act and 40 CFR 68 to prevent accidental releases of any substance listed pursuant to §112(r) or any other extremely hazardous substance. If the landfill has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR §68.115, the permittee shall comply with the requirements of the part no later than the latest of the following dates: A. June 21, 1999; B. Three years after the date on which a regulated substance is first listed under §68.130; or C. The date on which a regulated substance is first present above a threshold quantity.	112(r) 40 CFR 68
41.	**Testing** A source emissions test may be required by this Department at any time. The Administrator may require a performance test for a source subject to NESHAP at any time authorized by section 114 of the Clean Air Act. The permittee shall provide each point of emission with sampling ports, ladders, stationary platforms, and other safety equipment to facilitate testing. The permittee shall notify the Department in writing at least 30 days prior to conducting any required emissions test on any source. This notice shall state the source to be tested, the proposed time and date(s) of the test, the purpose of the test, and the methods to be used. The methods for such testing shall be in accordance with procedures established by 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63 and any emissions unit specific permit requirements. Performance testing to demonstrate compliance with an NSPS shall include a test method performance audit as required by §60.8(g). The permittee shall submit the results of all emissions tests in electronic form to this Department within a time period specified by this Department; however, not to exceed 30 days from the test completion date unless a longer period is specified in the applicable subpart.	1.9.1 1.10.3 18.2.5 18.2.8(c) 60.8(d) 60.8(e) 60.8(g)
42.	**Retention of Records** Records of all required monitoring data, fuel consumption, analyses, reports, MSDS, and other support information shall be retained for a minimum of 5 years from the date when the record was generated. Records must be readily accessible (on-site or retrievable within 4 hours) and suitable for inspection. Records may be kept in hard copy or electronically. Specific records to be made and retained are listed in the emission unit conditions.	18.5.3(b) 60.758
	Facility-Specific General Conditions	
43.	**Fugitive Dust** A. The permittee shall take reasonable precautions to prevent dust from any operation, process, materials handling and storage, transportation activity (including dust from paved and unpaved roads), or construction activity (including but not limited to the use, repair, alteration, and demolition of buildings) at the facility from becoming airborne. B. The permittee shall not cause or allow the discharge of visible emissions which travel beyond the property line of the facility. C. 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	6.2.1 6.2.2 6.2.3 18.2.4

No.	General Permit Conditions	Regulations
	nuisance or to violate any rule or regulation, the Health Officer may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air. Airborne fugitive dust emissions shall be prevented and addressed as needed and as appropriate to weather conditions using any or all of the following pre-approved control measures specific to the following sources of fugitive dust: 1. Mechanical cleaning (vacuuming) or water flushing of paved surfaces; 2. Wet suppression on unpaved surfaces when conditions are dry and fugitive dust could become airborne and leave property lines; 3. Application of surfactants in conjunction with the wet suppression system; 4. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land; 5. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which create airborne dust problems; 6. Adequate containment methods shall be employed during sandblasting and/or earth-working operations; and 7. By any combination of the above methods which results in the prevention of dust becoming airborne from the ground or road surface. Wet suppression may be accomplished by the application of water with or without the addition of surfactants, wetting agents or other additives to increase the effectiveness of wet suppression. Manufacturer's documentation of the contents of any chemical, surfactant, wetting agent, or other additive used for dust suppression shall be maintained and readily made available upon request by the Department.	
44.	**VOC Storage Tanks** Storage and loading of any VOC liquid with a true vapor pressure of 78 mmHg (1.5 psia) under actual operating conditions is subject to Part 8.3 of the Rules and Regulations. Loading VOC liquid into transport containers larger than 200 gallons requires the vapor and drip controls listed at Paragraph 8.3.2(c).	8.3 18.5.3
45.	**Applicability of RICE NSPS and NESHAP** Stationary reciprocating internal combustion engines (RICE) are not nonroad engines, as defined at 40 CFR 1068.30. For a portable or transportable piece of equipment powered by a RICE, if it remains at the facility for longer than 12 consecutive months or a full annual operating period, it will be considered a stationary engine, and subject to the RICE NSPS and/or NESHAP, as applicable. If such conditions are met, the permittee shall comply with all applicable requirements of the NSPS and/or NESHAP. The permittee shall also notify the Department and revision of the Permit could be required.	1.9 18.2.4 18.4 60.4200 60.4230 63.6585 1068.30
	Recordkeeping, Reports and Notifications for Entire Facility	
46.	**General Recordkeeping Requirements** The permittee shall keep records of facility-wide operations, activities and materials which have the potential to release pollutants into the atmosphere in sufficient detail to show compliance with permit conditions and to allow the annual calculation of emissions of regulated pollutants and HAP from each point and fugitive source and activity at the facility. In addition to the records required in the conditions specific to each emission unit, the permittee shall maintain records of the following: A. All reports and notifications submitted to comply with this permit; B. Results of all required performance testing, monitoring and sampling; C. Available SDS and/or other manufacturer supplied contents information relating to the VOC and HAP contents of materials used at the facility; D. For any air filtration devices, the date of filter replacement and the characteristics of the replacement filter materials; and	1.9.1 18.5.1 18.7.1 70.6(a)(3)(C)

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	E. All spills or other mishaps of VOC/HAP materials. The record shall include the date, time, and quantity (gallons or pounds) of VOC/HAP materials involved in the spill or mishap. The permittee shall document the amount of VOC/HAP materials recovered and the amount that evaporated to the atmosphere.	
47.	**Submission of Reports and Notifications** The permittee shall submit all reports and notifications required by any permit condition and by any applicable NESHAP and/or NSPS to the Department in electronic form. The reports may be sent by U. S. mail or by electronic mail. Reports submitted by US mail shall be postmarked on or before the due date. Reports submitted by electronic mail shall be received on or before the due date. **Any application form, report or compliance certification required to be submitted pursuant to the Title V program regulations shall contain a certification by a responsible official that meets the requirements of Section 18.4.9 of the Rules and Regulations ("CTAC").** The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. Each report shall identify the company name and address, the beginning and ending dates of the reporting period, and the date of report completion. The records required for each emissions unit shall be used in preparing these reports and notifications. Title V Annual Compliance Certifications and Title V 6-Month Monitoring Reports shall be submitted to the following 2 agencies: Jefferson County Department of Health Air Pollution Control Program P.O. Box 2648 Birmingham, Alabama 35202-2648 and to EPA Region IV Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30303 Submissions to EPA may be (or may be required to be) submitted using CEDRI. The information to be included in each report is listed in General Conditions 48 – 49 below. The following reports and notifications are required to be submitted on the following schedule: A. **Annual Production and Emissions Report**, due February 10 of each year covering the previous calendar year. B. **Annual Title V Compliance Certification**, covering the period from April 19 to April 18 of the following year, shall be submitted by May 18 each calendar year. C. **Annual NMOC Emission Rate Report** for 40 CFR 62, Subpart OOO may be included in the Annual Production and Emissions Report or with the results of Tier 2 testing. D. **Title V 6-Month Monitoring Report**, covering the periods of January 1 – June 30 (due July 30) and July 1 – December 30 (due January 30). E. **Tier 2 and/or Tier 3 Testing Results**, according to the timelines outlined in 40 CFR 62, Subpart OOO. F. **Annual Tier 4 Surface Emissions Report**, if demonstrating compliance using Tier 4. G. **Episodic prompt reporting of malfunctions, deviations, and violations** from the permit within 2 working days of the deviation, or discovery of a violation or within 24 hours of a malfunction. H. **Notifications** as follows: 1. Notify the EPA Administrator at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited and covered as required by 61.154(j); 2. Performance testing at least 30 days prior to scheduled testing; 3. Notification of any increase in design capacity within 30 days of ADEM approval;	1.12.2 18.4.9 18.5.3(c) 18.7.1 18.7.4 18.7.5 18.7.6 60.676(f) 61.154(j) 62.16718 62.16724(m)

No.	General Permit Conditions	Regulations
	4. Tier 4 Surface Emissions Monitoring for methane scheduling at least 30 days prior to the planned monitoring event as required by §62.16724(m). If there is a delay due to weather conditions, notify the EPA Administrator no later than 48 hours before the delay and reschedule by phone or email; 5. Notify the Department within 2 working days of discovering a deviation or violation, including the probable cause and corrective actions taken; 6. Notify the Department within 24 hours of a malfunction, including a statement of all pertinent facts and estimated duration of the breakdown; a. Notification shall also be submitted when the condition causing failure or breakdown has been corrected, and such source, equipment, or facility is again in operation. 7. Notify the Department in writing within 2 working days of becoming subject to a federal Maximum Achievable Control Technology (MACT) standard pursuant to Section 112 of the Act (local requirement). I. Results of any required testing or visible emissions observations within 45 days of completion. J. Compliance schedule progress reports according to the requirements of Section 18.7.4 of the Rules and Regulations, if a compliance schedule is required.	
48.	**Contents of Annual Production and Emissions Report** The permittee shall submit by February 10th of each year to this Department an annual summary report for the previous calendar year in a format approved by this Department of the following production information for each emissions unit permitted herein: A. The quantity in tons and megagrams of NMOC emissions generated by the landfill calculated according to the most recent version of AP-42, Section 2.4 Municipal Solid Waste Landfills; B. The type and quantity of all combustion fuels (including diesel, gasoline, natural gas and propane, but not including landfill gas) which are combusted within the landfill; C. The amount of waste accepted each calendar day; D. The design capacity of the landfill; E. The current amount of solid waste in-place; F. The year-by-year solid waste acceptance rate; G. The quantity of scrap tires processed through any tire processing operations; H. The hours of operation of equipment processing scrap tires; I. The annual throughput in gallons, the chemical or trade name, average storage temperature in degrees Fahrenheit, and average true vapor pressure in psia of the stored VOC in each storage tank; J. The dimensions of each VOC storage tank; K. The number of vehicle miles traveled within the landfill by road type (paved or unpaved); L. Available SDS and/or other manufacturer supplied information relating to the VOC and HAP contents of materials used or stored at the facility; M. The quantity of VOC and/or HAP material emitted to the atmosphere as a result of spills and other mishaps; and N. The actual calendar year emissions (point and fugitive) of all regulated air pollutants as defined in Section 16.2.7 of the Rules and Regulations, including but not necessarily limited to TSP, PM_{10}, $PM_{2.5}$, NO_X, CO, VOC, and SO_X, and all HAP based upon the above calendar year records. The submission shall include a certification by a responsible official of the truth, accuracy and completeness of the report. Concurrence with the calculations by the Department shall be the basis for annual emission fees in accordance with Chapter 16 of the Rules and Regulations.	1.5.15 1.9.2 18.7.1
49.	**Contents of Title V Submissions** Any document or report submitted under this requirement shall contain a certification of truth, accuracy, and completeness by a responsible official that meets the requirements of	1.9.2 1.12.2 18.4.9

No.	General Permit Conditions	Regulations
	Section 18.4.9 of the Rules and Regulations. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. These documents shall be submitted to the Department and to EPA.	18.7.1 18.7.5 18.5.3(c)
	A. **Title V Annual Compliance Certification**: The permittee shall provide a means for monitoring the compliance of its air pollution sources with the emissions limitation, standards and work practices listed or referenced within this permit. The compliance certification shall include the following: 1. The identification of each term or condition of this permit that is being certified; 2. The emission unit or units to which the term or condition applies; 3. The compliance status; 4. Whether compliance has been continuous or intermittent; 5. The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the Rules and Regulations; and 6. Such other facts as the Department may require to determine the compliance status of the source, including but not limited to identifying each deviation that occurred.	61.154 62.16718(a) 62.16274(c) 63.11116
	B. **Annual NMOC Emission Rate Report for 40 CFR 62, Subpart OOO**: As required by §62.16274(c), the permittee shall report the NMOC emission rate for each calendar year, calculated using the formula and procedures provided in §62.16718(a). The required information may be included in the annual emissions report and/or a Tier 2 test report.	
	C. **Title V 6-Month Monitoring Reports** shall include the following: 1. Monitoring of Waste Acceptance Rate, as demonstrated by the submission of quarterly volume reports as submitted to ADEM; 2. Monitoring of fugitive dust control measures, including the days when the water truck was not able to be used effectively for wet suppression and the reason, or a statement that no such events occurred during the reporting period; 3. The dates and brief descriptions of each time a work practice for landfilling operations was not performed and any corrective actions taken as a result, or a statement that no such events occurred during the reporting period; 4. Certification of compliance with §61.154, if asbestos has been accepted during the reporting period; 5. Certification of compliance with §63.11116; 6. Monthly throughout of gasoline for EU 002, including any months when there is no gasoline throughput; and 7. Deviations from any permit term, condition or regulation.	
	D. **Prompt Reporting of Malfunctions, Deviations, and Violations** as follows: 1. Malfunctions shall be reported within 24 hours. Reports of malfunctions shall include a statement providing all pertinent facts, including the estimated duration of the breakdown and notification when the condition causing the failure or breakdown has been corrected and the source, equipment, or facility is again in operation. 2. Deviations, violations of permit requirements, and exceedances of emission limits shall be reported within 2 working days, including the probable cause of said deviations or violations and any corrective actions or preventive measures that were taken. This episodic reporting requirement is in addition to and does not replace periodic reporting requirements.	

No.	General Permit Conditions	Regulations
50.	**Compliance Schedule Progress Reports** If any air pollution source owned or operated by the permittee is not in compliance with the emissions limitations, standards and work practices listed or referenced within this permit, the permittee shall submit progress reports including a statement of truth, accuracy and completeness of these reports shall be certified by a responsible official for that air pollution source. The first progress report shall be submitted within 3 months after the Operating Permit issuance date or within 3 months of the permittee or Department determining that the air pollution source is not in compliance. Subsequent reports shall be submitted every 6 months following the initial report. The progress reports shall contain the following: A. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and/or dates when such activities, milestones or compliance were achieved; and B. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.	18.4.8(h) 18.7.3 18.7.4
51.	**Mandatory Greenhouse Gas Reporting (for informational purposes only)** The permittee shall be aware that the facility may be required to report emissions of greenhouse gases directly to EPA under the Mandatory Greenhouse Gas Reporting rules. The reporting threshold is annual greenhouse gas emissions equal to 25,000 metric tons CO_2e, calculated using the methods presented in 40 CFR 98. Mandatory greenhouse gas reporting is made directly to EPA and is not an enforceable requirement of this Title V Major Source Operating Permit. It is the permittee's responsibility to determine whether reporting is required each calendar year.	40 CFR 98

SUMMARY OF REQUIREMENTS FOR LANDFILL OPERATIONS

Description: Municipal Solid Waste Landfill – 3,675,550 Megagrams Design Capacity – Subject to FIP,40 CFR 62, Subpart OOO – Location Defined by ADEM Solid Waste Permit 37–48

Permitted Operating Schedule: 24 hours/day, 7 days/week, and 52 weeks/year

Type of Fuel Used:

Primary: None

Secondary: None

Pollutants Emitted:

Pollutant	Regulatory Emission Limit	Applicable Regulations
NMOC (Non-Methane Organic Compounds)	34 Mg/yr or greater must install a collection and control system	40 CFR 62, Subpart OOO Potentially Subject to 40 CFR 63, Subpart AAAA
Fugitive Dust	N/A	6.2
Obnoxious Odors	N/A	6.2.3
Asbestos	N/A	40 CFR 61, Subpart M
Fugitive Dust from Stone Crushing Operations with a Capacity Exceeding 150 tons/hr for Portable Units or 25 tons/hr for Fixed Units	12% opacity from crushers, 7% opacity from other sources subject to 40 CFR 60, Subpart OOO	40 CFR 60, Subpart OOO

Pollution Control Devices: N/A

Reference Test Methods: For NMOC Concentration:
Collection: EPA Method 25 or 25C of 40 CFR 60, Appendix A
Analysis: EPA Method 18 of 40 CFR 60, Appendix A
For Site-Specific Methane Generation Rate Constant:
EPA Method 2E of 40 CFR 60, Appendix A
For Visible Emissions Observations:
EPA Method 9 of 40 CFR 60, Appendix A

Continuous Monitoring System: N/A

Monitoring Requirements: Annual Calculation of NMOC Emission Rate

Recordkeeping Requirements: Condition 5, 12, 15, & 17 of this Emission Unit

Testing Requirements: Conditions 8, 9, & 10 of this Emission Unit
General Condition 41

Reporting Requirements: Condition 5, 12, 15, & 17 of this Emission Unit
General Conditions 46 through 49

Applicable Regulations: Chapter 6
40 CFR 60, Subparts A & OOO
40 CFR 61, Subpart M
40 CFR 62, Subpart OOO

Emissions Unit No.	Emissions Unit Description
001	Municipal Solid Waste Landfill – 3,675,550 Megagrams Design Capacity – Subject to FIP, 40 CFR 62, Subpart OOO – Location Defined by ADEM Solid Waste Permit 37–48

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
1.	**Applicability** The emissions unit permitted herein includes the entire disposal facility where household and other permitted waste is placed for permanent disposal and all of the equipment and operations of the MSW landfill, including but not limited to vehicles, roads, parking areas, rock crushing operations and solid waste transfer and disposal. The emissions unit permitted herein is subject to the fugitive dust requirements of Part 6.2 of the Rules and Regulations. The disposal facility is subject to 40 CFR 62, Subpart OOO and to Title V permitting based on date of construction (on or before July 17, 2014) and the design capacity, which exceeds 2.5 million megagrams. The landfill is subject to applicable parts of 40 CFR 61, Subpart M, regarding the disposal of asbestos-containing materials and standards for roadways. Stone crushing operations with a capacity exceeding 150 tons/hr for a portable operation or 25 tons/hr for a fixed operation are subject to 40 CFR 60, Subpart OOO, unless all materials processed are saturated with water, as defined by the Subpart. The permittee is subject to the general conditions of 40 CFR 60 and 40 CFR 61, except as noted in the applicable Subparts.	6.2 60.750(d)(1) 60.670 62.16711
	40 CFR 63, Subpart AAAA Requirements	
2.	**40 CFR 63, Subpart AAAA Applicability** The landfill will become subject to the NESHAP 40 CFR 63, Subpart AAAA if any of the following events occur: A. If uncontrolled emissions equal or exceed 50 Mg/yr NMOC as calculated according to 40 CFR 63.1959(a); B. If potential emissions of HAP from the landfill or a collocated facility exceed 10 tons for any single HAP or 25 tons for total HAP; or C. If a bioreactor, as defined at 40 CFR 63.1990, is installed. As Subpart AAAA is not an applicable regulation at this time, requirements for Subpart AAAA are not included in this permit. The permittee shall submit an application to modify the permit prior to installing a bioreactor. If NMOC or HAP emissions exceed the applicable threshold, the permittee shall notify the Department within 2 working days of discovery, and submit an application for a permit revision to include the applicable requirements. NMOC emissions shall be monitored through the annual NMOC emissions rate report required by 40 CFR 62, Subpart OOO. HAP emissions shall be monitored through the annual production and emissions report required by the Department.	63.1935 63.1959 18.4.8(h) 18.5.3(c) 18.7.3 18.7.4
	SIP Requirements	
3.	**Fugitive Dust** The permittee shall take reasonable precautions to prevent dust from any operation, process, handling, storage, or transportation activity, including from dust from paved and unpaved roads and grounds in the source permitted herein from becoming airborne. The permittee shall not cause or allow the discharge of visible emissions which travel beyond the property line of the landfill. Specific dust control measures for this emission unit include, but are not limited to: A. Use of vegetative cover to minimize fugitive dust from closed landfill cells; B. Paving of plants roads to minimize fugitive dust; C. Wet suppression shall be used to prevent fugitive dust emanating from plant roads, active and completed waste cells, rock crushing operations and grounds.	6.2.1 6.2.2 18.2.4 18.5.3

