

ALLEGHENY COUNTY HEALTH DEPARTMENT



AIR QUALITY PROGRAM
301 39th Street, Bldg. #7
Pittsburgh, PA 15201-1891

Major Source **Title V Operating Permit**

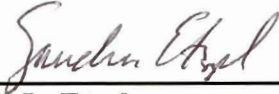
<u>Issued To:</u>	Chambers Development Company, Inc	<u>ACHD Permit #:</u>	0215
<u>Facility:</u>	Monroeville Landfill 600 Thomas Street Monroeville, PA 15146	<u>Date of Issuance:</u>	October 5, 2011
		<u>Expiration Date:</u>	October 4, 2016
		<u>Renewal Date:</u>	April 5, 2015
<u>Issued By:</u>	 _____ Sandra L. Etzel Air Pollution Control Mgr.	<u>Prepared By:</u>	<u>Hafeez A. Ajenifuja</u> Air Quality Engineer

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DATE	SECTION
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I. CONTACT INFORMATION

Facility Location: **Monroeville Landfill**
600 Thomas Street
Monroeville, PA 15146

Permittee/Owner: **Chambers Development Company, Inc.**
600 Thomas Street
Monroeville, PA 15146

Permittee/Operator: **Same as Owner**

Responsible Official: **Terry L. Stine**
Title: Western PA Market Area Landfill Director
Company: Chambers Development Company, Inc.
Address: 600 Thomas Street
Monroeville, PA 15146

Telephone Number: 412-824-0678
Fax Number: 412-829-4925

Facility Contact: **Rick A. Smitsky**
Title: Area Engineering Manager- Western PA
Telephone Number: 412-893-4962
Fax Number: 412-893-4925
E-mail Address:

AGENCY ADDRESSES:

ACHD Engineer: **Hafeez A. Ajenifuja**
Title: Air Quality Engineer
Telephone Number: 412-578-8132
Fax Number: 412-578-8144
E-mail Address: hajenifuja@achd.net

ACHD Contact: **Chief Engineer**
Allegheny County Health Department
Air Quality Program
301 39th Street, Building #7
Pittsburgh, PA 15201-1891

EPA Contact: **Enforcement Programs Section (3AP12)**
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

II. FACILITY DESCRIPTION

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

Chambers Development Company, Inc. operates Monroeville Landfill, a municipal solid waste landfill, in Monroeville, Pennsylvania. The landfill is approximately 390 total acres in surface area, comprised of two (2) closed areas (old west and western) and two active areas (eastern and south west expansion). The landfill has an active landfill gas (LFG) collection system with two (2) enclosed ground flares and one (1) utility flare to control the landfill gas emissions collected from closed and active disposal areas. The landfill also has small motor oil, hydraulic oil and diesel fuel storage tanks; landfill operations (land clearing and earth moving) and construction; and vehicular traffic.

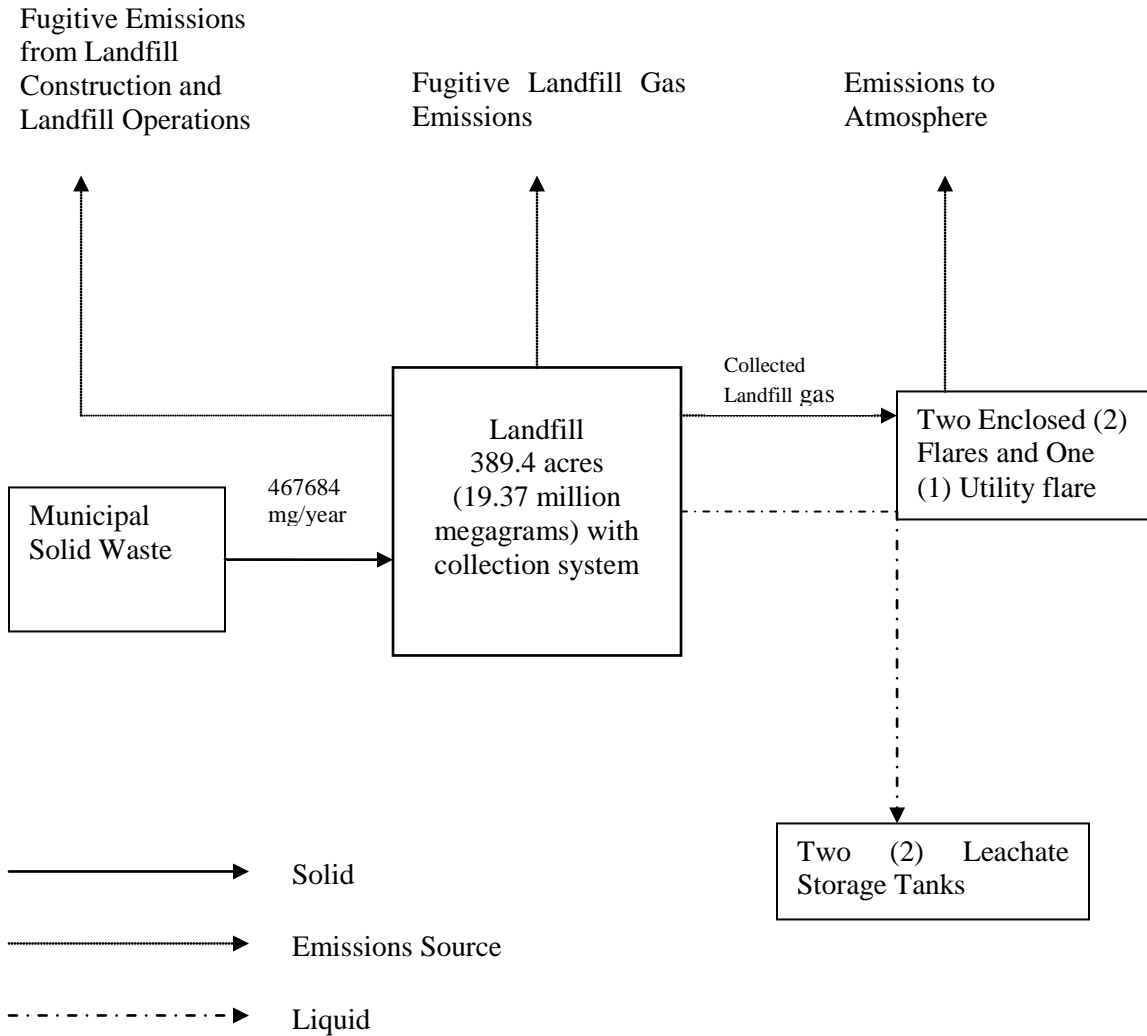
The primary source of emissions at the facility is the landfill itself, which emits VOCs and HAPs as defined in CAA section 112. Since the landfill was modified after May 30, 1991 and has a design capacity of greater than 2.5 million megagrams, this facility is subject to the requirements of the New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills, 40 CFR 60 Subpart WWW. Pursuant to the requirements of 40 CFR 60, Subpart WWW, landfills having design capacities greater than or equal to 2.5 million megagrams must obtain a Part 70 operating permit. This facility is therefore subject to the Part 70 major source operating permit requirements of '2103.20. This notwithstanding, the Monroeville Landfill is a major source of CO emission and minor source for remaining criteria pollutant and HAP emissions, as defined at '2102.20 (Definitions) of Article XXI.