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
	Wet suppression shall not be required during natural, wet conditions. Wet suppression means using water trucks or any other means of spraying or applying water. Mixing of water with material during handling also constitutes wet suppression. 1. The indicator that water application is required is the visual observation of fugitive dust from vehicle traffic and/or act of wind. 2. Wet suppression is effective when the application of water prevents visible fugitive dust from crossing property lines. 3. Inspect the water truck on each day of use prior to operation and initiate corrective action within 24 hours of the inspection if any condition observed prevents the water truck from being used to apply sufficient water to prevent fugitive dust. 4. On a daily log (which may be in the form of a checklist), record the results of the water truck inspection, and the areas to which the water was applied, or, if the water truck was not used on a given day, the reason it was not used. 5. For the semi-annual report, maintain a record of the days when the water truck was not able to be used effectively for wet suppression, including the reason it was not used. It is not necessary to list wet days in the report. D. Use compaction of daily cover materials and minimize drop heights for active landfilling operations; 1. Train employees who participate or supervise daily cover activities in work practices to minimize material drop heights and to attain and maintain adequate compaction to prevent fugitive dust. 2. Maintain records of training in fugitive dust management techniques. 3. For the semi-annual report, maintain a record of the date and a brief description of each time when a work practice was not properly performed and the corrective action(s) taken. E. Unpaved plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne: 1. By the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic; 2. By reducing the speed of vehicular traffic to a point below that at which dust emissions are created; 3. By paving; 4. By the application of binders (chemical dust suppressants) to the road surface at any time the road surface at any time the road surface is found to allow the creation of dust emissions; 5. If leachate recirculation and application has been approved by ADEM in the permittee's solid waste permit, leachate may be applied in a manner consistent with the requirements of the solid waste permit. Records of the date, time, volume applied, and the VOC/HAP contents of the applied leachate must be maintained; or 6. By any combination of the above methods which results in the prevention of dust becoming airborne from the road surface.	
4.	**<u>Obnoxious Odors</u>** This Operating Permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Department inspectors, measures to abate the odorous emissions shall be taken upon determination by this Department that these measures are technically and economically feasible.	6.2.3 18.2.4

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
5.	**Recordkeeping Requirements** The permittee shall maintain the following records to serve as the basis for annual emissions calculations and to demonstrate compliance with the Rules and Regulations: A. The amount of waste accepted each calendar day; B. The design capacity of the landfill; C. The current amount of solid waste in-place; D. The year-by-year solid waste acceptance rate; E. The number of vehicle miles traveled within the landfill by road type (paved or unpaved); F. The type and quantity of all combustion fuels (including diesel, gasoline, natural gas and propane, but not including landfill gas) which are combusted within the landfill; G. The days on which the water truck was operated to reduce fugitive dust or records of other actions taken pertaining to wet suppression, including the information required by Item C of Condition No. 3; H. The dates, times, volume applied, and VOC/HAP content of the applied leachate, as required by Item E of Condition No. 3; and I. Records pertaining to work practices used at active landfill areas to minimize fugitive dust, including the information required by Item D of Condition No. 3.	1.9.1 18.5.3
	40 CFR 62, Subpart OOO Requirements	
6.	**Annual NMOC Emission Rate Calculation** Each year, the permittee must calculate an initial NMOC emission rate using the appropriate equation(s) of §62.16718(a)(1). The NMOC emission rate must be recalculated annually, except as provided in §62.16724(c)(3). If the calculated NMOC emission rate is less than 34 megagrams per year, the permittee must: A. Submit an annual NMOC emission rate report, according to §62.16724(c), except as provided in §62.16724(c)(3); and B. Recalculate the NMOC emission rate annually until such time as the calculated emission rate is equal to or greater than 34 megagrams per year, or the landfill is closed. a. If the calculated NMOC emission rate, upon initial calculation or annual recalculation is equal to or greater than 34 megagrams per year, the permittee must either: i. Design and install an approved collection and control system consistent with the requirements of §62.16714(b) and (c); ii. Calculate the NMOC emission rate using the next higher tier in §62.16718; or iii. Conduct a surface emission monitoring demonstration using the procedures specified in §62.16718(a)(6).	62.16714(b) 62.16714(c) 62.16714(e) 62.16718(a) 62.16724(c)

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
7.	**Tier 1 NMOC Emission Rate Calculation** The permittee shall calculate the NMOC emission rate using the appropriate equation of §62.1718(a)(1) and compare the result to the threshold of 34 megagrams per year. If the result is less than 34 megagrams per year, the permittee must submit an NMOC emission rate report according to §62.16724(c) and must recalculate the emission rate annually. If the result is equal to or greater than 34 megagrams per year, then permittee must either: A. Design and install an approved collection and control system consistent with the requirements of §62.16714(b) and (c); B. Determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the Tier 2 procedures provided in §62.16718(a)(3); or C. Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the Tier 3 procedures in §62.161718(a)(4).	62.16714(b) 62.16714(c) 62.16718(a)(1) 62.16718(a)(2)
8.	**Tier 2 Site-Specific NMOC Concentration Determination and Recalculation** The permittee shall follow the sampling and testing procedures of §62.16718(a)(3) to determine the site-specific NMOC concentration for all areas of the landfill in which waste has been retained for at least 2 years. The average NMOC concentration from the collected samples shall be used in place of the default value to recalculate the NMOC emission rate using the equations from §62.16718(a)(1). Within 60 days after the date of determining the NMOC concentration and corresponding NMOC emission rate, the permittee must submit the results to the Administrator. This site-specific value is good for 5 years; the facility must be re-tested and a new site-specific NMOC concentration determined every 5 years if Tier 2 is used. If the NMOC emission rate calculated using Tier 2 is less than 34 megagrams per year, the permittee shall submit a revised emission rate report as provided in §62.16724(c). If the Tier 2 NMOC emission rate is equal to or greater than 34 megagrams per year, the permittee must either: A. Design and install an approved collection and control system consistent with the requirements of §62.16714(b) and (c); B. Determine a site-specific methane generation rate constant and recalculate the NMOC emission rate using the Tier 3 procedures in §62.161718(a)(4); or C. Conduct a surface emission monitoring demonstration using the Tier 4 procedures specified in §62.16718(a)(4).	62.16714(b) 62.16714(c) 62.16718(a)(1) 62.16178(a)(3) 62.16724(c)
9.	**Tier 3 Site-Specific Methane Generation Rate Constant Determination and Recalculation** The permittee shall follow the sampling and testing procedures of 40 CFR 60, Appendix A, Method 2E to determine the site-specific methane generation rate constant. This site-specific methane generation rate constant and the average NMOC concentration from Tier 2 shall be used in place of the default value to recalculate the NMOC emission rate using the equations from §62.16718(a)(1). The site-specific methane generation rate constant need only be performed once; the value may be used as long as Tier 3 is used. The site-specific NMOC concentration from Tier 2 continues to require re-testing every 5 years. If the NMOC emission rate using Tier 3 is less than 34 megagrams per year, the permittee shall submit a revised emission rate report as provided in §62.16724(c). If the Tier 3 NMOC emission rate is equal to or greater than 34 megagrams per year, the permittee must either: A. Design and install an approved collection and control system consistent with the requirements of §62.16714(b) and (c); or B. Conduct a surface emission monitoring demonstration using the Tier 4 procedures specified in §62.16718(a)(4).	62.16714(b) 62.16714(c) 62.16718(a)(1) 62.16718(a)(4) 62.16724(c)

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
10.	**Tier 4 Surface Emission Monitoring** The permittee may demonstrate that surface methane emissions are below 500 parts per million only if the NMOC emissions can be demonstrated to be greater than or equal to 34 megagrams per year but less than 50 megagrams per year using Tier 1 or Tier 2. Tier 4 monitoring must be conducted according to the specifications of §62.16718(a)(6)(i)-(iii). Surface emission monitoring must be conducted on a quarterly basis. Records of surface emission monitoring must be maintained, as provided in §62.16726(g), and a Tier 4 surface emissions report must be submitted as provided in §62.16724(d)(4)(iii). If there is any measured concentration of methane of 500 parts-per-million or greater from the surface of the landfill the permittee must submit a gas collection and control system design plan within 1 year of the first measured concentration of 500 parts per million or greater from the surface of the landfill and install and operate a gas collection and control system according to §62.16714(b) and (c) within 30 months of the most recent NMOC emission rate report in which the NMOC emission rate equals or exceeds 34 megagrams per year based on Tier 2.	62.16714(b) 62.16714(c) 62.16718(a)(6) 62.16724(d)(4)(iii) 62.16726(g)
11.	**Collection and Control System** If the permittee cannot demonstrate that the NMOC emission rate is less than 34 megagrams per year, the permittee shall notify the Department and EPA within 2 working days of discovery. Within 30 days, the permittee shall submit a compliance schedule for meeting the applicable requirements of 40 CFR 62, Subpart OOO for design, installation and operation of a collection and control system as required by§62.16714(b) and (c) and in accordance with the progress increments outlined in §62.16712. The compliance schedule shall also address any additional requirements of 40 CFR 63, Subpart AAAA.	62.16712 62.16714(b) 63.1960 18.4.8(h) 18.5.3(c) 18.7.3 18.7.4
12.	**40 CFR 62, Subpart OOO Reporting and Recordkeeping Requirements** The permittee shall submit reports and maintain records, as follows. Reports shall be submitted electronically according to the procedures of §62.16724(j). A. **NMOC Emission Rate Report.** The permittee must submit an NMOC emission rate report containing an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in §62.16718(a) or (b), as applicable. a. Must include all the data, calculations, sample reports, and measurements used to estimate the annual or 5-year emissions. b. If the estimated NMOC emission rate as reported in the annual report is less than 34 megagrams per year in each of the next 5 consecutive years, the permittee may elect to submit, an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report i. 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 an NMOC emission rate is estimated; ii. All data and calculations upon which this estimate is based must be provided; iii. Estimate must be revised at least once every 5 years; iv. If the annual waste acceptance rate exceeds the estimated waste acceptance rate in an year reported in the 5-year estimate, a revised 5-year estimate must be submitted. 1. 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.	62.16724(c) 62.16724(d)(4)(i)-(iii) 62.16724(f) 62.16724(j) 62.16724(m)

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
	B. **Tier 2 Testing.** If the permittee elects to recalculate the NMOC emission rate after Tier 2 NMOC sampling and analysis and the resulting rate is less than 34 megagrams per year, annual periodic reporting must be resumed using the Tier 2 determined site-specific NMOC concentration, until the calculated NMOC emission rate based on NMOC sampling and analysis, must be submitted, within 180 days of the first calculated exceedance of 34 megagrams per year. C. **Tier 3 Testing.** If the permittee elects to recalculate the NMOC emission rate after determining a site-specific methane generation rate constant k, as provided in Tier 3, and the resulting NMOC emission rate is less than 34 megagrams per year, annual periodic reporting must be resumed. The resulting site-specific methane generation rate constant k must be used in the NMOC emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report must be submitted within 1 year of the first calculated NMOC emission rate equaling or exceeding 34 megagrams per year. D. **Tier 4 Surface Emission Report.** If the permittee elects to demonstrate that site-specific surface methane emissions are below 500 parts-per-million, then the permittee must submit annually a Tier 4 surface emissions report until a surface emissions reading of 500-parts-per-million methane or greater is found. The initial report must be submitted within 30 days of completing the fourth quarter of Tier 4 SEM that demonstrates that site-specific surface methane emissions are below 500 parts-per-million methane. a. If the Tier 4 surface emissions report shows no surface emissions reading of 500 part-per-million methane or greater for four consecutive quarters at a closed landfill, the permittee may reduce Tier 4 monitoring from a quarterly to an annual frequency. b. The report must clearly identify the location date, and time (to the nearest second), average wind speeds including wind gusts, and reading (in parts-per-million) of any value 500 parts-per-million methane or greater, other than non-repeatable momentary readings. c. For determining latitude and longitude coordinates, an instrument with an accuracy of at least 4 meters must be used. Coordinates must be in decimal degrees with at least five decimal places. d. The report should also include the results of the most recent Tier 1 and Tier 2 results in order to verify that the landfill does not exceed 50 megagrams per year of NMOC. E. **Closure Report.** The permittee must submit a closure report to the Administrator within 30 days of ceasing waste acceptance. The Administrator may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the Administrator, no additional waste may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). F. **Tier 4 Notification.** The permittee must provide notification of the date(s) upon which Tier 4 testing is intended to be conducted. a. Description of the wind barrier to be used during the SEM must be included.	

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
	b. Notification must be postmarked not less than 30 days prior to the testing date. c. If there is a delay to the scheduled Tier 4 SEM date due to weather conditions, including not meeting the requirements in §62.16178(a)(6)(A), the permittee shall notify the Administrator by email or telephone no later than 48 hours before any known delay in the original test date, and arrange an updated date with the administrator by mutual agreement.	
	40 CFR 61, Subpart M Requirements	
13.	**Landfilling of Asbestos-Containing Waste Material** The permittee shall ensure that there are no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited or meet the requirements of §61.154(c). The permittee shall comply with this requirement by complying with the requirements of its solid waste permit and ADEM Administrative Code r. 335-13-4.26(2). Unless a natural barrier adequately deters access by the general public, the permittee shall install fencing and maintain warning signs as required by §61.154(b).	61.154(a) 61.154(b) 61.154(c) 18.5.3
14.	**Standard for Roadways with Asbestos-Containing Materials** The permittee shall not construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings only, it is encapsulated in asphalt concrete meeting the specifications contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-85,1985, or their equivalent.	61.143
15.	**40 CFR 61, Subpart M Recordkeeping and Reporting Requirements** The permittee shall maintain records and submit reports, as follows. All records and reports required shall be retained for at least 2 years. A. For all asbestos-containing waste material received, the permittee of the active waste disposal site shall: a. Maintain waste shipment records, using a form similar to that shown in Figure 4 of Subpart M, and include the following information: i. Name, address, and telephone number of the waste generator; ii. Name, address, and telephone number of the transporter(s); iii. Quantity of the asbestos-containing material in cubic meters (cubic yards); iv. Presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers; 1. Report in writing to the local, State, or EPA regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and if different, the local, State, or EPA regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following work day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report. v. Date of the receipt.	61.154(e) 61.154(f) 61.154(h) 61.154(i) 61.154(j)

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
	b. Send a copy of the signed waste shipment record to the waste generator, as soon as possible and no longer than 30 days after the receipt of the waste. c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report; B. Until closure, maintain records of the location, depth and area, and quantity in cubic yards of asbestos-containing materials within the disposal site on a map or diagram of the disposal area; C. Upon closure, submit a copy of records of asbestos waste disposal locations and quantities; and D. Notification to the Department in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. a. 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 at least 10 working days before excavation beings and in no event shall excavation begin earlier than the date specified in the original notification. b. The notice shall include: i. Scheduled starting and completion dates; ii. Reason for disturbing the waste; iii. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material; 1. If necessary, the Department may require changes in the emission control procedures to be used. iv. Location of any temporary storage site and the final disposal site.	
	40 CFR 60, Subpart OOO Requirements	
16.	**<u>Stone Crushing Operations Subject to 40 CFR 60, Subpart OOO</u>** For all stone crushing operations with a capacity exceeding 150 tons/hr for a portable operation or 25 tons/hr for a fixed operation, the permittee shall: A. Saturate all materials with water to ensure sufficient surface moisture, such that particulate matter emissions are not generated from the processing of the material; 1. The definition of "saturated material" under Subpart OOO specifies that material that is wetted solely by wet suppression systems is not considered "saturated;" or B. Meet the following requirements of 40 CFR 60, Subpart OOO: 1. Limit fugitive emissions from crushers to 12% opacity.	40 CFR 60, Subpart OOO, Table 3 60.671 60.672(b) 60.674(b) 60.675

No.	Conditions for Landfill Operations Subject To 40 CFR 62, Subpart OOO	Regulations
	2. Limit fugitive emissions from grinding mills, screening operations, transfer points on belt conveyors, storage bins and any other Subpart OOO affected facility to 7% opacity. 3. Perform monthly inspections to check that water is flowing to the discharge spray nozzles in the wet suppression system. a. Corrective action must be initiated within 24 hours and completed as expediently as practical if the permittee finds that the water is not flowing properly during an inspection; and b. If use of wet suppression water sprays ceases or if a control mechanism other than water sprays is used (such as water from a recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used. 4. Determine compliance with the opacity limitations using EPA Method 9 and the procedures of §60.11. a. Method 9 observations shall be conducted with the additions described in §60.675(c)(1). b. Observations must be 30 minutes (five 6-minute averages) and compliance with the applicable fugitive emission limits in Table 3 must be based on the average of the five 6-minute averages. c. For tests involving only Method 9, the permittee may reduce the 30-day advance notification required by §60.7(a)(6) and §60.8(d) to a 7-day advance notification.	
17.	**40 CFR 60, Subpart OOO Recordkeeping and Reporting Requirements** The permittee shall maintain records and submit reports, as follows: A. Records of each periodic inspection required under §60.674(b), including dates and any corrective actions taken, in a logbook (written or electronic format). The permittee must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Department upon request; B. Reports of performance tests conducted, including any opacity observations made using Method 9; and C. For any wet material processing operation that processes saturated and subsequently unsaturated materials, the permittee shall submit a report of this change within 30 days following such a change. At the time of such a change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.	60.676(b) 60.676(f) 60.676(g)