The emission units regulated by this permit are summarized in Table II-1:

TABLE II-1 Emission Unit Identification

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
F005	Municipal Solid Waste Landfill	Collection System and Two (2) Enclosed Ground Flares and Utility Flare	389.4 acres (19.37 million megagrams)	Municipal & Non-hazardous Solid Waste	S001
S001	One (1) Enclosed Ground Flare	None	4,000scfm	Landfill Gas	S001
S002	One (1) Enclosed Ground Flare	None	3,000 scfm	Landfill Gas	S002
S003	One (1) Utility Flare	None	500 scfm	Landfill Gas	S003
F001	Landfill Construction and Operations	Fugitive Dust Control Measures	Cell preparation 37,372 tons per year	Earth (soil/rock)	-

Process Flow Diagram



DECLARATION OF POLICY

Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.

The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of *Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control*. The subject equipment has been conditionally approved for operation. The equipment shall be operated in conformity with the plans, specifications, conditions, and instructions which are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable Federal, State and Local laws and regulations.

III. GENERAL CONDITIONS - Major Source

1. Prohibition of Air Pollution (§2101.11)

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

- a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
- b. Cause an exceedance of the ambient air quality standards established by Article XXI §2101.10;
or
- c. May reasonably be anticipated to endanger the public health, safety, or welfare.

2. Definitions (§2101.20)

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or in the applicable regulation, the term “*year*” shall mean any twelve (12) consecutive months.

3. Conditions (§2102.03.c)

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02, for any person to fail to comply with any terms or conditions set forth in this permit.

4. Certification (§2102.01)

Any report, or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

5. Transfers (§2102.03.e)

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b The required documentation and fee must be received by the Department at least 30 days before the intended transfer date.

6. Term (§2103.12.e, §2103.13.a)

- a. This permit shall remain valid for five (5) years from the date of issuance, or such other shorter period if required by the Clean Air Act, unless revoked. The terms and conditions of an expired permit shall automatically continue pending issuance of a new operating permit provided the permittee has submitted a timely and complete application and paid applicable fees required under Article XXI Part C, and the Department through no fault of the permittee is unable to issue or deny a new permit before the expiration of the previous permit.
- b. Expiration. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with the requirements of Article XXI Part C.

7. Need to Halt or Reduce Activity Not a Defense (§2103.12.f.2)

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

8. Property Rights (§2103.12.f.4)

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information (§2103.12.f.5)

- a. The permittee shall furnish to the Department in writing within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Department copies of any records required to be kept by the permit.
- b. Upon cause shown by the permittee the records, reports, or information, or a particular portion thereof, claimed by the permittee to be confidential shall be submitted to the Department in accordance with the requirements of Article XXI, §2101.07.d.4. Information submitted to the Department under a claim of confidentiality, shall be available to the US EPA and the PADEP

upon request and without restriction. Upon request of the permittee the confidential information may be submitted to the USEPA and PADEP directly. Emission data or any portions of any draft, proposed, or issued permits shall not be considered confidential.

10. Modification of Section 112(b) Pollutants which are VOCs or PM₁₀ (§2103.12.f.7)

Except where precluded under the Clean Air Act or federal regulations promulgated under the Clean Air Act, if this permit limits the emissions of VOCs or PM₁₀ but does not limit the emissions of any hazardous air pollutants, the mixture of hazardous air pollutants which are VOCs or PM₁₀ can be modified so long as no permit emission limitations are violated. A log of all mixtures and changes shall be kept and reported to the Department with the next report required after each change.

11. Right to Access (§2103.12.h.2)

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized Department and other federal, state, county, and local government representatives to:

- a. Enter upon the permittee's premises where a permitted source is located or an emissions-related activity is conducted, or where records are or should be kept under the conditions of the permit;
- b. Have access to, copy and remove, at reasonable times, any records that must be kept under the conditions of the permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. As authorized by either Article XXI or the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.

12. Certification of Compliance (§2103.12.h.5, §2103.22.i.1)

- a. The permittee shall submit on an annual basis, certification of compliance with all terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification of compliance shall be made consistent with General Condition 4 above and shall include the following information at a minimum:
 - 1) The identification of each term or condition of the permit that is the basis of the certification;
 - 2) The compliance status;
 - 3) Whether any noncompliance was continuous or intermittent;
 - 4) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the provisions of this permit; and
 - 5) Such other facts as the Department may require to determine the compliance status of the source.
- b. All certifications of compliance must be submitted to the Administrator as well as the Department by March 2 of each year for the time period beginning January 1 and ending December 31 of the previous year.

13. Record Keeping Requirements (§2103.12.j.1)

- a. The permittee shall maintain records of required monitoring information that include the following:
 - 1) The date, place as defined in the permit, and time of sampling or measurements;
 - 2) The date(s) analyses were performed;
 - 3) The company or entity that performed the analyses;
 - 4) The analytical techniques or methods used;
 - 5) The results of such analyses; and
 - 6) The operating parameters existing at the time of sampling or measurement.
- b. The permittee shall maintain and make available to the Department, upon request, records including computerized records that may be necessary to comply with the reporting and emission statements in Article XXI §2108.01.e. Such records may include records of production, fuel usage, maintenance of production or pollution control equipment or other information determined by the Department to be necessary for identification and quantification of potential and actual air contaminant emissions.

14. Retention of Records (§2103.12.j.2)

The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

15. Reporting Requirements (§2103.12.k)

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.
- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition 4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
 - 1) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
 - 2) One semiannual report is due by January 31 of each year for the time period beginning July 1 and ending December 31 of the previous year.
 - 3) The next semiannual report shall be due January 31, 2012 for the time period beginning on the issuance date of this permit through December 31, 2011.

16. Severability Requirement (§2103.12.l)

The provisions of this permit are severable, and if any provision of this permit is determined by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

17. Existing Source Reactivations (§2103.13.d)

The permittee shall not reactivate any source that has been out of operation or production for a period of one year or more unless the permittee has submitted a reactivation plan request to, and received a written reactivation plan approval from, the Department. Existing source reactivations shall meet all requirements of Article XXI §2103.13.d.

18. Administrative Permit Amendment Procedures (§2103.14.b, §2103.24.b)

An administrative permit amendment may be made consistent with the procedures of Article XXI §2103.14.b and §2103.24.b. Administrative permit amendments are not authorized for any amendment precluded by the Clean Air Act or the regulations thereunder.

19. Revisions and Minor Permit Modification Procedures (§2103.14.c, §2103.24.a)

Sources may apply for revisions and minor permit modifications on an expedited basis in accordance with Article XXI §2103.14.c and §2103.24.a.

20. Significant Permit Modifications (§2103.14.d)

Significant permit modifications shall meet all requirements of the applicable subparts of Article XXI, Part C, including those for applications, fees, public participation, review by affected States, and review by EPA, as they apply to permit issuance and permit renewal. The approval of a significant permit modification, if the entire permit has been reopened for review, shall commence a new full five (5) year permit term. The Department shall take final action on all such permits within nine (9) months following receipt of a complete application.

21. Duty to Comply (§2103.12.f.1, §2103.22.g)

The permittee shall comply with all permit conditions and all other applicable requirements at all times. Any permit noncompliance constitutes a violation of the Clean Air Act, the Air Pollution Control Act, and Article XXI and is grounds for any and all enforcement action, including, but not limited to, permit termination, revocation and reissuance, or modification, and denial of a permit renewal application.

22. Renewals (§2103.13.b., §2103.23.a)

Renewal of this permit is subject to the same fees and procedural requirements, including those for public participation and affected State and EPA review that apply to initial permit issuance. The application for renewal shall be submitted at least six (6) months but not more than eighteen (18) months prior to expiration of this permit. The application shall also include submission of a supplemental compliance review as required by Article XXI §2102.01.

23. Reopenings for Cause (§2103.15, §2103.25.a, §2103.12.f.3)

- a. This permit shall be reopened and reissued under any of the following circumstances:
- 1) Additional requirements under the Clean Air Act become applicable to a major source with a remaining permit term of three (3) or more years. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended solely due to the failure of the Department to act on a permit renewal application in a timely fashion.
 - 2) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.
 - 3) The Department 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.
 - 4) The Administrator or the Department determines that this permit must be reissued or revoked to assure compliance with the applicable requirements.
- b. 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 planned changes or anticipated noncompliance does not stay any permit condition. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in this permit.

24. Reopenings for Cause by the EPA (§2103.25.b)

This permit may be modified, reopened and reissued, revoked or terminated for cause by the EPA in accordance with procedures specified in Article XXI §2103.25.b.