SUMMARY OF REQUIREMENTS FOR GASOLINE DISPENSING

Description: Gasoline Dispensing Facility with One 6,000-Gallon Tank and One Dispensing Nozzle Equipped with a Submerged-Fill Pipe and a Stage I Vapor Balance Control System

Permitted Operating Schedule: 24 hours/day, 7 days/week, and 52 weeks/year

Type of Fuel Used:
Primary: None
Secondary: None

Pollutants Emitted:

Pollutant	Regulatory Emission Limit	Applicable Regulations
VOC	N/A	N/A
HAP	N/A	N/A

Pollution Control Devices: Submerged-Fill Pipe and Stage I Vapor Balance System

Reference Test Methods: N/A

Continuous Monitoring System: N/A

Monitoring Requirements: N/A

Recordkeeping Requirements: Condition 9 of this Emission Unit

Testing Requirements: N/A

Reporting Requirements: General Condition 46 through 49

Applicable Regulations: Parts 8.3,8.7, & 8.20
40 CFR 63, Subpart CCCCCC

Emissions Unit No.	Emissions Unit Description
002	Gasoline Dispensing Facility with One 6,000-Gallon Tank and One Dispensing Nozzle Equipped with a Submerged-Fill Pipe and a Stage I Vapor Balance Control System

No.	Conditions for Gasoline Dispensing Facility	Regulations
1.	**Applicability** The emissions unit "Gasoline Dispensing Facility" shall include the gasoline storage tank, the adjacent distillate and used oil tanks, and all appurtenant equipment (i.e., pumps, piping, valves, vents, seals, instruments, hoses and couplings) to fill, store and pump out of the tank motor fuel. The emissions unit is subject to Part 8.3, "Loading and Storage of VOC," Part 8.7, "Gasoline Dispensing Facilities – Stage 1 Control," and Part 8.20, "Leaks From Gasoline Tank Trucks and Vapor Collection Systems." The emissions unit is also subject to 40 CFR 63, Subpart CCCCCC, "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities."	18.2.4 8.3 8.7 8.20 63.11111(a)
2.	**40 CFR 63, Subpart CCCCCC Applicability and Throughput Limit** The affected source under 40 CFR 63, Subpart CCCCCC includes the gasoline storage tank and associated equipment components in vapor or liquid gasoline service, pressure/vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks. Table 3 of Subpart CCCCCC lists the applicability of the General Provisions of 40 CFR 63, Subpart A. At all times, the permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The permittee shall not cause or allow the emissions unit's monthly gasoline throughput to meet or exceed 10,000 gallons without notification to the Department and application for a permit modification and compliance schedule for meeting the newly triggered requirements of 40 CFR 63, Subpart CCCCCC for the increased throughput level. The permittee shall have records available within 24 hours of a request by the Department to document gasoline throughput.	63.11111(a) 63.11111(e) 63.11112 63.11113(c) 63.11115(a) 63.11116(b)
3.	**Loading and Storage of VOC** Any stationary storage tank which contains a VOC with a true vapor pressure of 1.5 psia or greater under actual storage conditions and a capacity greater than 1,000 gallons shall be equipped with a permanent submerged fill pipe or a bottom fill pipe. Loading VOC liquid into transport containers larger than 200 gallons requires the vapor and drip controls listed at Paragraph 8.3.2(c).	8.3.1 8.3.2(a) 8.3.2(c)
4.	**Vapor Balance System Requirements** The permittee shall not transfer gasoline from any gasoline tank truck into a stationary storage tank unless the tank is equipped with a submerged fill pipe, the gasoline tank truck has a valid Air Sticker issued under Part 8.20, and the vapors displaced from the storage tank during filling are processed by a Stage I vapor balance system between the storage tank and the gasoline tank truck and a system that will ensure the vapor line is connected before gasoline can be transferred into the tank and operates properly during the transfer. The permittee shall visibly confirm that the gasoline tank truck has a visibly attached, valid Jefferson County Department of Health Air Sticker. If the gasoline tank truck does not have an Air Sticker, the permittee shall not allow the transfer of gasoline to the stationary storage tank.	8.7.3 8.7.4(a) 8.7.5(a) 8.20
5.	**Gasoline Housekeeping Requirements** The permittee shall not cause or allow gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation of the gasoline to the atmosphere.	8.7.6

No.	Conditions for Gasoline Dispensing Facility	Regulations
6.	**Requirements for Facilities with a Monthly Throughput Less than 10,000 Gallons of Gasoline** The permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: A. Minimize gasoline spills; B. Clean up spills as expeditiously as practicable; C. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; D. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. The permittee shall include any months in which no gasoline was received or stored in the Title V semi-annual monitoring reports. The permittee shall continue to maintain records of the lack of gasoline throughput and certify compliance with §63.11116 until such time that the emissions unit and all appurtenant equipment is physically removed from the facility (location defined by ADEM Solid Waste Permit 37–48) or physically altered in such a way to render it incapable of causing air emissions. The permittee shall notify the Department prior to the removal of the equipment from the facility or alteration of the equipment such to render it incapable of causing air emissions.	63.11116(a) 18.7.1
7.	**Leak Repair Requirements** Any component of the emissions unit permitted herein that appears to be leaking VOC/HAP vapors or liquids on the basis of sight, smell, or sound should be repaired with an initial attempt as soon as possible and final repair shall be done within 15 calendar days. The permittee shall maintain record of repairs and/or any other corrective actions. The Department shall be notified of the detection of any leak and subsequent repairs, pursuant to the requirements of Section 1.12.2 of the Rules and Regulations.	1.12.2 18.2.4 18.5.3
8.	**40 CFR 63, Subpart CCCCCC Recordkeeping and Reporting Requirements** Affected sources subject to §63.11116 are not required to submit notifications or reports as specified in §63.11125, §63.11126, or 40 CFR 63, Subpart A, but the permittee must have records available within 24 hours of a request by the Department to document the gasoline throughput, as required by Condition No. 2.	63.11116(b)
9.	**Recordkeeping Requirements** The permittee shall maintain the following written records for the emissions unit described above: A. The monthly throughput quantities in gallons and types of petroleum distillates in all stationary storage tanks at the facility which store such materials; B. The annual summary report of the information required by Item A; C. Delivery records of gasoline including the RVP and the Air Sticker number of the gasoline tank truck; D. Records as required by Condition Nos. 5 and 6; E. The type of material stored in each tank and its maximum true vapor pressure in psia; F. The quantity, density, VOC, and HAP content (by weight) of each product stored in each tank, as demonstrated by manufacturer-provided information, such as an SDS; G. The average product bulk storage temperature for each tank in degrees Fahrenheit; H. Dimensions of each tank, as needed for emissions calculations; and I. The quantity in gallons of any VOC/HAP material lost (evaporated to the atmosphere) due to a spill, leak or other mishap. Records required by Section 8.7.5 of the Rules and Regulations shall be retained for a minimum of two years after the date on which the documents were made.	1.9.1 18.5.3 8.7.5(b) 8.7.5(d)

APPENDIX A: CROSS-REFERENCES TABLE: JCDH AIR POLLUTION CONTROL RULES AND REGULATIONS TO STATE IMPLEMENTATION PLAN

The citations to Alabama regulations provided below refer to the version of the regulation that has been approved by the U.S. EPA as part of Alabama's Clean Air Act state implementation plan (SIP), as identified in 40 CFR 52, Subpart B. In the event that there is a discrepancy between the information provided in the table below and the federal regulatory table identifying the Alabama SIP at 40 CFR 52, Subpart B, the federal regulatory table governs.

JCDH Citation	State Citation	Title/Subject
	Chapter No. 335-1-1	**Organization**
No equivalent provision	Section 335-1-1-.03[1]	Organization and Duties of the Commission
No equivalent provision	Section 335-1-1-.04	Organization of the Department
Chapter 1	**Chapter No. 335-3-1**	**General Provisions**
Part 1.1	Section 335-3-1-.01	Purpose
Part 1.3	Section 335-3-1-.02	Definitions
Part 1.7	Section 335-3-1-.03	Ambient Air Quality Standards
Part 1.9	Section 335-3-1-.04	Monitoring, Records, and Reporting
Part 1.10	Section 335-3-1-.05	Sampling and Test Methods
Part 1.11	Section 335-3-1-.06	Compliance Schedule
Part 1.12	Section 335-3-1-.07	Maintenance and Malfunctioning of Equipment; Reporting
Part 1.13	Section 335-3-1-.08	Prohibition of Air Pollution
Sections 3.2.1 – 3.2.4 & Part 3.4	Section 335-3-1-.09	Variances
Part 1.15	Section 335-3-1-.10	Circumvention
Part 1.16	Section 335-3-1-.11	Severability
Part 1.17	Section 335-3-1-.12	Bubble Provision
Part 1.18	Section 335-3-1-.13	Credible Evidence
Part 1.20	Section 335-3-1-.15	Emissions Inventory Reporting Requirements
Chapter 2	**Chapter No. 335-3-14**	**Air Permits**
Part 2.1	Section 335-3-14-.01	General Provisions
Part 2.2, except 2.2.4(h)	Section 335-3-14-.02[2]	Permit Procedures
Part 2.3	Section 335-3-14-.03	Standards for Granting Permits
Part 2.4	Section 335-3-14-.04[3],[4],[5]	Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration (PSD)]
Part 2.5	Section 335-3-14-.05[6]	Air Permits Authorizing Construction in or Near Nonattainment Areas
Chapter 4	**Chapter No. 335-3-2**	**Air Pollution Emergency**
Part 4.1	Section 335-3-2-.01	Air Pollution Emergency
Part 4.3	Section 335-3-2-.02	Episode Criteria
Part 4.4	Section 335-3-2-.03	Special Episode Criteria
Part 4.5	Section 335-3-2-.04	Emission Reduction Plans
Part 4.6	Section 335-3-2-.05	Two Contaminant Episode
Part 4.7	Section 335-3-2-.06	General Episodes
Part 4.8	Section 335-3-2-.07	Local Episodes

[1] ADEM amendments effective on December 7, 2018 have not been approved in the SIP by EPA.
[2] ADEM amendments effective on September 7, 2000 and July 11, 2006 have not been approved in the SIP by EPA.
[3] Exceptions to approval as of July 3, 2019: Except for changes to 335-3-14-.04(2)(w)1., state effective July 11, 2006, which lists a 100 ton per year significant net emissions increase for regulated NSR pollutants not otherwise specified at 335-3-14-.04(2)(w).
[4] Exceptions to approval as of July 3, 2019: Except for the significant impact levels at 335-3-14-.04(10)(b) which were withdrawn from EPA consideration on October 9, 2014.
[5] Exceptions to approval as of July 3, 2019: Except for the second sentence of paragraph 335-3-14-.04(2)(bbb)2., as well as the second and fourth sentences of paragraph 335-3-14-.04(2)(bbb)3., which include changes from the vacated federal ERP rule and were withdrawn from EPA consideration by the State on May 5, 2017.
[6] Exceptions to approval as of December 14, 2018: With the exception of: The portion of 335-3-14-.05(1)(k) stating "excluding ethanol production facilities that produce ethanol by natural fermentation"; and 335-3-14-.05(2)(c)3 (addressing fugitive emission increases and decreases). Also with the exception of the state-withdrawn elements: 335-3-14-.05(1)(h) (the actual-to-potential test for projects that only involve existing emissions units); the last sentence at 335-3-14-.05(3)(g), stating "Interpollutant offsets shall be determined based upon the following ratios"; and the NNSR interpollutant ratios at 335-3-14-.05(3)(g)1-4.

JCDH Citation	State Citation	Title/Subject
Part 4.9	Section 335-3-2-.08	Other Sources
Section 4.2.3	Section 335-3-2-.09	Other Authority Not Affected
Chapter 5	**Chapter No. 335-3-3**	**Control of Open Burning and Incineration**
Sections 5.1.1 – 5.1.5[7]	Section 335-3-3-.01	Open Burning
Part 5.2	Section 335-3-3-.02[8]	Incinerators
Part 5.3[9], except 5.3.4	Section 335-3-3-.03	Incineration of Wood, Peanut, and Cotton Ginning Waste
Chapter 6	**Chapter No. 335-3-4**	**Control of Particulate Emissions**
Part 6.1[10]	Section 335-3-4-.01	Visible Emissions
Part 6.2	Section 335-3-4-.02[11]	Fugitive Dust and Fugitive Emissions
Part 6.3	Section 335-3-4-.03	Fuel Burning Equipment
Part 6.4	Section 335-3-4-.04	Process Industries—General
Part 6.5[12]	Section 335-3-4-.05	Small Foundry Cupola
Part 6.6[13]	Section 335-3-4-.06	Cotton Gins
Part 6.7	Section 335-3-4-.07	Kraft Pulp Mills
Part 6.8	Section 335-3-4-.08	Wood Waste Boilers
Part 6.9	Section 335-3-4-.09	Coke Ovens
No equivalent provision	Section 335-3-4-.10	Primary Aluminum Plants
Part 6.10	Section 335-3-4-.11	Cement Plants
Part 6.12	Section 335-3-4-.12	Xylene Oxidation Process
No equivalent provision	Section 335-3-4-.13[14]	Sintering Plants
No equivalent provision	Section 335-3-4-.14	Grain Elevators
No equivalent provision	Section 335-3-4-.15	Secondary Lead Smelters
No equivalent provision	Section 335-3-4-.17	Steel Mills Located in Etowah County
Chapter 7	**Chapter No. 335-3-5**	**Control of Sulfur Compound Emissions**
Part 7.1	Section 335-3-5-.01	Fuel Combustions
Part 7.2 is not equivalent	Section 335-3-5-.02	Sulfuric Acid Plants
No equivalent provision	Section 335-3-5-.03	Petroleum Production
No equivalent provision	Section 335-3-5-.04	Kraft Pulp Mills
No equivalent provision	Section 335-3-5-.05	Process Industries—General
Parts 7.6 through 7.36	Sections 335-3-5-.06 through 335-3-5-.36	TR SO_2 Trading Program
Chapter 8	**Chapter No. 335-3-6**	**Control of Organic Emissions**
Part 8.1[15]	Section 335-3-6-.24	Applicability
Part 8.2	Section 335-3-6-.25	VOC Water Separation
Part 8.3	Section 335-3-6-.26[16],	Loading and Storage of VOC
Part 8.4	Section 335-3-6-.27	Fixed-Roof Petroleum Liquid Storage Vessels
Part 8.5	Section 335-3-6-.28	Bulk Gasoline Plants
Part 8.6	Section 335-3-6-.29	Gasoline Terminals
Part 8.7, except 8.7.4(b) & 8.7.5(e)	Section 335-3-6-.30	Gasoline Dispensing Facilities Stage 1

[7] See also Guidelines & Standard Operating Procedures for Issuance of Open Burning Authorizations at the end of Chapter 5. ADEM 335-3-3-.01(2)(b)(6) also prohibits open burning during declared air stagnation advisories and drought emergencies.
[8] Amendments to 335-3-3-.02 effective September 19, 1991 have not been approved into the SIP by EPA.
[9] JCDH has no equivalent for ADEM 335-3-3-.03(5), which states "Each incinerator subject to this Rule shall be properly designed, equipped, and maintained for its maximum rated burning capacity and shall be equipped with an underfire forced air system, an over-fire air recirculation secondary construction system, and variable control damper, all of which shall be electronically controlled to insure the optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator. Each such incinerator shall be equipped with a temperature recorder which shall be operated continuously with the incinerator, and the temperature records shall be made available for inspection at the request of the Director."
[10] ADEM has no equivalent to Section 6.1.8.
[11] ADEM 335-3-4-.02(4) was removed effective July 15, 1999, however, the provision is still included in the EPA-approved SIP.
[12] All allowable emissions rates in Table 6-3 should be construed to have 2 significant figures, consistent with ADEM 335-3-4-.05, Table 4-3.
[13] All allowable emissions rates in Table 6-4 should be construed to have 1 significant figure, consistent with ADEM 335-3-4-.06, Table 4-4.
[14] ADEM has removed and reserved this section, however it remains listed in the EPA approved SIP. See 40 CFR 52.50(c).
[15] The definition of "low-use coating" at ADEM 335-3-6-.24(2)(d) is located at JCDH Part 1.3.
[16] Amendments to 335-3-6-.26 effective September 21, 1989 and July 31, 1991 have not been approved into the SIP by EPA. The EPA-approved SIP requires a disposal system in conjunction with equipment required by ADEM 335-3-6-.26(2)(c)1.(i) (JCDH 8.3.2(c)(1)(i)).