25. Annual Operating Permit Administration Fee (§2103.40)

In each year during the term of this permit, on or before the last day of the month in which the application for this permit was submitted, the permittee shall submit to the Department, in addition to any other applicable administration fees, an Annual Operating Permit Administration Fee in accordance with §2103.40 by check or money order payable to the "Allegheny County Air Pollution Control Fund" in the amount specified in the fee schedule applicable at that time.

26. Annual Major Source Emissions Fees Requirements (§2103.41)

No later than September 1 of each year, the permittee shall pay an annual emission fee in accordance with Article XXI §2103.41 for each ton of a regulated pollutant (except for carbon monoxide) actually emitted from the source. The permittee shall not be required to pay an emission fee for emissions of more than 4,000 tons of each regulated pollutant. The emission fee shall be increased in each year after 1995 by the percentage, if any, by which the Consumer Price Index for the most recent calendar year exceeds the Consumer Price Index for the previous calendar year.

27. Other Requirements not Affected (§2104.08, §2105.02)

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable Federal, State, or County statute, rule, regulation, or the like, including but not limited to the odor emission standards under Article XXI §2104.04, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology (GACT) standards now or hereafter established by the EPA, and any applicable requirements of BACT or LAER as provided by Article XXI, any condition contained in any applicable Installation or Operating Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Article XXI Part I.

28. Termination of Operation (§2108.01.a)

In the event that operation of any source of air contaminants is permanently terminated, the person responsible for such source shall so report, in writing, to the Department within 60 days of such termination.

29. Emissions Inventory Statements (§2108.01.e & g)

- a. Emissions inventory statements in accordance with Article XXI §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to implement the requirements of Article XXI or the Clean Air Act.
- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

30. Tests by the Department (§2108.02.d)

Notwithstanding any tests conducted pursuant to Article XXI §2108.02, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.

31. Other Rights and Remedies Preserved (§2109.02.b)

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit.

32. Enforcement and Emergency Orders (§2109.03, §2109.05)

- a. The person responsible for this source shall be subject to any and all enforcement and emergency orders issued to it by the Department in accordance with Article XXI §2109.03, §2109.04 and §2109.05.

- b. Upon request, any person aggrieved by an Enforcement Order or Emergency Order shall be granted a hearing as provided by Article XXI §2109.03.d; provided however, that an Emergency Order shall continue in full force and effect notwithstanding the pendency of any such appeal.
- c. Failure to comply with an Enforcement Order or immediately comply with an Emergency Order shall be a violation of this permit thus giving rise to the remedies provided by Article XXI §2109.02.

33. Penalties, Fines, and Interest (§2109.07.a)

A source that fails to pay any fee required under this permit when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have this permit revoked for failure to pay any fee required.

34. Appeals (§2109.10)

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI or any unsuccessful petitioner to the Administrator under Article XXI Part C, Subpart 2, shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

35. Risk Management (§2104.08, 40 CFR Part 68)

Should this stationary source, as defined in 40 CFR Part 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in Part 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by *General Condition III.12* above.

36. Circumvention (§2101.14)

For purposes of determining compliance with the provisions of this permit and Article XXI, no credit shall be given to any person for any device or technique, including but not limited to the operation of any source with unnecessary amounts of air, the combining of separate sources except as specifically permitted by Article XXI and the Department, the use of stacks exceeding Good Engineering Practice height as defined by regulations promulgated by the US EPA at 40 CFR §§51.100 and 51.110 and Subpart I, and other dispersion techniques, which without reducing the amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise violate the provisions of this Article; except that, for purposes of determining compliance with Article §2104.04 concerning odors, credit for such devices or techniques, except for the use of a masking agent, may be given.

37. Duty to Supplement and Correct Relevant Facts (§2103.12.d.2)

- a. The permittee shall provide additional information as necessary to address requirements that become applicable to the source after the date it files a complete application but prior to the Department taking action on the permit application.
- b. The permittee shall provide supplementary fact or corrected information upon becoming aware that incorrect information has been submitted or relevant facts were not submitted.

- c. Except as otherwise required by this permit and Article XXI, the Clean Air Act, or the regulations thereunder, the permittee shall submit additional information as necessary to address changes occurring at the source after the date it files a complete application but prior to the Department taking action on the permit application.
- d. The applicant shall submit information requested by the Department which is reasonably necessary to evaluate the permit application.

38. Effect (§2102.03.g.)

Except as specifically otherwise provided under Article XXI, Part C, issuance of a permit pursuant to Article XXI Part B or Part C shall not in any manner relieve any person of the duty to fully comply with the requirements of this permit, Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of this permit or Article XXI, whether occurring before or after the issuance of such permit. Further, except as specifically otherwise provided under Article XXI Part C the issuance of a permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of this permit or Article XXI.

39. Installation Permits (§2102.04.a.1.)

It shall be a violation of this permit giving rise to the remedies set forth in Article XXI Part I for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment which would require an installation permit or permit modification in accordance with Article XXI Part B or Part C.

IV. SITE LEVEL TERMS AND CONDITIONS

1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

2. Visible Emissions (§2104.01.a)

Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- a. Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- b. Equal or exceed an opacity of 60% at any time.

3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line.

4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

7. Shutdown of Control Equipment (§2108.01.b)

- a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required

if the source(s) served by such air pollution control equipment is also shut down at all times that such equipment is shut down.

- b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.
- c. The prior report required by Site Level Condition IV.7.a above shall include:
 - 1) Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
 - 2) The reasons for the shutdown;
 - 3) The expected length of time that the equipment will be out of service;
 - 4) Identification of the nature and quantity of emissions likely to occur during the shutdown;
 - 5) Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
 - 6) Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
 - 7) Such other information as may be required by the Department.