JCDH Citation	State Citation	Title/Subject
No equivalent provision	Section 335-3-6-.31[17]	Petroleum Refinery Sources
Part 8.11	Section 335-3-6-.32	Surface Coating
Part 8.12	Section 335-3-6-.33	Solvent Metal Cleaning
Part 8.13	Section 335-3-6-.34	Cutback and Emulsified Asphalt
No equivalent provision	Section 335-3-6-.35[18]	Petition for Alternative Controls
Part 8.15	Section 335-3-6-.36	Compliances Schedules
Part 8.16[19]	Section 335-3-6-.37	Test Methods and Procedures
No equivalent provision	Section 335-3-6-.38	Reserved
Part 8.18	Section 335-3-6-.39	Manufacture of Synthesized Pharmaceutical Products
Part 8.20, except 8.20.8	Section 335-3-6-.41	Leaks from Gasoline Tank Trucks and Vapor Collection Systems
No equivalent provision	Section 335.3.6-.42	Reserved
Part 8.22	Section 335-3-6-.43	Graphic Arts
Part 8.23	Section 335-3-6-.44	Petroleum Liquid Storage in External Floating Roof Tanks
Part 8.24	Section 335-3-6-.45	Large Petroleum Dry Cleaners
No equivalent provision	Section 335-3-6-.46	Reserved
Part 8.26	Section 335-3-6-.47	Leaks from Coke by-Product Recovery Plant Equipment
Part 8.27	Section 335-3-6-.48	Emissions from Coke by-Product Recovery Plant Coke Oven Gas Bleeder
Part 8.28	Section 335-3-6-.49	Manufacture of Laminated Countertops
Part 8.29	Section 335-3-6-.50	Paint Manufacture
Part 8.23[20]	Section 335-3-6-.53	List of EPA Approved and Equivalent Test Methods and Procedures for the Purpose of Determining VOC Emissions
Chapter 9	**Chapter No. 335-3-7**	**Control of Carbon Monoxide Emissions**
Part 9.1	Section 335-3-7-.01	Metals Productions
Part 9.2	Section 335-3-7-.02	Petroleum Processes
Chapter 10	**Chapter No. 335-3-8**	**Control of Nitrogen Oxides Emissions**
Part 10.1	Section 335-3-8-.01	Standards for Portland Cement Kilns
Part 10.2	Section 335-3-8-.02	Nitric Acid Manufacturing
Part 10.3	Section 335-3-8-.03	NO_X Emissions from Electric Utility Generating Units
Part 10.4	Section 335-3-8-.04	Standards for Stationary Reciprocating Internal Combustion Engines
Part 10.5	Section 335-3-8-.05	New Combustion Sources
Part 10.7	Sections 335-3-8-.07 through 335-3-8-.38	TR NO_X Annual Trading Program
Part 10.8	Sections 335-3-8-.39 through 335-3-8-.70	TR NO_X Ozone Season Trading Program
Part 10.9	Sections 335-3-8-.71 & 335-3-8-.72	NO_X Budget Program
Chapter 11	**Chapter No. 335-3-9**	**Control of Emissions from Motor Vehicles**
Part 11.1	Section 335-3-9-.01	Visible Emission Restriction for Motor Vehicles
Part 11.2	Section 335-3-9-.02	Ignition System and Engine Speed
Part 11.3	Section 335-3-9-.03	Crankcase Ventilation Systems
Part 11.4	Section 335-3-9-.04	Exhaust Emission Control Systems
Part 11.5	Section 335-3-9-.05	Evaporative Loss Control Systems
Part 11.6	Section 335-3-9-.06	Other Prohibited Acts
Part 11.7	Section 335-3-9-.07	Effective Date

[17] ADEM has removed and reserved this section, however it remains listed in the EPA approved SIP. See 40 CFR 52.50(c).
[18] Amendments to 335-3-6-.35 effective July 31, 1991 have not been approved into the SIP by EPA.
[19] Federally enforceable testing provisions for perchloroethylene dry cleaning systems are located at ADEM 335-3-6-.37(5) and federally enforceable testing provisions for capture efficiency for VOC capture and control systems are located at ADEM 335-3-6-.37(13). JCDH 8.16.5 is reserved, and JCDH 8.16.13 is very brief.
[20] Test Methods 204, 204A-204F are not included in the EPA-approved SIP.

JCDH Citation	State Citation	Title/Subject
No equivalent provision	**Chapter No. 335-3-12**[21]	Continuous Monitoring Requirements for Existing Sources
No equivalent provision	**Chapter No. 335-3-13**	Control of Fluoride Emissions
Chapter 17	**Chapter No. 335-3-15**	**Synthetic Minor Operating Permits**
Part 17.1	Section 335-3-15-.01[22]	Definitions
Part 17.2, except 17.2.8(h)(7)	Section 335-3-15-.02	General Provisions
Part 17.3	Section 335-3-15-.03	Applicability
Part 17.4[23]	Section 335-3-15-.04	Synthetic Minor Operating Permit Requirements
Part 17.5, except 17.5.2	Section 335-3-15-.05	Public Participation
Chapter 19	**Chapter No. 335-3-17**	**Conformity of Federal Actions to State Implementation Plans**
Part 19.1	Section 335-3-17-.01	Transportation Conformity
Part 19.2	Section 335-3-17-.02	General Conformity

[21] Amendments to 335-3-12-.02 effective September 7, 2000 have not been approved into the SIP by EPA.
[22] Amendments to 335-3-15-.01 effective January 16, 1997 have not been approved into the SIP by EPA. Only the first sentence of ADEM 335-3-15-.01(g) is approved into the SIP. JCDH does not include the unapproved language.
[23] The federally enforceable provisions of ADEM 335-3-15-.04(3)(c) are located at JCDH 2.1.7(a).

Jefferson County Department of Health
Environmental Health Services
Air Pollution Control Program

Statement of Basis for Title V Renewal Permit
Big Sky Environmental, LLC

Facility Information

Plant Location	**Mailing Address**	**Responsible Official**
5100 Flat Top Road	5100 Flat Top Road	John Click
Adamsville, Alabama	Adamsville, Alabama	Executive Vice President
35005	350005	205-743-0080

Description of Permit Action

This action is pursuant to the 40 CFR Part 70 requirement that Title V permits to be reviewed, updated if applicable, and reissued every 5 years. The current permit for Big Sky Environmental Solid Waste Facility (Big Sky), 4-07-1037-04, was issued on February 6, 2020. The physical boundaries of the landfill are defined by ADEM Solid Waste Disposal Facility Permit 37–48, effective from February 10, 2025 to February 9, 2035. Plans for the processing of scrap tires were included in the October 2024 draft posting for Permit 37-48. At this time, the facility does not anticipate any associated air emissions from scrap tire processing. The solid waste permit allows disposal of municipal solid waste (MSW) within an area of 66.24 acres and disposal of construction and demolition (CD) waste within an area of 95 acres. Any expansion of the landfilled areas must be approved by ADEM and is not within the scope of the Title V air permit.

The applicable regulations have changed since the last permit revision. On June 21, 2021, EPA promulgated 40 CFR 62, Subpart OOO to cover facilities that were not covered by an approved state implementation plan (SIP) for the implementation of 40 CFR 60, Subpart Cf, “Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills.” Subpart Cf required SIP submissions to lower the non-methane organic compound (NMOC) threshold from 50 megagrams per year to 34. A SIP has been submitted by ADEM, and has been adopted by the Department via revisions to Chapter 21 of the Rules and Regulations, to become effective upon approval by EPA. As of the date of this report, EPA has not approved the submission.

Landfill operations have not changed since the last permit revision and will continue in the same manner as the amount of waste-in-place increases. However, Big Sky has requested to remove the gasoline dispensing facility and tank (Emissions Unit No. 002) from the permit, on the basis that the facility no longer stores and dispenses gasoline and that responsibility for the equipment has been transferred to another company. To the best available knowledge of the Department, the gasoline dispensing and storage equipment has not been removed from the property, and is still capable of storing or dispensing gasoline. Further, the landfill boundaries, as defined by ADEM Solid Waste Disposal Facility Permit 37–48, have not changed. As the equipment is still located on the landfill, as defined by Permit 37-48, and is still capable of storing or dispensing gasoline, the Department has determined that Emissions Unit No. (EU) 002 shall remain in the permit, at this time.

The following revisions have been made:

- Added additional definitions from 40 CFR 62, Subpart OOO and 40 CFR 60, Subpart OOO
- Removed the Emergency definition and provision to reflect the removal of the provision from the Rules and Regulations on August 14, 2024
- Updated wording and citations of General Conditions with most up-to-date wording where needed
- Added a facility-wide General Condition to specify that storage of any VOC with a vapor pressure of greater than 1.5 psia is subject to the requirements of Part 8.3 of the Rules and Regulations
- Added a facility-wide General Condition to specify that engines powering portable or transportable pieces of equipment that remain at the facility for longer than 12 consecutive months or for a full annual operating period will be considered stationary and subject to the stationary RICE NSPS/NESHAP, as applicable
- Updated the wording of the requirements for reporting of deviations, malfunctions, and violations to better align with the wording of Section 1.12.2 of the Rules and Regulations
- Changed references and citations to 40 CFR 60, Subpart WWW to 40 CFR 62, Subpart OOO, adding additional wording or conditions, where needed, throughout the permit
- EU 001 Revisions
    - Added additional wording to the conditions under which 40 CFR 63, Subpart AAAA would become applicable
        - Specified that if the NMOC or HAP emissions exceed the applicable threshold, Big Sky is required to notify the Department within 2 working days of discovery and submit a permit application
        - Specified that NMOC emissions will be monitored through the required recordkeeping of 40 CFR 62, Subpart OOO and HAP emissions will be monitored through the annual production and emissions reports required by the Department
    - Added additional control measures under the fugitive dust provision, including additional reporting requirements
    - Included the requirements under 40 CFR 61, Subpart M more explicitly
    - Specified that to demonstrate compliance with the no visible emissions requirement of 40 CFR 61, Subpart M, Big Sky must comply with its solid waste permit and the appropriate ADEM code
    - Included the requirements under 40 CFR 60, Subpart OOO more explicitly
        - Specified that materials are not saturated, as defined under Subpart OOO, if wetted only by a wet suppression system
- EU 002 Revisions
    - Specified that Big Sky must continue recording the gas throughput and certifying compliance with 40 CFR 63, Subpart CCCCCC until such time that the associated equipment of EU 002 is removed from the facility or rendered incapable of causing air emissions
    - Specified that Big Sky must maintain records of repairs or any other corrective actions conducted in response to the detection of a leak
    - Specified that Big Sky must report leaks and subsequent repairs to the Department

Description of Operations

The initial design capacity of the MSW landfill is approximately 3.7 million megagrams. Waste was first accepted by the facility on December 1, 2009. Big Sky accepts waste 365 days/year. Municipal solid waste decomposes over time and releases landfill gas, which consists mostly of carbon dioxide and methane. Construction and demolition wastes are disposed of separately from MSW, and are generally expected to not decompose. Non-friable asbestos is accepted, subject to requirements for GPS location, immediate cover, and permanent retention of disposal and location records.

Landfill gas is a mixture, containing approximately 50-55% methane, 45-50% carbon dioxide, and 2-5% of other gases.[1] Some examples of these gases include sulfides, carbon monoxide, ammonia, and non-methane organic compounds (NMOC). NMOC from landfill gas commonly consists of hazardous air pollutants (HAP), such as benzene, hexane, toluene, vinyl chloride, among others. Regulatory limits are based on the NMOC portion of landfill gas.

Organic waste (municipal solid waste) accepted by landfills is decomposed by bacteria over time, producing landfill gas. This decomposition occurs in four phases. In Phase I, aerobic (in the presence of or requiring oxygen) bacteria break down complex carbohydrates, proteins, and lipids in organic waste. The primary gas byproduct in this phase is carbon dioxide. Phase I continues until all available oxygen is depleted. In Phase II, anaerobic (not in the presence of or not requiring oxygen) bacteria convert the compounds created by Phase I into acetic, lactic, and formic acids and alcohols. The acids mix with the moisture in the landfill and react with nitrogen to produce carbon dioxide and hydrogen. In Phase III, the anaerobic bacteria consume the organic acids produced in Phase II to form acetate, another organic acid. Phase III causes the landfill to become a more pH-neutral environment, which allows methane-producing bacteria to establish themselves. These bacteria consume the carbon dioxide and acetate, producing methane. In Phase IV, the decomposition of organic waste and the production of landfill gas are at a relatively constant rate. Phase IV typically lasts around 20 years. Different portions of the landfill may be in different phases at the same time, depending on when the waste was accepted

Moisture content, oxygen concentration, and temperature all affect the rate of landfill gas production. Moisture encourages bacterial growth by transporting nutrients throughout the landfill. Waste compaction (i.e. higher density of the landfill) will decrease the rate of water infiltration and subsequently, the rate of landfill gas production. Oxygen concentration allows for decomposition to remain in Phase I for longer. Methane production will only begin once decomposition has progressed to Phase III, where anaerobic, methane-producing bacteria will begin to proliferate. Oxygen concentration is affected by the compaction of the waste and in shallow areas of the landfill, higher barometric pressures can cause increased oxygen concentrations. Higher temperatures encourage bacterial growth and an increased rate of chemical reactions and volatilization. Shallow areas of the landfill will be more sensitive to temperature changes, since there is not the insulation provided by layers of soil or waste.

Waste composition and age is a major factor in landfill gas production. The composition of the organic waste can inhibit or encourage bacterial growth, resulting in decreased or increased landfill gas production, as appropriate. For example, waste with higher concentrations in

[1] Source for landfill gas composition and production information: ASTDR: Landfill Gas Primer: An Overview for Environmental Health Professionals, https://www.atsdr.cdc.gov/HAC/landfill/html/intro.html.

nutrients, such as phosphorus or nitrogen, will encourage bacterial growth, whereas waste with higher concentrations in sodium will inhibit the growth of methane-producing bacteria. Newer waste will produce more landfill gas, and decrease over time as the decomposition progresses. Gas production is expected to peak after about 5 to 7 years and all gas is expected to be produced within 20 years after acceptance of the waste. For the landfill as a whole, landfill gas emissions are expected to increase ever year, as more waste is accepted and will decrease after closure. It is expected landfill gas emissions will peak the year or year after the landfill reaches capacity.

Big Sky is permitted to operate a crusher, allowing stone to be removed in constructing waste cells at the facility to be processed into gravel that can be used at the facility to line waste cells. Fugitive particulate matter emissions results from vehicle traffic, as well as disposal and daily cover operations. Diesel combustion in mobile equipment at the facility is also expected to result in air emissions.

Big Sky stores and dispenses gasoline for use in plant vehicles. There are other VOC storage tanks at the facility that store diesel fuel and oil, which are expected to have insignificant emissions due to their low vapor pressure.

Permitting, Application, and Construction History

Planning of the landfill began in 2005 or earlier, based on submissions to ADEM related to the first solid waste disposal facility permit, issued on August 6, 2007. The initial solid waste permit included only the MSW cell. The CD cell was added to the permit, effective July 9, 2010. ADEM also issued a National Pollutant Discharge Elimination System General Permit for the facility on September 12, 2006. ADEM granted approval to accept waste on November 10, 2009. The current Solid Waste Permit was issued to Big Sky on February 10, 2025 and is effective until February 9, 2035.

The current Title V renewal application was submitted on August 6, 2024. The application was determined to be complete on October 5, 2024. Consistent with Section 18.12.2 of the Rules and Regulations, Big Sky's right to operate will extend past the expiration of the current Title V permit on February 5, 2025.

The table below summarizes the Title V permitting history for the facility.

Application	Purpose	Department Action
10/30/2009	Initial Title V	4-07-1037-01 issued 04/19/2010
10/09/2014	Title V Renewal (timely)	4-07-1037-02 issued 03/19/2015
08/24/2015	Administrative Modification – Change of Ownership from Green Mountain Management Solid Waste Facility to Big Sky Environmental Solid Waste Facility	4-07-1037-03 issued 08/27/2015
12/13/2019	Title V Renewal	4-07-1037-04 issued 02/06/2020
08/06/2024	Title V Renewal (timely)	This application is for the current draft permit to be numbered 4-07-1037-05.

Compliance and Enforcement (Air Emissions Only)

The facility is in compliance with the current Title V Operating Permit based on the most recent annual inspection and full compliance evaluation (dated November 12, 2024). There are no outstanding consent decrees, court judgements, administrative orders or other enforcement orders for air emissions which have been issued against the facility at the time of this draft permit which are not properly addressed in the permit. The most recent annual compliance certification was received on May 17, 2024. The company reported status was in compliance without deviations. No compliance schedule is required at this time.

List of All Units and Emissions Generating Activities

Emissions Unit No.	Emissions Unit Description
001	Municipal Solid Waste Landfill – 3,675,550 Megagrams Design Capacity – Subject to FIP, 40 CFR 62, Subpart OOO– Location Defined by ADEM Solid Waste Permit 37–48
002	Stage I Controlled Gasoline Dispensing Facility with 6,000-Gallon Tank & Dispensing Nozzle

Sources Not Assigned an Emission Unit Number

- Facility-wide fugitive dust, including but not limited to vehicle traffic and daily cover operations
- CD landfill cell, including crushing operations (Facility-wide)
- Storage tanks containing diesel, leachate, and/or used oil (Insignificant)
- Fuel combustion in mobile equipment (Facility-Wide).

Facility-Wide Potential to Emit (PTE)

The potential to emit is calculated using the maximum capacity of the facility under its physical and operational design. The calculation includes federally enforceable limits, restrictions or requirements, including but not necessarily limited to air pollution control equipment, and restrictions on the hours of operation, types of materials combusted or amounts of materials processed. The most recent permit application may include adjustments to the PTE calculation which incorporate better information than was available when previous applications were submitted. The potential or projected emissions calculated by the Department, incorporating the best available information at this time, is summarized below to put the size of the facility in context and to aid in understanding which regulations apply. The independent calculations performed by the Department may differ from those submitted by the facility. Differences will not be discussed unless an issue of applicability is presented. The Department's full calculations of potential emissions for the facility using the best available information is attached to this report. Potential to emit is meant to be a worst-case emissions calculation. Actual emissions are lower.

Landfill emissions presented in this report are calculated using Landfill Gas Emissions Model (LandGEM) Version 3.03, a program developed by EPA. LandGEM serves as a screening tool, using a first order decomposition rate equation and default values, which are likely to be higher than the values that would be calculated based on site-specific testing. Regulatory defaults are

used for determining compliance with the applicable NSPS and NESHAP. For emission inventory purposes, AP-42 recommends site-specific information be used, when available.

The recommended value, from Table HH-1 in 40 CFR 98, Subpart HH, for the methane generation rate (k) is 0.057 per year, for an area such as Jefferson County that receives greater than 40 feet of rainfall per year. The value for the methane generation potential is (L_o) is 100 m^3/Mg, when calculating for emissions inventory purposes. The site-specific NMOC concentration is 214 ppmv as hexane, as demonstrated by site-specific Tier 2 testing conducted in March 2022. LandGEM reuses the waste acceptance rate from the most recent year to calculate for future years until the design capacity of the landfill is met or 80 years of waste acceptance has occurred.

The summary report from LandGEM generated by the Department and the Department's calculations for fugitive dust and fuel combustion are attached to this report. The input values as described in the previous paragraph and the full design capacity of the landfill (3,675,500 megagrams) were used.

The following tables include data from LandGEM Version 3.03 for potential emissions from 2025-2030.

Year	NMOC (Mg/yr)	VOC (tons/yr)	Total HAP (tons/yr)	Toluene (tons/yr)	Xylenes (tons/yr)	Methylene chloride (tons/yr)
2025	8.21	5.94	3.30	1.76	0.62	0.58
2026	9.47	6.85	3.80	2.03	0.72	0.67
2027	10.66	7.72	4.28	2.28	0.81	0.76
2028	11.78	8.53	4.73	2.52	0.90	0.84
2029	12.84	9.30	5.16	2.75	0.98	0.91
2030	13.84	10.02	5.56	2.97	1.05	0.98

Fugitive particulate matter emissions are expected from vehicle traffic and landfill cover operations. Potential emissions due to fugitive dust generated by vehicle travel based on AP-42 factors for paved roads (Section 13.2.1), unpaved roads (Section 13.2.2), and material handling without accounting for the effectiveness of controls and rainfall are included in the table below. AP-42 Section 13.2.3 recommends the dozer overburden equation in Tables 11.9-1 and 11.9-2 for calculating fugitive dust from bulldozing operations.

	PM (tons/year)	PM_{10} (tons/year)	$PM_{2.5}$ (tons/year)
Paved Roads	25.2	5.0	1.2
Unpaved Roads	274	73.9	7.4
Cover Operations	17.3	12.9	1.7
Total	317	91.8	10.3

Diesel-powered, heavy equipment is used at the facility, for cover and material handling operations. Potential emissions due to the combustion of diesel fuel using AP-42 Section 3.3 factors and information provided by the facility are included in the table below.

VOC (tons/year)	NO_X (tons/year)	SO_X (tons/year)	CO (tons/year)	$PM/PM_{10}/PM_{2.5}$ (tons/year)	Total HAP (tons/year)
5.6	68.5	4.5	14.8	4.8	0.060

VOC emissions are expected from gasoline dispensing and the gasoline storage tank, due to evaporation of the liquid during storage and changes in the liquid level in the tank. For fixed roof tanks, losses are expected during storage (breathing losses) and during filling (working losses). Expected VOC losses from gasoline dispensing (using AP-42 Chapter 5.2) and storage (using the EPA Tanks 5.1 program) are included in the table below. Emissions from the storage of diesel fuel and motor oil are expected to be minimal, due to the low vapor pressure of the material.

Gasoline Dispensing (tons/year)	Gasoline Storage Tank (tons/year)	Total (tons/year)
0.6	1.9	2.6

NAAQS Attainment Status & Major Source Thresholds

Jefferson County is designated attainment for all National Ambient Air Quality Standards (NAAQS) currently in effect. The provisions of Part 2.4, "Air Permits Authorizing Construction in Clean Areas (Prevention of Significant Deterioration Permitting (PSD))" of the Rules and Regulations determine the major source threshold for all NSR regulated pollutants. Landfills are not listed sources under Subdivision 2.4.2(a)(1)(i) of the Rules and Regulations. Therefore, fugitive emissions are not considered in the area/major source determination for Big Sky. The major source threshold for Big Sky is 250 tons for regulated NSR pollutants (excluding lead). The significance level for municipal solid waste landfill emissions, measured as NMOC, is 45 Megagrams/yr (50 short tons/yr). Under Title V (Paragraph 18.1.1(q)), the major source threshold for regulated NSR pollutants is 100 tons. The Title V major source thresholds for HAPs are 10 tons/year single HAP and 25 tons/year total HAP.

An insignificant activity means an air emissions unit at the facility which has the potential to emit less than 5 tons per year of any criteria pollutant or less than 1,000 pounds per year of any HAP (Paragraph 18.1.1(o) of the Rules and Regulations). However, activities which have applicable requirements cannot be considered insignificant.

Facility-wide potential and projected emissions are less than the major source thresholds for all criteria pollutants when only point sources are included in the total, which is the rule for NSR and Title V applicability determinations. However, there are applicable requirements for landfill operations and for gasoline storage and dispensing. 40 CFR 62, Subpart OOO for landfills subjects Big Sky to Title V based on design capacity alone. The Department also has discretion to require a permit because the potential fugitive PM_{10} emissions are very near the Title V threshold and more than six times the PSD significance level.

Determination of Applicable Requirements

New Source Review (NSR) / Prevention of Significant Deterioration (PSD) permitting requirements are applicable to the construction of any new major source, as defined in Paragraph 2.4.2(a) or 2.5.2(a) of the Rules and Regulations, or any major modification at an existing major stationary source.

Applicable requirements under New Source Performance Standards (NSPS) are determined by date of construction and other details including but not limited to the equipment capacity, material stored, and/or fuel combusted, but are generally not determined directly from the PTE of individual equipment or of the entire facility.

Applicable requirements under the State Implementation Plan (SIP) apply based on the activity or equipment generating emissions, although some exemptions based on (low) PTE or actual emissions are incorporated into some rules.

The PTE for HAP is often relevant to the determination of which National Emission Standards for Hazardous Air Pollutants (NESHAP) are applicable. In general, NESHAPs apply to specifically defined source categories based on equipment or type of activity. For 40 CFR Part 61 NESHAP, PTE is not considered. For 40 CFR Part 63 NESHAP, some subparts are applicable only to major sources of HAP, others are applicable only to area sources of HAP, and some subparts include requirements for both major and area sources of HAP.

Applicable Requirements

The following discussions address applicable requirements for processes and equipment at this facility, requirements that typically apply to Title V facilities, and requirements that may appear applicable but are not.

New Source Review (NSR) & Prevention of Significant Deterioration (PSD)

The facility is an existing area source of NSR/PSD pollutants. There is no modification (a physical change or a change in the method of operation which increases the amount of air pollutant emitted or causes the emission of a pollutant not previously emitted by the facility) included in or associated with this permit renewal. No increase in the size of the landfill has been requested. Evaluation under the PSD program for NSR requirements, including but not limited to Best Available Control Technology (BACT), has not been triggered.

Compliance Assurance Monitoring (CAM)

The requirements of 40 CFR Part 64 apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria per §64.2:

(1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under §64.2(b)(1);
(2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and
(3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit," as defined in §64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.

No emission unit at Big Sky satisfies all of the above criteria. CAM does not apply.

Landfill Operations

State Implementation Plan

ADEM has proposed a revision to ADEM Administrative Code (AAC) Section 335-3-19 to implement 40 CFR 60, Subpart Cf, "Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills," which required SIP submissions to lower the NMOC threshold from 50 megagrams per year to 34. The Department adopted these changes via revisions to Chapter 21 of the Rules and Regulations on August 14, 2024. As of the date of this report, EPA has not taken final action on the proposed revisions.

Federal Implementation Plan

40 CFR 62, Subpart OOO, "Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014" is the federal implementation plan (FIP) for 40 CFR 60, Subpart Cf. Big Sky is subject to Subpart OOO as construction, reconstruction, or modification began on or before July 17, 2014 and it is not currently subject to a SIP implementing 40 CFR 60, Subpart Cf.

The design capacity of Big Sky is 3,675,550 megagrams. Landfills with a design capacity equal to or greater than 2.5 million megagrams or 2.5 million cubic meters must either install a gas collection and control system (GCCS) or calculate the NMOC emission rate each year, according to a tiered procedure, and submit an annual report, demonstrating the emission rate is under 34 megagrams per year.

The NMOC emission rate is calculated according to the equations in §62.16718. The regulatory default value for the methane generation rate (k) is 0.05 per year, the methane generation potential (L_o) is 170 cubic meters per megagram, and the NMOC concentration is 4,000 parts per million by volume hexane.

For Tier 1 calculations, the regulatory default values are used for calculation of the NMOC emission rate and compared to the 34 megagrams per year standard. If the emission rate is lower, an NMOC emission rate report must be submitted, and the emission rate must be recalculated annually. If the emission rate is greater, a GCCS must be designed and installed. Alternatively, the landfill owner or operator may attempt to demonstrate an NMOC emission rate lower than the threshold via Tier 2 procedures.

Tier 2 testing involves the determination of a site-specific NMOC concentration. Landfill gas is collected, using the sampling method as provided in §62.16718(a)(3), and analyzed for NMOC concentration by EPA Method 25 or 25C. The NMOC emission rate is then recalculated using the site-specific concentration rather than the regulatory default value. If the recalculated rate is lower than 34 megagrams per year, an NMOC emission rate report must be submitted, the emission rate must be recalculated annually, and Tier 2 testing must be conducted again every 5 years. If the recalculated rate is greater than 34 megagrams per year, a GCCS must be designed and installed. Alternatively, the landfill owner or operator may attempt to demonstrate an NMOC emission rate lower than the threshold via Tier 3 procedures.

Big Sky initially conducted Tier 2 testing on May 9, 2013 and most recently conducted testing again on March 14-18, 2022, in accordance with the procedures of 40 CFR 60, Subpart WWW. The Tier 2 procedures specified in Subpart WWW and Subpart OOO are the same. The site-specific NMOC concentration determined in March 2022 was 214 ppmv hexane. The

recalculated NMOC emission rate, as reported in March 2022, was 6.07 megagrams per year. Tier 2 testing will next be required in 2027.

Tier 3 testing involves the determination of site-specific methane generation constant using EPA Method 2E. The NMOC emission rate is recalculated using the site-specific constant and the site-specific concentration from Tier 2 testing. If the recalculated rate is lower than 34 megagrams per year, an NMOC emission rate report must be submitted, and the emission rate must be recalculated annually. Tier 3 testing is only required once; however, Tier 2 testing must still be conducted every 5 years. If the recalculated rate is greater than 34 megagrams per year, a GCCS must be designed and installed.

Tier 4 testing may be used to demonstrate that surface methane emissions are below 500 parts per million, only if the NMOC emissions are demonstrated to be greater than or equal to 34 megagrams per year but less than 50 megagrams per year, using Tier 1 or Tier 2. Surface emission monitoring is conducted on a quarterly basis, using the procedures specified in §62.16718(a)(4). A Tier 4 surface emissions rate report must be submitted, along with other records as specified in §62.16726(g). If the measured concentration is greater than or equal to 500 parts per million, a GCCS must be designed and installed.

The NMOC emission rate report must be submitted annually and contain an annual or 5-year estimate of the NMOC emission rate and all data, calculations, sample reports, and measurements used to estimate the annual or 5-year emissions. If the estimated NMOC emission rate as reported is less than 34 megagrams per year in each of the next 5 consecutive years, Big Sky can elect to submit an estimate of the NMOC emission rate for the next 5-year period in lieu of the annual report. The estimate must be revised at least once every 5 years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year in the 5-year estimate, a revised estimate must be submitted.

If Big Sky's NMOC emissions cannot be determined to be less than 34 megagrams per year and Tier 4 testing is not performed or does not demonstrate that surface methane emissions are below 500 ppm, a design plan for a GCCS must be submitted within 1 year of the exceedance. A closure report must be submitted within 30 days of ceasing waste acceptance and no additional wastes may be accepted without filing a notification of modification under §60.7(a)(4). Big Sky must maintain records of the design capacity report, the current amount of solid waste-in-place, and the year-by-year waste acceptance rate.

New Source Performance Standards (NSPS)

40 CFR 60, Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," applies to stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction after the applicable date in §60.4200.

A stationary ICE is defined in §60.4219 as, "any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition."

A nonroad engine is defined in 40 CFR 1068.30 as follows:

"*(1) Except as discussed in paragraph (2) of this definition, a nonroad engine is an internal combustion engine that meets any of the following criteria:*

(i) It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers).

(ii) It is (or will be) used in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers).

(iii) By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

(2) An internal combustion engine is not a nonroad engine if it meets any of the following criteria:

(i) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.

(ii) The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section 111 of the Clean Air Act (42 U.S.C. 7411)). Note that this criterion does not apply for engines meeting any of the criteria of paragraph (1) of this definition that are voluntarily certified under 40 CFR part 60.

(iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. For any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced, include the time period of both engines in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year."

The heavy equipment currently used by Big Sky all fall under Paragraph (1) of the definition. Regulation of emissions from nonroad compression-ignition engines is addressed under 40 CFR 1039, 40 CFR 1065, and 40 CFR 1068 (among others) which are all administered by EPA. If Big Sky has a portable or transportable piece of equipment using a RICE engine, such as a crusher or grinder, that remains on-site for longer than 12 months or a full annual operating period, the engine would be considered a stationary RICE and subject to the RICE NSPS and/or NESHAP, as applicable.

40 CFR 60, Subpart WWW, "Standards of Performance for Municipal Solid Waste Landfills" applies to each municipal solid waste landfill that commenced construction, reconstruction or modification on or after May 30, 1991 but before July 18, 2024. Pursuant to §60.750(d)(1), Big Sky will comply with the more stringent requirements of 40 CFR 62, Subpart OOO.

40 CFR 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to portable nonmetallic mineral processing plants that commenced construction, reconstruction or modification on or after August 31, 1983 with a capacity that exceeds 150 tons/hour of material processed. Big Sky does not make use of a capture system to capture and transport particulate matter to a control device. Pursuant to §60.672(b), Big Sky will comply with the fugitive emission limits and compliance requirements in Table 3 of 40 CFR 60, Subpart OOO. The wet suppression systems built into newer units are sufficient to meet the opacity limits, whenever they are maintained properly. If Big Sky installs and operates a capture system, as specified in §60.672(a), then the requirements of Table 2 will apply. If Big Sky saturates the processed materials sufficiently as to satisfy the definitions of "saturated material" and "wet material processing operation(s)" under §60.671, the requirements of 40 CFR 60, Subpart OOO will not apply, pursuant to §60.670(a)(2).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

40 CFR 61, Subpart M, "National Emission Standard for Asbestos" contains applicable provisions for landfills that accept asbestos. Big Sky must follow the provisions of §61.154, "Standard for Active Waste Disposal Sites," for the segregation of asbestos-containing materials, recordkeeping, prevention of visible emissions, prevention of access by the public, and notification of any disturbance of buried asbestos. Additionally, asbestos-containing materials may not be used to construct roadways except as allowed by §61.143, "Standard for Roadways."

40 CFR 63, Subpart AAAA, "National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills," would be applicable under any one of the following conditions:

- If Big Sky were to exceed major source thresholds for HAP (10 tons/year single HAP and/or 25 tons/year total HAP);
- If uncontrolled NMOC emissions were to exceed 50 megagrams/year, calculated according to 40 CFR 40 CFR 63.1959(a); or
- If Big Sky were to install a bioreactor, defined in 40 CFR 63.1990 to mean the controlled addition of any liquid other than leachate to raise the moisture content of the cell by at least 40% by weight to enhance anaerobic biodegradation.

On-Site Fuel Dispensing

State Implementation Plan

Part 8.3 of the Rules and Regulations applies to loading and storage of VOC with a true vapor pressure of 1.5 psia or greater under actual storage conditions. Tanks which exceed 1,000 gallons in storage capacity are required to have a submerged fill pipe if at any time the true vapor pressure of the contents exceeds 1.5 psia. This provision applies only to the 6,000-gallon gasoline storage tank, as gasoline has a maximum true vapor pressure of 7.0 psia.

Part 8.7 of the Rules and Regulations applies to the on-site gasoline dispensing facility, which is subject to the Stage I vapor control requirements of Section 8.7.4 of the Rules and Regulations and the work practice and spill prevention provisions of Sections 8.7.5 and 8.7.6 of the Rules and Regulations.

Part 8.20 of the Rules and Regulations applies to all vapor collection and control systems at gasoline dispensing facilities. Big Sky can only accept gasoline from tank trucks that have a

valid Jefferson County Department of Health Air Sticker visibly attached. The vapor collection system must also be designed and operated within the standards of Section 8.20.5 and Section 8.20.6 of the Rules and Regulations.

New Source Performance Standards (NSPS)

40 CFR 60, Subpart K, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978," 40 CFR 60, Subpart Ka, "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984," 40 CFR 60, Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023," and 40 CFR 60, Subpart Kc, "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023," do not apply either based on construction date or on vessel capacity.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

40 CFR 63, Subpart CCCCCC, "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities" applies to gasoline dispensing facilities at area sources of HAP. Big Sky has a monthly throughput of less than 10,000 gallons of gasoline, and so is subject only to the management practices intended to minimize gasoline emissions.

Facility-Wide Operations

SIP

State Implementation Plan, Part 6.2 of the Rules and Regulations applies to fugitive dust emissions throughout the facility, including but not limited to road traffic and daily landfill cover operations. Specific measures for dust control due to landfill operations are included under the conditions of EU 001.

Permit Shield

No permit shield under Section 18.10 of the Rules and Regulations has been included in this permit. A permit shield under Section 18.10 would include a statement that compliance with the permit will be considered compliance with all applicable requirements as of the date of permit issuance.

Alternative Operating Scenarios

An alternative operating scenario is a change to an emission unit that either results in the unit being subject to one or more applicable requirements which differ from those applicable to the emission unit prior to the implementation of the change or renders inapplicable one or more requirements previously applicable to the emission unit prior to the implementation of the change. There are no reasonably anticipated alternative operating scenarios for any emission unit at the facility.

Title V Monitoring

Pursuant to §70.6(a)(3)(i), Title V operating permits must contain all monitoring and analysis procedures, or test methods required under applicable monitoring and testing requirements.

Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant period that are representative of the source's compliance with the permit must be included. These monitoring requirements must assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Periodic monitoring can take the form of direct measurements of emissions or can be achieved through indirect measures, such as recordkeeping or permit limitations. NSPS and NESHAPs are typically written to have periodic monitoring built into their requirements. State regulations, however, often do not have such requirements inherent to them and, so, the Department must design them. The Department relies on knowledge of the facility and process, EPA guidance, and engineering judgment in determining periodic monitoring requirements. This determination is often a case-by-case, unit-specific, pollutant-specific analysis, considering the specific operations of the emissions source, economic and technical feasibility, and risk, among other factors.

Facility-Wide Operations

A condition has been added for storage tanks to specify that storage of VOC with a true vapor pressure greater than 1.5 psia is subject to the requirements of Part 8.3 of the Rules and Regulations.

A condition has been added to specify that any RICE-powered, portable or transportable equipment that remain at the facility for longer than 12 consecutive months or a full annual operating period will be considered stationary and subject to the RICE NSPS and/or NESHAP, as applicable. If such conditions are met, Big Sky will be required to notify the Department and revision to the Permit could be required.

Landfill Operations

Compliance with 40 CFR 62, Subpart OOO will be monitored through submittal of the NMOC emissions rate report, demonstrating that the emission rate is under 34 megagrams per year. Big Sky is further required to submit and maintain records of Tier 2, 3, and/or 4 testing procedures and results. If the NMOC emission rate cannot be demonstrated to be less than 34 megagrams per year, Big Sky is required to notify the Department (and EPA) within 2 working days of discovery and within 30 days, submit a compliance schedule for meeting the GCCS requirements, and proceed with the design and installation of a GCCS, according to the progress increments outlined in §62.16712.