8. Breakdowns (§2108.01.c)

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.
- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
 - 1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
 - 2) The nature and probable cause of the breakdown.
 - 3) The expected length of time that the equipment will be inoperable or that the emissions will continue.
 - 4) Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
 - 5) The estimated quantity of each material being or likely to be emitted.
 - 6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.

- 7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.
 - c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
 - d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
 - e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
 - f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

9. Cold Start (§2108.01.d)

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant.

10. Monitoring of Malodorous Matter Beyond Facility Boundaries (§2104.04)

The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to insure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

11. Emissions Inventory Statements (§2108.01.e)

- a. Emissions inventory statements in accordance with §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to

implement the requirements of Article XXI or the Clean Air Act.

- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

12. Orders (§2108.01.f)

In addition to meeting the requirements of General Condition III.28 and Site Level Conditions IV.7 through IV.11 above, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

13. Violations (§2108.01.g)

The failure to submit any report or update thereof required by General Condition III.28 and Site Level Conditions IV.7 through IV.12 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

14. Emissions Testing (§2108.02)

- a. On or before December 31, 1981, and at two-year intervals thereafter, any person who operates, or allows to be operated, any piece of equipment or process which has an allowable emission rate, of 100 or more tons per year of particulate matter, sulfur oxides or volatile organic compounds shall conduct, or cause to be conducted, for such equipment or process such emissions tests as are necessary to demonstrate compliance with the applicable emission limitation(s) of this permit and shall submit the results of such tests to the Department in writing. Emissions testing conducted pursuant to this section shall comply with all applicable requirements of Article XXI §2108.02.e.
- b. **Orders.** In addition to meeting the requirements of Site Level Condition IV.14.a above, the person responsible for any source shall, upon order by the Department, conduct, or cause to be conducted, such emissions tests as specified by the Department within such reasonable time as is specified by the Department. Test results shall be submitted in writing to the Department within 20 days after completion of the tests, unless a different period is specified in the Department's order. Emissions testing shall comply with all applicable requirements of Article XXI §2108.02.e.
- c. **Tests by the Department.** Notwithstanding any tests conducted pursuant to Site Level Conditions IV.14.a and IV.14.b above, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the person responsible for such source or equipment shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- d. **Testing Requirements.** No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from

standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

- e. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- f. **Violations.** The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

15. Abrasive Blasting (§2105.51)

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.
- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

16. Asbestos Abatement (§2105.62, §2105.63)

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

17. Protection of Stratospheric Ozone (40 CFR Part 82)

- a. Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - 1) All containers in which a Class I or Class II substance is stored or transported, all products containing a Class I substance, and all products directly manufactured with a process that uses a Class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106;
 - 2) The placement of the required warning statement must comply with the requirements pursuant to §82.108;

- 3) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110; and
 - 4) No person may modify, remove or interfere with the required warning statement except as described in §82.112.
- b. Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F:
- 1) Persons opening appliances for maintenance, service, repair or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156;
 - 2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158;
 - 3) Persons maintaining, servicing, repairing or disposing of appliances, must be certified by an approved technician certification program pursuant to §82.161;
 - 4) Persons maintaining, servicing, repairing or disposing of appliances must certify to the Administrator of the U.S. Environmental Protection Agency pursuant to §82.162;
 - 5) Persons disposing of small appliances, motor vehicle air conditioners (MVAC) and MVAC-like appliances, must comply with the record keeping requirements pursuant to §82.166;
 - 6) Owners of commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156; and
 - 7) Owners or operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- c. If the permittee manufactures, transforms, destroys, imports or exports a Class I or Class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A (Production and Consumption Controls).
- d. If the permittee performs a service on a motor vehicle that involves an ozone-depleting substance, refrigerant or regulated substitute substance in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B (Servicing of Motor Vehicle Air Conditioners).
- e. The permittee may switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G.

18. Volatile Organic Compound Storage Tanks (§2105.12.a)

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

19. Fugitive Emissions (§2105.49)

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
- b. The paving and maintenance of roadways, parking lots and the like;
- c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
- d. The adoption of work or other practices to minimize emissions;
- e. Enclosure of the source; and
- f. The proper hooding, venting, and collection of fugitive emissions.

20. Episode Plans (§2106.02)

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

21. New Source Performance Standards (§2105.05)

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

A. Process P001: Municipal Solid Waste Landfill

Process Description: Municipal Solid Waste Landfill

Facility ID: F005

Max. Design Rate: 19.37 million megagrams

Capacity: 389.4 acres

Raw Materials: Solid Waste

Control Device: Landfill Offgas Collection System and Control System Consisting of Two (2) Enclosed Ground Flares and One (1) Utility Flare