The permit includes specific measures that Big Sky must undertake to minimize fugitive dust, in order to comply with Part 6.2 of the Rules and Regulations. Additional dust control measures and monitoring requirements have been added to the fugitive dust provision (under EU 001) to include the following:

- Use of vegetive cover
- Paving of plant roads
- Additional requirements for wet suppression
    - Specifying that observation of visible emissions from fugitive dust from vehicle traffic and/or wind is the indicator for the need of water application

  - Specifying that wet suppression is effective when it prevents fugitive dust from crossing property lines
  - Requiring inspection of the water truck and corrective action, as needed
  - Requiring recordkeeping of inspection of the water truck and additional records surrounding the application of water
  - Requiring reporting of the days when the water truck was not able to be used effectively in the Title V semi-annual report
- Specifying use of daily compaction of landfill cover and minimizing of drop heights
  - Requiring the documentation of training of employees who participate in or supervise cover activities in work practices to prevent fugitive dust
  - Requiring reporting of when a work practice was not properly performed and the corrective actions taken in the Title V semi-annual report.

The Department will investigate any complaints of fugitive dust and could require specific measures or monitoring if the fugitive dust originating at the facility is observed crossing property lines.

Big Sky makes use of wet suppression to reduce particulate matter and dust from stone-crushing and earth-moving operations. 40 CFR 60, Subpart OOO requires monthly periodic inspections to check that water is flowing to discharge spray nozzles. It is further required that corrective action is initiated within 24 hours and completed as expediently as practical if it is determined that water is not flowing properly during an inspection. Records must be maintained of each inspection, including the date and any corrective action taken, in a logbook. It has now been specified that, according to the definition of saturated materials in Subpart OOO, materials are not considered saturated if only wetted by a wet suppression system. The corrective action requirements for the wet suppression system and the reporting and recordkeeping requirements for Subpart OOO are now included explicitly.

For all asbestos-containing waste materials received, records of waste shipments and the location, depth, area, and quantity of asbestos-containing materials within the disposal site on a map or diagram of the disposal area must be maintained to demonstrate compliance with 40 CFR 61, Subpart M. The recordkeeping and reporting requirements to demonstrate compliance with Subpart M have been included explicitly. A requirement has also been added that Big Sky certify its compliance with §61.154 in the Title V semi-annual report, if asbestos has been accepted during the reporting period. Wording has been included to specify that Big Sky must comply with its solid waste permit and ADEM Administrative Code r. 335-13-4.26(2) in order to comply with §61.154(a).

It has been specified that Big Sky must notify the Department within 2 working days of discovery of an exceedance of NMOC or HAP emissions that would trigger 40 CFR 63, Subpart AAAA, and submit an application for revision of the permit. NMOC emissions will be monitored through the annual NMOC emissions rate report required under 40 CFR 62, Subpart OOO. HAP emissions will be monitored through the annual production and emissions report required by the Department.

On-Site Fuel Dispensing

Big Sky is required to maintain records of the monthly throughput of gasoline, to demonstrate compliance with §63.11116 and that it has not become subject to additional requirements of 40

CFR 63, Subpart CCCCCC. A requirement to certify compliance with §63.11116 and report the monthly throughput in the Title V semi-annual report has been added.

Big Sky must maintain delivery records of gasoline, including the Reid vapor pressure and Air Sticker number of the tank truck, to demonstrate compliance with the applicable gasoline dispensing requirements of Chapter 8 of the Rules and Regulations.

In the event that Big Sky is not receiving or storing gasoline in a given month, it has now been specified that Big Sky must document this, and include any months with no gasoline throughput in the semi-annual Title V monitoring report. It has been specified that Big Sky must continue to comply with all applicable requirements for EU 002 until the equipment has been removed from the landfill (as defined under ADEM Solid Waste Disposal Facility Permit 37–48) or rendered physically incapable of causing air emissions. Big Sky will be required to notify the Department prior to the removal of the equipment or alteration of the equipment.

Public Participation & Comment Periods

There will be a 30-day public comment period for this draft permit. Comments should be limited to only the current permitting action. Any person may request a public hearing during the public comment period. Public notice will be given by publication in a local newspaper regarding the availability of the draft permit, application and statement of basis on the Department's website. Additional community outreach measures for this permit renewal include providing a copy of the public notice to the appropriate city and county executives, and to other persons who have submitted a written request to be notified of permit actions.

The ADEM will have the opportunity to comment during the 30-day public comment period. EPA will have 45 days to comment on the proposed permit, beginning when the proposed permit is submitted. EPA may elect to treat the draft for public comment as a proposed permit for concurrent review unless there are substantial comments which result in changes to the draft.

The deadline for submitting a citizen petition asking EPA to object to the permit will be determined as if EPA's 45-day review period is performed after the public comment period has ended (i.e. sequentially), even if EPA actually reviews the permit concurrently with the public notice period. Refer to EPA's website for accurate information on the petition deadline: https://www.epa.gov/caa-permitting/alabama-proposed-title-v-permits.

The Department has established an email list for persons who wish to be notified of public comments periods by email. To request to be added to this list, send an email to airpermitcomments@jcdh.org.

Changes Made As a Result of Comments Received

If changes are made to the draft permit and/or Statement of Basis as a result of public comments received, this section will be updated to describe them. The revised Statement of Basis will accompany the proposed permit as re-submitted to EPA if significant public comments are received.

Summary Report

Landfill Name or Identifier: Big Sky Environmental

Date: Tuesday, February 25, 2025

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^{n} \sum_{j=0.1}^{1} kL_o \left(\frac{M_i}{10} \right) e^{-kt_{ij}}$$

Where,

Q_{CH4} = annual methane generation in the year of the calculation ($m^3/year$)

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate ($year^{-1}$)

L_0 = potential methane generation capacity (m^3/Mg)

M_i = mass of waste accepted in the i^{th} year (Mg)

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at http://www.epa.gov/ttnatw01/landfill/landflpg.html.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for convential landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	**2010**	
Landfill Closure Year (with 80-year limit)	**2037**	
Actual Closure Year (without limit)	***2037***	
Have Model Calculate Closure Year?	**Yes**	
Waste Design Capacity	**3,675,550**	*megagrams*

MODEL PARAMETERS

Methane Generation Rate, k	**0.057**	$year^{-1}$
Potential Methane Generation Capacity, L_0	**100**	m^3/Mg
NMOC Concentration	**214**	*ppmv as hexane*
Methane Content	**50**	*% by volume*

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	**Total landfill gas**
Gas / Pollutant #2:	**Methane**
Gas / Pollutant #3:	**Carbon dioxide**
Gas / Pollutant #4:	**NMOC**

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2010	60,092	66,101	0	0
2011	54,519	59,971	60,092	66,101
2012	25,639	28,203	114,611	126,072
2013	25,606	28,167	140,250	154,275
2014	32,049	35,254	165,856	182,442
2015	36,509	40,160	197,905	217,696
2016	37,028	40,731	234,414	257,855
2017	47,767	52,544	271,442	298,586
2018	69,217	76,139	319,209	351,130
2019	82,660	90,926	388,426	427,269
2020	104,408	114,849	471,086	518,195
2021	104,505	114,956	575,494	633,043
2022	128,331	141,164	679,999	747,999
2023	201,012	221,113	808,330	889,163
2024	201,012	221,113	1,009,342	1,110,276
2025	201,012	221,113	1,210,354	1,331,389
2026	201,012	221,113	1,411,366	1,552,503
2027	201,012	221,113	1,612,378	1,773,616
2028	201,012	221,113	1,813,390	1,994,729
2029	201,012	221,113	2,014,402	2,215,842
2030	201,012	221,113	2,215,414	2,436,955
2031	201,012	221,113	2,416,426	2,658,069
2032	201,012	221,113	2,617,438	2,879,182
2033	201,012	221,113	2,818,450	3,100,295
2034	201,012	221,113	3,019,462	3,321,408
2035	201,012	221,113	3,220,474	3,542,521
2036	201,012	221,113	3,421,486	3,763,635
2037	53,052	58,357	3,622,498	3,984,748
2038	0	0	3,675,550	4,043,105
2039	0	0	3,675,550	4,043,105
2040	0	0	3,675,550	4,043,105
2041	0	0	3,675,550	4,043,105
2042	0	0	3,675,550	4,043,105
2043	0	0	3,675,550	4,043,105
2044	0	0	3,675,550	4,043,105
2045	0	0	3,675,550	4,043,105
2046	0	0	3,675,550	4,043,105
2047	0	0	3,675,550	4,043,105
2048	0	0	3,675,550	4,043,105
2049	0	0	3,675,550	4,043,105

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	*(short tons/year)*	*(Mg)*	*(short tons)*
2050	0	0	3,675,550	4,043,105
2051	0	0	3,675,550	4,043,105
2052	0	0	3,675,550	4,043,105
2053	0	0	3,675,550	4,043,105
2054	0	0	3,675,550	4,043,105
2055	0	0	3,675,550	4,043,105
2056	0	0	3,675,550	4,043,105
2057	0	0	3,675,550	4,043,105
2058	0	0	3,675,550	4,043,105
2059	0	0	3,675,550	4,043,105
2060	0	0	3,675,550	4,043,105
2061	0	0	3,675,550	4,043,105
2062	0	0	3,675,550	4,043,105
2063	0	0	3,675,550	4,043,105
2064	0	0	3,675,550	4,043,105
2065	0	0	3,675,550	4,043,105
2066	0	0	3,675,550	4,043,105
2067	0	0	3,675,550	4,043,105
2068	0	0	3,675,550	4,043,105
2069	0	0	3,675,550	4,043,105
2070	0	0	3,675,550	4,043,105
2071	0	0	3,675,550	4,043,105
2072	0	0	3,675,550	4,043,105
2073	0	0	3,675,550	4,043,105
2074	0	0	3,675,550	4,043,105
2075	0	0	3,675,550	4,043,105
2076	0	0	3,675,550	4,043,105
2077	0	0	3,675,550	4,043,105
2078	0	0	3,675,550	4,043,105
2079	0	0	3,675,550	4,043,105
2080	0	0	3,675,550	4,043,105
2081	0	0	3,675,550	4,043,105
2082	0	0	3,675,550	4,043,105
2083	0	0	3,675,550	4,043,105
2084	0	0	3,675,550	4,043,105
2085	0	0	3,675,550	4,043,105
2086	0	0	3,675,550	4,043,105
2087	0	0	3,675,550	4,043,105
2088	0	0	3,675,550	4,043,105
2089	0	0	3,675,550	4,043,105

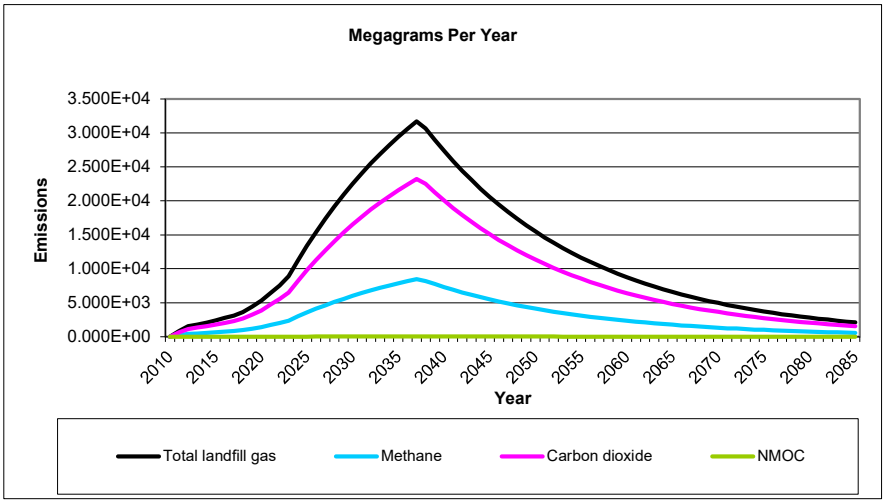
Pollutant Parameters

		Gas / Pollutant Default Parameters:		*User-specified Pollutant Parameters:*	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Gases	Total landfill gas		0.00		
	Methane		16.04		
	Carbon dioxide		44.01		
	NMOC	4,000	86.18		
Pollutants	1,1,1-Trichloroethane (methyl chloroform) - HAP	0.48	133.41	0.10	133.41
	1,1,2,2-Tetrachloroethane - HAP/VOC	1.1	167.85		
	1,1-Dichloroethane (ethylidene dichloride) - HAP/VOC	2.4	98.97		
	1,1-Dichloroethene (vinylidene chloride) - HAP/VOC	0.20	96.94		
	1,2-Dichloroethane (ethylene dichloride) - HAP/VOC	0.41	98.96		
	1,2-Dichloropropane (propylene dichloride) - HAP/VOC	0.18	112.99		
	2-Propanol (isopropyl alcohol) - VOC	50	60.11		
	Acetone	7.0	58.08		
	Acrylonitrile - HAP/VOC	6.3	53.06		
	Benzene - No or Unknown Co-disposal - HAP/VOC	1.9	78.11		
	Benzene - Co-disposal - HAP/VOC	11	78.11		
	Bromodichloromethane - VOC	3.1	163.83		
	Butane - VOC	5.0	58.12		
	Carbon disulfide - HAP/VOC	0.58	76.13		
	Carbon monoxide	140	28.01		
	Carbon tetrachloride - HAP/VOC	4.0E-03	153.84		
	Carbonyl sulfide - HAP/VOC	0.49	60.07		
	Chlorobenzene - HAP/VOC	0.25	112.56		
	Chlorodifluoromethane	1.3	86.47		
	Chloroethane (ethyl chloride) - HAP/VOC	1.3	64.52		
	Chloroform - HAP/VOC	0.03	119.39		
	Chloromethane - VOC	1.2	50.49		
	Dichlorobenzene - (HAP for para isomer/VOC)	0.21	147		
	Dichlorodifluoromethane	16	120.91		
	Dichlorofluoromethane - VOC	2.6	102.92		
	Dichloromethane (methylene chloride) - HAP	14	84.94		
	Dimethyl sulfide (methyl sulfide) - VOC	7.8	62.13		
	Ethane	890	30.07		
	Ethanol - VOC	27	46.08		

Pollutant Parameters (Continued)

		Gas / Pollutant Default Parameters:		*User-specified Pollutant Parameters:*	
	Compound	Concentration (*ppmv*)	Molecular Weight	Concentration (*ppmv*)	Molecular Weight
Pollutants	Ethyl mercaptan (ethanethiol) - VOC	2.3	62.13		
	Ethylbenzene - HAP/VOC	4.6	106.16		
	Ethylene dibromide - HAP/VOC	1.0E-03	187.88		
	Fluorotrichloromethane - VOC	0.76	137.38		
	Hexane - HAP/VOC	6.6	86.18		
	Hydrogen sulfide	36	34.08		
	Mercury (total) - HAP	2.9E-04	200.61		
	Methyl ethyl ketone - HAP/VOC	7.1	72.11		
	Methyl isobutyl ketone - HAP/VOC	1.9	100.16		
	Methyl mercaptan - VOC	2.5	48.11		
	Pentane - VOC	3.3	72.15		
	Perchloroethylene (tetrachloroethylene) - HAP	3.7	165.83		
	Propane - VOC	11	44.09		
	t-1,2-Dichloroethene - VOC	2.8	96.94		
	Toluene - No or Unknown Co-disposal - HAP/VOC	39	92.13		
	Toluene - Co-disposal - HAP/VOC	170	92.13		
	Trichloroethylene (trichloroethene) - HAP/VOC	2.8	131.40		
	Vinyl chloride - HAP/VOC	7.3	62.50		
	Xylenes - HAP/VOC	12	106.16		

Graphs


Megagrams Per Year
Emissions
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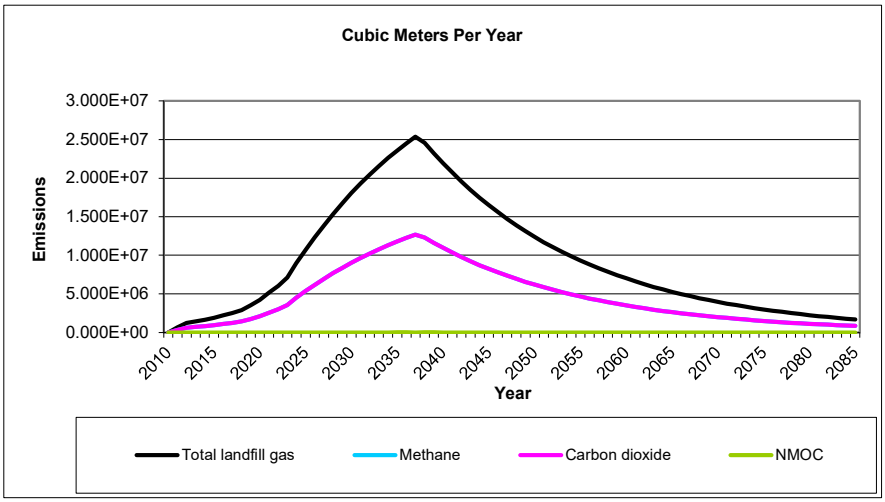
3.000E+04
2.500E+04
2.000E+04
1.500E+04
1.000E+04
5.000E+03
0.000E+00
2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


Cubic Meters Per Year
Emissions
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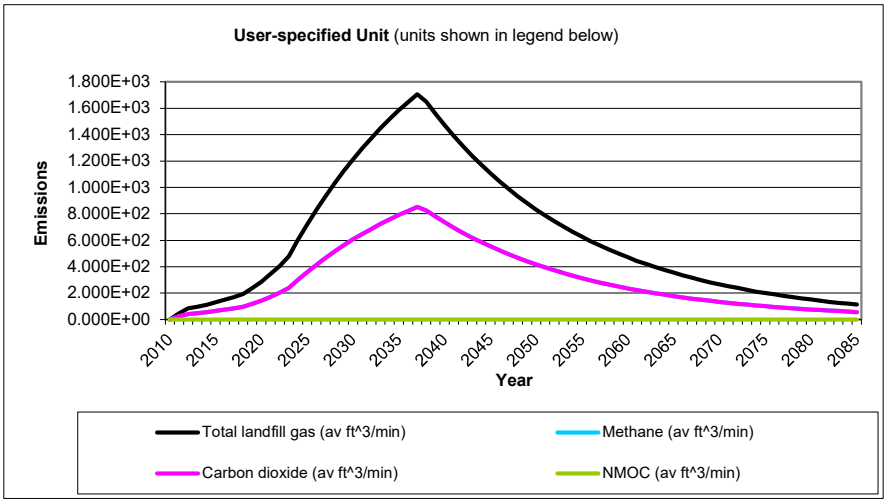
2.500E+07
2.000E+07
1.500E+07
1.000E+07
5.000E+06
0.000E+00
2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085
Year
Total landfill gas
Methane
Carbon dioxide
NMOC