1. Restrictions:

- a. The permittee shall maintain and operate an active landfill off-gas collection system and control system at all times, except during emergency situations requiring shutdown or periodically when shutdowns are required to perform routine maintenance. (RACT Order No. 253, Condition 1.1; §2103.12).
- b. The permittee shall equip each gas collection well at the landfill expansion with a throttling valve to enable adjustment of the gas collection rate. (IP 02150-I001, Condition V.A..1.a).1, issued March 25, 1999)
- c. The average daily waste acceptance rate at the landfill shall not exceed 1800 tons per day. (IP 0215-I001, Condition V A.1.c.1, issued March 25, 1999)
- d. The permittee shall comply with the requirements of 40 CFR 60.752(b)(2) for an active collection and control system, as specified below. The permittee shall recalculate the NMOC emission rate annually, except as provided in condition V.A.5.a.3) below. (§60.752(b))
 - 1) The permittee shall submit a landfill gas collection and control system design plan prepared by a professional engineer in accordance with §60.752(b)(2)(i). (§60.752(b)(2)(i))
 - 2) The installed and operated landfill gas collection and control system shall capture the gas
 - a) The active collection system shall: (§60.752(b)(2)(ii)(A); IP 0215-I001, Condition V.A.1.b.2, issued March 25, 1999)
 - i) Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment;
 - ii) Collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of:
 - (1) 5 years or more if active; or
 - (2) 2 years or more if closed or at final grade;
 - iii) Collect gas at a sufficient extraction rate; and
 - iv) Be designed to minimize off-site migration of subsurface gas.

- b) All collected gas shall be routed to a control system that complies with the following requirements: (§60.752(b)(2)(iii)(B); RACT Order No. 253, Condition 1.4)
- i) The enclosed combustion device control system at this source (i.e., 2 flares) shall be designed and operated to either reduce NMOC by 98 weight percent or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen.
 - ii) The enclosed combustion device control system at this source (2 flares) shall be operated within the parameter ranges established during the initial or most recent performance test. The operating parameters to be monitored are specified at conditions V.A.3.3.f through V.A.3.3.i below. [The operating temperature requirements in conditions V.B.1.a and V.B.1.b meet this requirement.]
- 3) The collection and control device shall be operated in accordance with the provisions of §§60.753, 60.755 and 60.756, respectively specified at conditions V.A.1.e through V.A.1.k below; V.A.3.3.a through V.A.3.3.e below; and V.A.3.3.f through V.A.3.3.i below. (§60.752(b)(2)(iv))
- 4) The collection and control system may be capped or removed provided that all the following conditions are met: (§60.752(b)(2)(v), §63.1950)
- a) The landfill shall be a closed landfill as defined in §60.751. A closure report shall be submitted to the Department as provided in §60.757(d);
 - b) The collection and control system shall have been in operation a minimum of 15 years;
 - c) Following the procedures specified in §60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart.
- e. The permittee shall operate the collection system such that gas is collected from each area, cell, or group of cells in the municipal solid waste landfill in which solid waste has been in place for five (5) years if active or two (2) years or more if closed or at final grade. (§60.753(a); RACT Order No. 253, Condition 1.1)
- f. The permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (§60.753(b); RACT Order No. 253, Condition 1.6; IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)
- 1) A fire or increased well temperature. The permittee shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 40 CFR 60.757(f)(1).
 - 2) Use of a geomembrane or synthetic cover. The permittee shall develop acceptable pressure limits in the design plan.
 - 3) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the Department.
- g. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55° C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show

supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. (§60.753(c); RACT Order No. 253, Condition 1.7; IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)

- 1) The nitrogen level shall be determined using Method 3C, unless an alternative method is established as allowed by 40CFR 60.752(b)(2)(i).
 - 2) Unless an alternative test method is established as allowed by 40 CFR 60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A except that; the span shall be set so that the regulatory limit is between 20 and 50 percent of the span; a data recorder is not required; only two calibration gases are required, a zero and span, and ambient air may be used as the span; a calibration error check is not required; the allowable sample bias, zero drift, and calibration drift are ± 10 percent.
- h. The permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. (§60.753(d); IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)
- i. There shall be no landfill gas leaks which result in concentrations of 500 ppmv or more measured as propane (or 1375 ppmv or more measured as methane) at a distance of 0.5 inches from any equipment. Non-repeatable and momentary readings shall not be considered. The landfill equipment subject to this requirement shall be checked monthly and shall include the gas wells piping or any other connections or fittings, along the landfill gas transfer paths of the landfill gas collection system. (IP 0215-I002, Condition V.A.1.b; IP 0215-I001, Condition V.A.1.a.2, issued March 25, 1999)
- j. The permittee shall operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752(b)(2)(iii), as specified at condition V.A.1.d.d.2)b) above. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour. (§60.753(e); IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)
- k. The permittee shall operate the control system at all times when the collected gas is routed to the system. (§60.753(f); IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)
- l. If monitoring demonstrates that the operational requirements in conditions V.A.1.f, g, and h above are not met, corrective action shall be taken as specified at conditions V.A.3.3.a.3) through V.A.3.3.a.3)3.a.5) or V.A.3.3.c below. If corrective actions are taken as specified at condition V.A.3 below, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753 or this permit. (§60.753(g); IP 0215-I001, Condition V.A.1.b.3, issued March 25, 1999)
- m. The permittee shall comply with the requirements of 40 CFR Part 60, Subpart WWW as

specified throughout this section V.A. (40 CFR 63.1955(a)(1))

- n. Emissions of NMOC, VOC from the municipal solid waste landfill gas collection system, including fugitives, shall not exceed the limitations given in Table V-A-1 below: (§2103.12.a.2.B, IP 0215-I001, Condition V.A.1.2.c, issued March 25, 1999)

TABLE V-A-1 Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Volatile Organic Compounds (VOC)	35.0
Non-Methane Organic Compounds (NMOC)	90.0

* A year is defined as any consecutive 12-month period.

- o. The average facility collection system efficiency of the active offgas collection system shall be a minimum of seventy five (75) percent at all the times. (RACT Order No. 253, Condition 1.2)

2. Testing Requirements:

- a. The permittee shall conduct performance testing at least once every five years from the date of the prior test to demonstrate compliance with condition V.A.1.d.2)b) above. The test shall be conducted in accordance with §60.754(d)) as follows: (RACT Order No. 253, Condition 1.5, 2105.73.d.3, §60.754(d))

Method 25 or Method 18 of 40 CFR 60, Appendix A shall be used to determine compliance with the 98 weight percent reduction efficiency of NMOC from the control device or the 20 ppmv (hexane, on a dry basis at 3% oxygen) outlet concentration level, or another method approved by the Department. Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon, (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of Appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: [§2105.73.d.3, §60.754(d)]

$$\text{Control Efficiency} = (\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}})/(\text{NMOC}_{\text{in}})$$

Where:

NMOC_{in} = mass of NMOC entering the control device

NMOC_{out} = mass of NMOC exiting control device

- b. The permittee shall calculate the non methane organic compound (NMOC) emission rate using either the equation provided in 40 CFR 60.754(a)(1)(i) as condition V.A.2.b.1) below The equation may be used if the actual year-to-year solid waste acceptance rate is known, as specified in 40 CFR 60.754(a)(1)(i), for part of the life of the landfill. The values to be used in both equations are 0.05 per year for k, 170 cubic meters per megagram for L_o, and 4,000 parts

per million by volume as hexane for the C_{NMOC} . For landfills located in geographical areas with a thirty year annual average precipitation of less than 25 inches, as measured at the nearest representative official meteorological site, the k value to be used is 0.02 per year. (§2105.73.d.3, §60.754(a)(1))

- 1) The following equation shall be used if the actual year-to-year solid waste acceptance rate is known:

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

Where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

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

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

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane 3.6×10^{-9} = conversion factor

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

- c. Tier 1. The permittee shall compare the calculated NMOC mass emission rate to the standard of 50 megagrams per year. (§2105.73.d.3, §60.754(a)(2))

- 1) If the NMOC emission rate calculated in V.A.2.b above is less than 50 megagrams per year, then the landfill owner shall submit an emission rate report as provided in condition V.A.5.a.1) below, and shall recalculate the NMOC mass emission rate annually as required at V.A.1.1.d above.
- 2) If the calculated NMOC emission rate is equal to or greater than 50 megagrams per year, then the permittee shall either comply with 40 CFR 60.752(b)(2) for installation of a collection and control system, or determine a site-specific NMOC concentration and recalculate the NMOC emission rate using the procedures provided in condition V.A.2.d below.

- d. Tier 2. The permittee shall determine the NMOC concentration using the sampling procedure provided in 40 CFR 60.754(a)(3). (§2105.73.d.3, §60.754(a)(3))

- 1) The permittee shall recalculate the NMOC mass emission rate using the equations provided in condition V.A.2.b above and using the average NMOC concentration from the collected samples instead of the default value in the equation provided in condition V.A.2.b above.
- 2) If the resulting mass emission rate calculated using the site-specific NMOC concentration is equal to or greater than 50 megagrams per year, then the permittee shall either comply with 40 CFR 60.752(b)(2) for installation of a collection and control system, or determine the site specific methane generation rate constant and recalculate the NMOC emission rate using the site-specific methane generation rate using the procedure specified in condition V.A.2.e below.
- 3) If the resulting NMOC mass emission rate is less than 50 megagrams per year, the permittee shall submit a periodic estimate of the emission rate report as provided in condition

V.A.5.a.1) below and retest the site-specific NMOC concentration every five (5) years using the sampling methods in 40 CFR 60.754(a)(3).

- e. Tier 3. The site-specific methane generation rate constant shall be determined using the procedures provided in Method 2E of Appendix A of 40 CFR 60. The permittee shall estimate the NMOC mass emission rate using equations in condition V.A.2.b above and using a site specific methane generation rate constant k, and the site-specific NMOC concentration as determined in condition V.A.2.d above instead of the default values provided in condition V.A.2.b above. The permittee shall compare the resulting NMOC mass emission rate to the standard of 50 megagrams per year. (§2105.73.d.3, §60.754(a)(4))
 - 1) If the NMOC mass emission rate as calculated using the site-specific methane generation rate and concentration of NMOC is equal to or greater than 50 megagrams per year, the permittee shall comply with 40 CFR 60.752(b)(2) for installation of a collection and control system.
 - 2) If the NMOC mass emission rate is less than 50 megagrams per year, then the permittee shall submit a periodic emission rate report as provided in condition V.A.5.a.1) below and shall recalculate the NMOC mass emission rate annually, as provided in condition V.A.1.1.d above using the equations in condition V.A.2.b above, and using the site-specific methane generation rate constant and NMOC concentration obtained in condition V.A.2.d above. The calculation of the methane generation rate constant is performed only once, and the value obtained from this test shall be used in all subsequent annual NMOC emission rate calculations.
- f. The permittee may use other methods to determine the NMOC concentration or a site-specific k as an alternative to the methods required in conditions V.A.2.d and V.A.2.e above if the method has been approved by the Department. (§2105.73.d.3, §60.754(a)(5))
- g. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 above and Article XXI §2108.02. (§2103.12.h.1)