User-specified Unit (units shown in legend below)
Emissions
1.800E+03
1.600E+03
1.400E+03
1.200E+03
1.000E+03
8.000E+02
6.000E+02
4.000E+02
2.000E+02
0.000E+00
2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085
Year
Total landfill gas (av ft^3/min)
Methane (av ft^3/min)
Carbon dioxide (av ft^3/min)
NMOC (av ft^3/min)

Results

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	8.340E+02	6.678E+05	4.487E+01	2.228E+02	3.339E+05	2.243E+01
2012	1.544E+03	1.237E+06	8.309E+01	4.125E+02	6.183E+05	4.155E+01
2013	1.815E+03	1.453E+06	9.763E+01	4.847E+02	7.265E+05	4.882E+01
2014	2.069E+03	1.657E+06	1.113E+02	5.528E+02	8.285E+05	5.567E+01
2015	2.400E+03	1.921E+06	1.291E+02	6.409E+02	9.607E+05	6.455E+01
2016	2.773E+03	2.221E+06	1.492E+02	7.408E+02	1.110E+06	7.460E+01
2017	3.133E+03	2.509E+06	1.686E+02	8.370E+02	1.255E+06	8.429E+01
2018	3.623E+03	2.901E+06	1.949E+02	9.677E+02	1.450E+06	9.746E+01
2019	4.383E+03	3.509E+06	2.358E+02	1.171E+03	1.755E+06	1.179E+02
2020	5.287E+03	4.234E+06	2.845E+02	1.412E+03	2.117E+06	1.422E+02
2021	6.443E+03	5.159E+06	3.466E+02	1.721E+03	2.580E+06	1.733E+02
2022	7.536E+03	6.035E+06	4.055E+02	2.013E+03	3.017E+06	2.027E+02
2023	8.900E+03	7.126E+06	4.788E+02	2.377E+03	3.563E+06	2.394E+02
2024	1.120E+04	8.965E+06	6.024E+02	2.991E+03	4.483E+06	3.012E+02
2025	1.337E+04	1.070E+07	7.191E+02	3.570E+03	5.351E+06	3.596E+02
2026	1.541E+04	1.234E+07	8.293E+02	4.117E+03	6.172E+06	4.147E+02
2027	1.735E+04	1.389E+07	9.335E+02	4.634E+03	6.947E+06	4.667E+02
2028	1.918E+04	1.536E+07	1.032E+03	5.123E+03	7.679E+06	5.159E+02
2029	2.091E+04	1.674E+07	1.125E+03	5.584E+03	8.370E+06	5.624E+02
2030	2.254E+04	1.805E+07	1.213E+03	6.020E+03	9.023E+06	6.063E+02
2031	2.408E+04	1.928E+07	1.295E+03	6.431E+03	9.640E+06	6.477E+02
2032	2.553E+04	2.045E+07	1.374E+03	6.820E+03	1.022E+07	6.869E+02
2033	2.691E+04	2.155E+07	1.448E+03	7.188E+03	1.077E+07	7.239E+02
2034	2.821E+04	2.259E+07	1.518E+03	7.534E+03	1.129E+07	7.588E+02
2035	2.943E+04	2.357E+07	1.584E+03	7.862E+03	1.178E+07	7.918E+02
2036	3.059E+04	2.450E+07	1.646E+03	8.172E+03	1.225E+07	8.230E+02
2037	3.169E+04	2.537E+07	1.705E+03	8.464E+03	1.269E+07	8.524E+02
2038	3.067E+04	2.456E+07	1.650E+03	8.192E+03	1.228E+07	8.250E+02
2039	2.897E+04	2.320E+07	1.559E+03	7.738E+03	1.160E+07	7.793E+02
2040	2.736E+04	2.191E+07	1.472E+03	7.309E+03	1.096E+07	7.361E+02
2041	2.585E+04	2.070E+07	1.391E+03	6.904E+03	1.035E+07	6.953E+02
2042	2.442E+04	1.955E+07	1.314E+03	6.522E+03	9.775E+06	6.568E+02
2043	2.306E+04	1.847E+07	1.241E+03	6.160E+03	9.234E+06	6.204E+02
2044	2.178E+04	1.744E+07	1.172E+03	5.819E+03	8.722E+06	5.860E+02
2045	2.058E+04	1.648E+07	1.107E+03	5.497E+03	8.239E+06	5.536E+02
2046	1.944E+04	1.556E+07	1.046E+03	5.192E+03	7.782E+06	5.229E+02
2047	1.836E+04	1.470E+07	9.879E+02	4.904E+03	7.351E+06	4.939E+02
2048	1.734E+04	1.389E+07	9.331E+02	4.633E+03	6.944E+06	4.666E+02
2049	1.638E+04	1.312E+07	8.814E+02	4.376E+03	6.559E+06	4.407E+02
2050	1.547E+04	1.239E+07	8.326E+02	4.134E+03	6.196E+06	4.163E+02
2051	1.462E+04	1.170E+07	7.865E+02	3.904E+03	5.852E+06	3.932E+02
2052	1.381E+04	1.106E+07	7.429E+02	3.688E+03	5.528E+06	3.714E+02
2053	1.304E+04	1.044E+07	7.017E+02	3.484E+03	5.222E+06	3.509E+02
2054	1.232E+04	9.865E+06	6.628E+02	3.291E+03	4.933E+06	3.314E+02
2055	1.164E+04	9.319E+06	6.261E+02	3.108E+03	4.659E+06	3.131E+02
2056	1.099E+04	8.802E+06	5.914E+02	2.936E+03	4.401E+06	2.957E+02
2057	1.038E+04	8.315E+06	5.587E+02	2.774E+03	4.157E+06	2.793E+02
2058	9.808E+03	7.854E+06	5.277E+02	2.620E+03	3.927E+06	2.639E+02
2059	9.265E+03	7.419E+06	4.985E+02	2.475E+03	3.709E+06	2.492E+02

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2060	8.751E+03	7.008E+06	4.708E+02	2.338E+03	3.504E+06	2.354E+02
2061	8.267E+03	6.619E+06	4.448E+02	2.208E+03	3.310E+06	2.224E+02
2062	7.809E+03	6.253E+06	4.201E+02	2.086E+03	3.126E+06	2.101E+02
2063	7.376E+03	5.906E+06	3.968E+02	1.970E+03	2.953E+06	1.984E+02
2064	6.967E+03	5.579E+06	3.749E+02	1.861E+03	2.790E+06	1.874E+02
2065	6.581E+03	5.270E+06	3.541E+02	1.758E+03	2.635E+06	1.770E+02
2066	6.217E+03	4.978E+06	3.345E+02	1.661E+03	2.489E+06	1.672E+02
2067	5.872E+03	4.702E+06	3.159E+02	1.569E+03	2.351E+06	1.580E+02
2068	5.547E+03	4.442E+06	2.984E+02	1.482E+03	2.221E+06	1.492E+02
2069	5.239E+03	4.196E+06	2.819E+02	1.400E+03	2.098E+06	1.409E+02
2070	4.949E+03	3.963E+06	2.663E+02	1.322E+03	1.982E+06	1.331E+02
2071	4.675E+03	3.743E+06	2.515E+02	1.249E+03	1.872E+06	1.258E+02
2072	4.416E+03	3.536E+06	2.376E+02	1.180E+03	1.768E+06	1.188E+02
2073	4.171E+03	3.340E+06	2.244E+02	1.114E+03	1.670E+06	1.122E+02
2074	3.940E+03	3.155E+06	2.120E+02	1.052E+03	1.578E+06	1.060E+02
2075	3.722E+03	2.980E+06	2.002E+02	9.941E+02	1.490E+06	1.001E+02
2076	3.516E+03	2.815E+06	1.891E+02	9.391E+02	1.408E+06	9.457E+01
2077	3.321E+03	2.659E+06	1.787E+02	8.870E+02	1.330E+06	8.933E+01
2078	3.137E+03	2.512E+06	1.688E+02	8.379E+02	1.256E+06	8.439E+01
2079	2.963E+03	2.373E+06	1.594E+02	7.915E+02	1.186E+06	7.971E+01
2080	2.799E+03	2.241E+06	1.506E+02	7.476E+02	1.121E+06	7.529E+01
2081	2.644E+03	2.117E+06	1.422E+02	7.062E+02	1.059E+06	7.112E+01
2082	2.497E+03	2.000E+06	1.344E+02	6.671E+02	9.999E+05	6.718E+01
2083	2.359E+03	1.889E+06	1.269E+02	6.301E+02	9.445E+05	6.346E+01
2084	2.228E+03	1.784E+06	1.199E+02	5.952E+02	8.921E+05	5.994E+01
2085	2.105E+03	1.685E+06	1.132E+02	5.622E+02	8.427E+05	5.662E+01
2086	1.988E+03	1.592E+06	1.070E+02	5.311E+02	7.960E+05	5.348E+01
2087	1.878E+03	1.504E+06	1.010E+02	5.016E+02	7.519E+05	5.052E+01
2088	1.774E+03	1.421E+06	9.544E+01	4.738E+02	7.103E+05	4.772E+01
2089	1.676E+03	1.342E+06	9.016E+01	4.476E+02	6.709E+05	4.508E+01
2090	1.583E+03	1.267E+06	8.516E+01	4.228E+02	6.337E+05	4.258E+01
2091	1.495E+03	1.197E+06	8.044E+01	3.994E+02	5.986E+05	4.022E+01
2092	1.412E+03	1.131E+06	7.599E+01	3.772E+02	5.655E+05	3.799E+01
2093	1.334E+03	1.068E+06	7.178E+01	3.563E+02	5.341E+05	3.589E+01
2094	1.260E+03	1.009E+06	6.780E+01	3.366E+02	5.045E+05	3.390E+01
2095	1.190E+03	9.531E+05	6.404E+01	3.179E+02	4.766E+05	3.202E+01
2096	1.124E+03	9.003E+05	6.049E+01	3.003E+02	4.502E+05	3.025E+01
2097	1.062E+03	8.505E+05	5.714E+01	2.837E+02	4.252E+05	2.857E+01
2098	1.003E+03	8.033E+05	5.398E+01	2.680E+02	4.017E+05	2.699E+01
2099	9.476E+02	7.588E+05	5.099E+01	2.531E+02	3.794E+05	2.549E+01
2100	8.951E+02	7.168E+05	4.816E+01	2.391E+02	3.584E+05	2.408E+01
2101	8.455E+02	6.771E+05	4.549E+01	2.259E+02	3.385E+05	2.275E+01
2102	7.987E+02	6.396E+05	4.297E+01	2.133E+02	3.198E+05	2.149E+01
2103	7.544E+02	6.041E+05	4.059E+01	2.015E+02	3.021E+05	2.030E+01
2104	7.126E+02	5.706E+05	3.834E+01	1.904E+02	2.853E+05	1.917E+01
2105	6.732E+02	5.390E+05	3.622E+01	1.798E+02	2.695E+05	1.811E+01
2106	6.359E+02	5.092E+05	3.421E+01	1.698E+02	2.546E+05	1.711E+01
2107	6.006E+02	4.810E+05	3.232E+01	1.604E+02	2.405E+05	1.616E+01
2108	5.673E+02	4.543E+05	3.052E+01	1.515E+02	2.272E+05	1.526E+01
2109	5.359E+02	4.291E+05	2.883E+01	1.431E+02	2.146E+05	1.442E+01
2110	5.062E+02	4.054E+05	2.724E+01	1.352E+02	2.027E+05	1.362E+01

Results (Continued)

Year	Total landfill gas			Methane		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2111	4.782E+02	3.829E+05	2.573E+01	1.277E+02	1.914E+05	1.286E+01
2112	4.517E+02	3.617E+05	2.430E+01	1.206E+02	1.808E+05	1.215E+01
2113	4.267E+02	3.416E+05	2.296E+01	1.140E+02	1.708E+05	1.148E+01
2114	4.030E+02	3.227E+05	2.168E+01	1.076E+02	1.614E+05	1.084E+01
2115	3.807E+02	3.048E+05	2.048E+01	1.017E+02	1.524E+05	1.024E+01
2116	3.596E+02	2.879E+05	1.935E+01	9.605E+01	1.440E+05	9.674E+00
2117	3.397E+02	2.720E+05	1.828E+01	9.073E+01	1.360E+05	9.138E+00
2118	3.208E+02	2.569E+05	1.726E+01	8.570E+01	1.285E+05	8.631E+00
2119	3.031E+02	2.427E+05	1.631E+01	8.095E+01	1.213E+05	8.153E+00
2120	2.863E+02	2.292E+05	1.540E+01	7.647E+01	1.146E+05	7.701E+00
2121	2.704E+02	2.165E+05	1.455E+01	7.223E+01	1.083E+05	7.275E+00
2122	2.554E+02	2.045E+05	1.374E+01	6.823E+01	1.023E+05	6.872E+00
2123	2.413E+02	1.932E+05	1.298E+01	6.445E+01	9.660E+04	6.491E+00
2124	2.279E+02	1.825E+05	1.226E+01	6.088E+01	9.125E+04	6.131E+00
2125	2.153E+02	1.724E+05	1.158E+01	5.751E+01	8.620E+04	5.791E+00
2126	2.034E+02	1.628E+05	1.094E+01	5.432E+01	8.142E+04	5.471E+00
2127	1.921E+02	1.538E+05	1.034E+01	5.131E+01	7.691E+04	5.168E+00
2128	1.814E+02	1.453E+05	9.762E+00	4.847E+01	7.265E+04	4.881E+00
2129	1.714E+02	1.372E+05	9.221E+00	4.578E+01	6.862E+04	4.611E+00
2130	1.619E+02	1.296E+05	8.711E+00	4.324E+01	6.482E+04	4.355E+00
2131	1.529E+02	1.225E+05	8.228E+00	4.085E+01	6.123E+04	4.114E+00
2132	1.445E+02	1.157E+05	7.772E+00	3.859E+01	5.784E+04	3.886E+00
2133	1.365E+02	1.093E+05	7.341E+00	3.645E+01	5.463E+04	3.671E+00
2134	1.289E+02	1.032E+05	6.935E+00	3.443E+01	5.161E+04	3.467E+00
2135	1.218E+02	9.749E+04	6.550E+00	3.252E+01	4.875E+04	3.275E+00
2136	1.150E+02	9.209E+04	6.188E+00	3.072E+01	4.605E+04	3.094E+00
2137	1.086E+02	8.699E+04	5.845E+00	2.902E+01	4.349E+04	2.922E+00
2138	1.026E+02	8.217E+04	5.521E+00	2.741E+01	4.108E+04	2.760E+00
2139	9.693E+01	7.762E+04	5.215E+00	2.589E+01	3.881E+04	2.607E+00
2140	9.156E+01	7.332E+04	4.926E+00	2.446E+01	3.666E+04	2.463E+00
2141	8.649E+01	6.925E+04	4.653E+00	2.310E+01	3.463E+04	2.327E+00
2142	8.169E+01	6.542E+04	4.395E+00	2.182E+01	3.271E+04	2.198E+00
2143	7.717E+01	6.179E+04	4.152E+00	2.061E+01	3.090E+04	2.076E+00
2144	7.289E+01	5.837E+04	3.922E+00	1.947E+01	2.918E+04	1.961E+00
2145	6.885E+01	5.513E+04	3.704E+00	1.839E+01	2.757E+04	1.852E+00
2146	6.504E+01	5.208E+04	3.499E+00	1.737E+01	2.604E+04	1.750E+00
2147	6.143E+01	4.919E+04	3.305E+00	1.641E+01	2.460E+04	1.653E+00
2148	5.803E+01	4.647E+04	3.122E+00	1.550E+01	2.323E+04	1.561E+00
2149	5.482E+01	4.389E+04	2.949E+00	1.464E+01	2.195E+04	1.475E+00
2150	5.178E+01	4.146E+04	2.786E+00	1.383E+01	2.073E+04	1.393E+00

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2010	0	0	0	0	0	0
2011	6.112E+02	3.339E+05	2.243E+01	5.122E-01	1.429E+02	9.602E-03
2012	1.132E+03	6.183E+05	4.155E+01	9.486E-01	2.646E+02	1.778E-02
2013	1.330E+03	7.265E+05	4.882E+01	1.115E+00	3.110E+02	2.089E-02
2014	1.517E+03	8.285E+05	5.567E+01	1.271E+00	3.546E+02	2.383E-02
2015	1.759E+03	9.607E+05	6.455E+01	1.474E+00	4.112E+02	2.763E-02
2016	2.032E+03	1.110E+06	7.460E+01	1.703E+00	4.752E+02	3.193E-02
2017	2.296E+03	1.255E+06	8.429E+01	1.925E+00	5.370E+02	3.608E-02
2018	2.655E+03	1.450E+06	9.746E+01	2.225E+00	6.208E+02	4.171E-02
2019	3.212E+03	1.755E+06	1.179E+02	2.692E+00	7.510E+02	5.046E-02
2020	3.875E+03	2.117E+06	1.422E+02	3.247E+00	9.060E+02	6.087E-02
2021	4.722E+03	2.580E+06	1.733E+02	3.958E+00	1.104E+03	7.418E-02
2022	5.523E+03	3.017E+06	2.027E+02	4.629E+00	1.291E+03	8.677E-02
2023	6.523E+03	3.563E+06	2.394E+02	5.467E+00	1.525E+03	1.025E-01
2024	8.206E+03	4.483E+06	3.012E+02	6.877E+00	1.919E+03	1.289E-01
2025	9.795E+03	5.351E+06	3.596E+02	8.210E+00	2.290E+03	1.539E-01
2026	1.130E+04	6.172E+06	4.147E+02	9.468E+00	2.641E+03	1.775E-01
2027	1.272E+04	6.947E+06	4.667E+02	1.066E+01	2.973E+03	1.998E-01
2028	1.406E+04	7.679E+06	5.159E+02	1.178E+01	3.286E+03	2.208E-01
2029	1.532E+04	8.370E+06	5.624E+02	1.284E+01	3.582E+03	2.407E-01
2030	1.652E+04	9.023E+06	6.063E+02	1.384E+01	3.862E+03	2.595E-01
2031	1.765E+04	9.640E+06	6.477E+02	1.479E+01	4.126E+03	2.772E-01
2032	1.871E+04	1.022E+07	6.869E+02	1.568E+01	4.375E+03	2.940E-01
2033	1.972E+04	1.077E+07	7.239E+02	1.653E+01	4.611E+03	3.098E-01
2034	2.067E+04	1.129E+07	7.588E+02	1.733E+01	4.834E+03	3.248E-01
2035	2.157E+04	1.178E+07	7.918E+02	1.808E+01	5.044E+03	3.389E-01
2036	2.242E+04	1.225E+07	8.230E+02	1.879E+01	5.242E+03	3.522E-01
2037	2.322E+04	1.269E+07	8.524E+02	1.946E+01	5.430E+03	3.648E-01
2038	2.248E+04	1.228E+07	8.250E+02	1.884E+01	5.255E+03	3.531E-01
2039	2.123E+04	1.160E+07	7.793E+02	1.779E+01	4.964E+03	3.335E-01
2040	2.005E+04	1.096E+07	7.361E+02	1.681E+01	4.689E+03	3.151E-01
2041	1.894E+04	1.035E+07	6.953E+02	1.588E+01	4.429E+03	2.976E-01
2042	1.789E+04	9.775E+06	6.568E+02	1.500E+01	4.184E+03	2.811E-01
2043	1.690E+04	9.234E+06	6.204E+02	1.417E+01	3.952E+03	2.655E-01
2044	1.597E+04	8.722E+06	5.860E+02	1.338E+01	3.733E+03	2.508E-01
2045	1.508E+04	8.239E+06	5.536E+02	1.264E+01	3.526E+03	2.369E-01
2046	1.425E+04	7.782E+06	5.229E+02	1.194E+01	3.331E+03	2.238E-01
2047	1.346E+04	7.351E+06	4.939E+02	1.128E+01	3.146E+03	2.114E-01
2048	1.271E+04	6.944E+06	4.666E+02	1.065E+01	2.972E+03	1.997E-01
2049	1.201E+04	6.559E+06	4.407E+02	1.006E+01	2.807E+03	1.886E-01
2050	1.134E+04	6.196E+06	4.163E+02	9.505E+00	2.652E+03	1.782E-01
2051	1.071E+04	5.852E+06	3.932E+02	8.979E+00	2.505E+03	1.683E-01
2052	1.012E+04	5.528E+06	3.714E+02	8.481E+00	2.366E+03	1.590E-01
2053	9.559E+03	5.222E+06	3.509E+02	8.011E+00	2.235E+03	1.502E-01
2054	9.029E+03	4.933E+06	3.314E+02	7.567E+00	2.111E+03	1.418E-01
2055	8.529E+03	4.659E+06	3.131E+02	7.148E+00	1.994E+03	1.340E-01
2056	8.056E+03	4.401E+06	2.957E+02	6.752E+00	1.884E+03	1.266E-01
2057	7.610E+03	4.157E+06	2.793E+02	6.378E+00	1.779E+03	1.196E-01
2058	7.188E+03	3.927E+06	2.639E+02	6.025E+00	1.681E+03	1.129E-01
2059	6.790E+03	3.709E+06	2.492E+02	5.691E+00	1.588E+03	1.067E-01

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2060	6.414E+03	3.504E+06	2.354E+02	5.375E+00	1.500E+03	1.008E-01
2061	6.058E+03	3.310E+06	2.224E+02	5.078E+00	1.417E+03	9.518E-02
2062	5.723E+03	3.126E+06	2.101E+02	4.796E+00	1.338E+03	8.991E-02
2063	5.406E+03	2.953E+06	1.984E+02	4.531E+00	1.264E+03	8.492E-02
2064	5.106E+03	2.790E+06	1.874E+02	4.280E+00	1.194E+03	8.022E-02
2065	4.823E+03	2.635E+06	1.770E+02	4.042E+00	1.128E+03	7.577E-02
2066	4.556E+03	2.489E+06	1.672E+02	3.818E+00	1.065E+03	7.158E-02
2067	4.304E+03	2.351E+06	1.580E+02	3.607E+00	1.006E+03	6.761E-02
2068	4.065E+03	2.221E+06	1.492E+02	3.407E+00	9.505E+02	6.386E-02
2069	3.840E+03	2.098E+06	1.409E+02	3.218E+00	8.978E+02	6.033E-02
2070	3.627E+03	1.982E+06	1.331E+02	3.040E+00	8.481E+02	5.698E-02
2071	3.426E+03	1.872E+06	1.258E+02	2.872E+00	8.011E+02	5.383E-02
2072	3.236E+03	1.768E+06	1.188E+02	2.712E+00	7.567E+02	5.084E-02
2073	3.057E+03	1.670E+06	1.122E+02	2.562E+00	7.148E+02	4.803E-02
2074	2.888E+03	1.578E+06	1.060E+02	2.420E+00	6.752E+02	4.537E-02
2075	2.728E+03	1.490E+06	1.001E+02	2.286E+00	6.378E+02	4.285E-02
2076	2.577E+03	1.408E+06	9.457E+01	2.159E+00	6.024E+02	4.048E-02
2077	2.434E+03	1.330E+06	8.933E+01	2.040E+00	5.691E+02	3.824E-02
2078	2.299E+03	1.256E+06	8.439E+01	1.927E+00	5.375E+02	3.612E-02
2079	2.172E+03	1.186E+06	7.971E+01	1.820E+00	5.078E+02	3.412E-02
2080	2.051E+03	1.121E+06	7.529E+01	1.719E+00	4.796E+02	3.223E-02
2081	1.938E+03	1.059E+06	7.112E+01	1.624E+00	4.530E+02	3.044E-02
2082	1.830E+03	9.999E+05	6.718E+01	1.534E+00	4.279E+02	2.875E-02
2083	1.729E+03	9.445E+05	6.346E+01	1.449E+00	4.042E+02	2.716E-02
2084	1.633E+03	8.921E+05	5.994E+01	1.369E+00	3.818E+02	2.566E-02
2085	1.543E+03	8.427E+05	5.662E+01	1.293E+00	3.607E+02	2.423E-02
2086	1.457E+03	7.960E+05	5.348E+01	1.221E+00	3.407E+02	2.289E-02
2087	1.376E+03	7.519E+05	5.052E+01	1.154E+00	3.218E+02	2.162E-02
2088	1.300E+03	7.103E+05	4.772E+01	1.090E+00	3.040E+02	2.042E-02
2089	1.228E+03	6.709E+05	4.508E+01	1.029E+00	2.871E+02	1.929E-02
2090	1.160E+03	6.337E+05	4.258E+01	9.722E-01	2.712E+02	1.822E-02
2091	1.096E+03	5.986E+05	4.022E+01	9.184E-01	2.562E+02	1.721E-02
2092	1.035E+03	5.655E+05	3.799E+01	8.675E-01	2.420E+02	1.626E-02
2093	9.777E+02	5.341E+05	3.589E+01	8.194E-01	2.286E+02	1.536E-02
2094	9.235E+02	5.045E+05	3.390E+01	7.740E-01	2.159E+02	1.451E-02
2095	8.724E+02	4.766E+05	3.202E+01	7.311E-01	2.040E+02	1.370E-02
2096	8.240E+02	4.502E+05	3.025E+01	6.906E-01	1.927E+02	1.295E-02
2097	7.784E+02	4.252E+05	2.857E+01	6.524E-01	1.820E+02	1.223E-02
2098	7.353E+02	4.017E+05	2.699E+01	6.162E-01	1.719E+02	1.155E-02
2099	6.945E+02	3.794E+05	2.549E+01	5.821E-01	1.624E+02	1.091E-02
2100	6.560E+02	3.584E+05	2.408E+01	5.498E-01	1.534E+02	1.031E-02
2101	6.197E+02	3.385E+05	2.275E+01	5.194E-01	1.449E+02	9.735E-03
2102	5.854E+02	3.198E+05	2.149E+01	4.906E-01	1.369E+02	9.196E-03
2103	5.529E+02	3.021E+05	2.030E+01	4.634E-01	1.293E+02	8.686E-03
2104	5.223E+02	2.853E+05	1.917E+01	4.377E-01	1.221E+02	8.205E-03
2105	4.933E+02	2.695E+05	1.811E+01	4.135E-01	1.154E+02	7.751E-03
2106	4.660E+02	2.546E+05	1.711E+01	3.906E-01	1.090E+02	7.321E-03
2107	4.402E+02	2.405E+05	1.616E+01	3.689E-01	1.029E+02	6.915E-03
2108	4.158E+02	2.272E+05	1.526E+01	3.485E-01	9.722E+01	6.532E-03
2109	3.928E+02	2.146E+05	1.442E+01	3.292E-01	9.183E+01	6.170E-03
2110	3.710E+02	2.027E+05	1.362E+01	3.109E-01	8.675E+01	5.828E-03

Results (Continued)

Year	Carbon dioxide			NMOC		
	(Mg/year)	*(m^3/year)*	*(av ft^3/min)*	*(Mg/year)*	*(m^3/year)*	*(av ft^3/min)*
2111	3.504E+02	1.914E+05	1.286E+01	2.937E-01	8.194E+01	5.506E-03
2112	3.310E+02	1.808E+05	1.215E+01	2.774E-01	7.740E+01	5.201E-03
2113	3.127E+02	1.708E+05	1.148E+01	2.621E-01	7.311E+01	4.912E-03
2114	2.954E+02	1.614E+05	1.084E+01	2.475E-01	6.906E+01	4.640E-03
2115	2.790E+02	1.524E+05	1.024E+01	2.338E-01	6.523E+01	4.383E-03
2116	2.635E+02	1.440E+05	9.674E+00	2.209E-01	6.162E+01	4.140E-03
2117	2.489E+02	1.360E+05	9.138E+00	2.086E-01	5.821E+01	3.911E-03
2118	2.351E+02	1.285E+05	8.631E+00	1.971E-01	5.498E+01	3.694E-03
2119	2.221E+02	1.213E+05	8.153E+00	1.862E-01	5.193E+01	3.489E-03
2120	2.098E+02	1.146E+05	7.701E+00	1.758E-01	4.906E+01	3.296E-03
2121	1.982E+02	1.083E+05	7.275E+00	1.661E-01	4.634E+01	3.114E-03
2122	1.872E+02	1.023E+05	6.872E+00	1.569E-01	4.377E+01	2.941E-03
2123	1.768E+02	9.660E+04	6.491E+00	1.482E-01	4.135E+01	2.778E-03
2124	1.670E+02	9.125E+04	6.131E+00	1.400E-01	3.906E+01	2.624E-03
2125	1.578E+02	8.620E+04	5.791E+00	1.322E-01	3.689E+01	2.479E-03
2126	1.490E+02	8.142E+04	5.471E+00	1.249E-01	3.485E+01	2.341E-03
2127	1.408E+02	7.691E+04	5.168E+00	1.180E-01	3.292E+01	2.212E-03
2128	1.330E+02	7.265E+04	4.881E+00	1.115E-01	3.109E+01	2.089E-03
2129	1.256E+02	6.862E+04	4.611E+00	1.053E-01	2.937E+01	1.973E-03
2130	1.187E+02	6.482E+04	4.355E+00	9.944E-02	2.774E+01	1.864E-03
2131	1.121E+02	6.123E+04	4.114E+00	9.393E-02	2.621E+01	1.761E-03
2132	1.059E+02	5.784E+04	3.886E+00	8.873E-02	2.475E+01	1.663E-03
2133	1.000E+02	5.463E+04	3.671E+00	8.381E-02	2.338E+01	1.571E-03
2134	9.446E+01	5.161E+04	3.467E+00	7.917E-02	2.209E+01	1.484E-03
2135	8.923E+01	4.875E+04	3.275E+00	7.478E-02	2.086E+01	1.402E-03
2136	8.429E+01	4.605E+04	3.094E+00	7.064E-02	1.971E+01	1.324E-03
2137	7.962E+01	4.349E+04	2.922E+00	6.673E-02	1.862E+01	1.251E-03
2138	7.520E+01	4.108E+04	2.760E+00	6.303E-02	1.758E+01	1.181E-03
2139	7.104E+01	3.881E+04	2.607E+00	5.954E-02	1.661E+01	1.116E-03
2140	6.710E+01	3.666E+04	2.463E+00	5.624E-02	1.569E+01	1.054E-03
2141	6.338E+01	3.463E+04	2.327E+00	5.312E-02	1.482E+01	9.958E-04
2142	5.987E+01	3.271E+04	2.198E+00	5.018E-02	1.400E+01	9.406E-04
2143	5.655E+01	3.090E+04	2.076E+00	4.740E-02	1.322E+01	8.885E-04
2144	5.342E+01	2.918E+04	1.961E+00	4.477E-02	1.249E+01	8.393E-04
2145	5.046E+01	2.757E+04	1.852E+00	4.229E-02	1.180E+01	7.928E-04
2146	4.767E+01	2.604E+04	1.750E+00	3.995E-02	1.114E+01	7.488E-04
2147	4.502E+01	2.460E+04	1.653E+00	3.774E-02	1.053E+01	7.073E-04
2148	4.253E+01	2.323E+04	1.561E+00	3.564E-02	9.944E+00	6.682E-04
2149	4.017E+01	2.195E+04	1.475E+00	3.367E-02	9.393E+00	6.311E-04
2150	3.795E+01	2.073E+04	1.393E+00	3.180E-02	8.873E+00	5.962E-04

Fugitive Dust from Vehicle Traffic

Inputs

Vehicle Miles Traveled

Source: Facility

Paved Roads

1.46	Miles
43923	Trips per year
64127.58	VMT/yr

Unpaved Roads

2.2	Miles
43923	Trips per year
96630.6	VMT/yr

Average Weight of Vehicles Traveling Road

Source: Facility

11	tons

k Constant for Paved Roads

Source: AP-42 13.2.1

PM2.5	0.00054	lb/VMT
PM10	0.0022	lb/VMT
PM	0.011	lb/VMT

Silt Loading for Paved Roads

Source: AP-42 Table 13.2.1-3 for MSW Landfills

PM2.5	7.4	g/m^2
PM10	7.4	g/m^2
PM	7.4	g/m^2

k Constant for Unpaved Roads

Source: AP-42 Table 13.2.2-2

PM2.5	0.15	lb/VMT
PM10	1.5	lb/VMT
PM	4.9	lb/VMT

a Constant for Unpaved Roads

Source: AP-42 Table 13.2.2-2

PM2.5	0.9
PM10	0.9
PM	0.7

b Constant for Unpaved Roads

Source: AP-42 Table 13.2.2-2

PM2.5	0.45
PM10	0.45
PM	0.45

Mean Silt Content for Unpaved Roads

Source: MSW Landfills AP-42 Table 13.2.2-1

PM2.5	6.40
PM10	6.40
PM	6.40

Emissions Factors (lb/VMT)

Source: AP-42 13.2.1 Equation 1

Particulate Matter for Paved Roads

PM2.5	0.038513693
PM10	0.156907638
PM	0.78453819

Source: AP-42 13.2.2 Equation 1a

Particulate Matter for Unpaved Roads

PM2.5	0.152866477
PM10	1.528664774
PM	5.662618889

Emissions (tpy)

Particulate Matter Emissions for Paved Roads

PM2.5	1.234894963
PM10	5.031053552
PM	25.15526776

Particulate Matter Emissions for Unpaved Roads

PM2.5	7.385789714
PM10	73.85789714
PM	273.5911304

Fugitive Dust from Earth Moving Operations

Inputs
Source: AP-42 Table 13.2.3-1
Recommends Table 11.9-1 for Bulldozing, Overburden
Mean Material Silt Content
Source: AP-42 Table 11.9-3
6.9
Mean Material Moisture Content
Source: AP-42 Table 11.9-3
7.9
Scaling Factor for PM10
Source: AP-42 Table 11.9-1
0.75
Scaling Factor for PM2.5
Source: AP-42 Table 11.9-1
0.105

Emissions Factor (lb/hr)	
Source: AP-42 Table 11.9-1	
PM	3.940747
PM10	2.95556
PM2.5	0.388901

Emissions (tpy)	
PM	17.26047
PM10	12.94535
PM2.5	1.703386

Fuel Combustion

Inputs

Fuel Annual Usage

Source: Facility

On-road Diesel	88048	gal/yr
Off-road Diesel	113900	gal/yr
Total Fuel Usage	201948	gal/yr
Actual Hours of Operation	7805	hrs/yr
Scaled Fuel Usage	226657.845	gal/yr

Diesel Heat Value

Source: AP-42 Appendix A

137,000	BTU/gal
0.137	MMBTU/gal

Emissions Factors (lb/MMBTU)

Source: AP-42 Table 3.3.-1

NOx	4.41
CO	0.95
SOx	0.29
PM10	0.31
TOC	0.36
Benzene	9.33E-04
Toluene	4.09E-04
Xylenes	2.85E-04
1.3-Butadiene	3.91E-05
Formaldehdye	1.18E-03
Acetaldehyde	7.67E-04
Acrolein	9.25E-05
Total PAH	1.68E-04

Emissions (tpy)

NOx	68.46994
CO	14.74976
SOx	4.502558
PM10	4.813079
TOC	5.589382
Benzene	0.014486
Toluene	0.00635
Xylenes	0.004425
1.3-Butadiene	0.000607
Formaldehdye	0.018321
Acetaldehyde	0.011908
Acrolein	0.001436
Total PAH	0.002608
Total HAP	0.060142

Gasoline Dispensing

Inputs		Emissons Factor		Emissions (tpy)
10000	gal/month	Source: AP-42 Chapter 5.2		0.623958462
62	lb/lb-mol	10.39930769	lb/1000 gal	
7	psia	0.010399308	lb/gal	
520	R			
1	saturation factor			

Gasoline Storage Emissions from EPA Tanks

Annual Standing Losses (lb/yr)	Annual Working Losses (lb/yr)	Annual Total Losses (lb/yr)	Annual Total Lossess (tpy)
2546.410413	1442.251708	3988.662121	1.99433106