3. Monitoring Requirements:

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the specified methods below shall be used to determine whether the gas collection system is in compliance with condition V.A.1.1.d.1.d.2) above. (§2105.73.d.4, §60.755)
 - 1) For the purpose of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with condition V.A.1.d.2)a)i) above, one of the following equations shall be used. The k and L_o kinetic factors should be those published in the most recent Compilation of Air Pollution Emission Factors (AP-42) or other site-specific values demonstrated to be appropriate and approved by the Department. If k has been determine as specified in condition V.A.2.2.e above, the value of k determined from the test shall be used. A value of no more than 15 years shall be used for the intended use period of the gas mover equipment. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.
 - a) For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_o R (e^{-k_c} - e^{-k_t})$$

where,

Q_m = maximum expected gas generation flow rate, cubic meters per year

L_o = methane generation potential, cubic meters per megagram solid waste

R = average annual acceptance rate, megagrams per year

k = methane generation rate constant, year⁻¹

t = age of the landfill at equipment installation plus the time the owner or operator intends to use the gas mover equipment or active life of the landfill, whichever is less.

If the equipment is installed after closure, t is the age of the landfill at installation, years.

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

- b) For sites with known year-to-year solid waste acceptance rate:

$$Q_M = \sum_{i=1}^n 2 k L_o M_i (e^{-k t_i})$$

Where,

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

k = methane generation rate constant, year⁻¹

L_o = methane generation potential, cubic meters per megagram solid waste

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

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

- c) If a collection and control system has been installed, actual flow data may be used to project the maximum expected gas generation flow rate instead of, or in conjunction with, the equations in V.A.3.a.1)a) and V.A.3.a.1)b) above. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate, so calculations using the equations in preceding V.A.3.a.1)a) and V.A.3.a.1)b) above, or other methods shall be used to predict the maximum expected gas generation rate over the intended period of use of the gas control system equipment.
- 2) For the purposes of determining sufficient density of gas collectors for compliance with condition V.A.1.d.2)a)ii), the permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Department, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.
- 3) For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with condition V.A.1.d.2)a)iii), the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within five (5) calendar days, except for the three conditions allowed under 40 CFR 60.753(b), specified at condition V.A.1.1.f. If negative pressure cannot be achieved without excess air infiltration within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Department for approval.

- 4) The permittee is not required to expand the system as required in preceding condition V.A.3.a.3) above during the first 180 days after gas collection system start-up.
 - 5) For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and nitrogen or oxygen as provided in condition V.A.1.1.g. If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within five (5) calendar days. If correction of the exceedance cannot be achieved within fifteen (15) calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.
- b. For purposes of compliance with condition V.A.1.1.e, the permittee shall place each well or design component of this controlled landfill as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of five (5) years or more if active or two (2) years or more if closed or at final grade. (§2105.73.d.4, § 60.755(b))
- c. The following procedures shall be used for compliance with the surface methane operational standard as provided in V.A.1.1.h: (§2105.73.d.4, §60.755(c))
- 1) After installation of the collection system, the permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals (or a site-specific established spacing) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in condition V.A.3.d below.
 - 2) The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from perimeter wells.
 - 3) Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of 40 CFR 60, except that the probe inlet shall be placed within five (5) to ten (10) centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
 - 4) Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in conditions V.A.3.c.4)a) through V.A.3.c.4)e) below should be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of V.A.1.1.h.
 - a) The location of each monitored exceedance shall be marked and the location recorded.
 - b) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within ten (10) calendar days of detecting the exceedance.
 - c) If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within ten (10) days of the

second exceedance. If re-monitoring shows a third exceedance for the same location, the action specified in Condition V.A.3.c.4)e) below shall be taken, and no further monitoring of that location is required until the action specified in Condition V.A.3.c.4)e) below has been taken.

- d) Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in preceding conditions V.A.3.c.4)b) or V.A.3.c.4)c) above shall be re-monitored one (1) month from the initial exceedance. If the one (1)-month re-monitoring shows a concentration less than 500 parts per million above background, no further monitoring of that location is required until the next quarterly monitoring period. If the one (1)-month re-monitoring shows an exceedance, the actions specified in V.A.3.c.4)c) above or V.A.3.c.4)e) below shall be taken.
 - e) For any location where the monitored methane concentration equals or exceeds 500 parts per million above background three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the Department for approval.
 - 5) The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
- d. The permittee seeking to comply with the provisions of Condition V.A.3.c above shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices: (§2105.73.d.4, § 60.755(d))
- 1) The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of 40 CFR 60, except the methane shall replace all references to volatile organic compound (VOC).
 - 2) The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air.
 - 3) To meet the performance evaluation requirements in section 3.1.3 of Method 21 of Appendix A of 40 CFR 60, the instrument evaluation procedures of section 4.4 of Method 21 of Appendix A of 40 CFR 60 shall be used.
 - 4) The calibration procedures provided in section 4.2 of Method 21 of Appendix A of 40 CFR 60 shall be followed immediately before commencing a surface monitoring survey.
- e. The provisions of conditions V.A.3.a through V.A.3.d above shall apply at all times, except during periods of startup, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction, shall not exceed five (5) days for collection systems and shall not exceed one (1) hour for treatment or control devices. (§2105.73.d.4, §60.755(e))
- f. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall comply with condition

V.A.1.1.d.1.d.2)a) above for the active gas collection system and install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead and: (§2105.73.d.5, §60.756(a))

- 1) Measure the gauge pressure in the gas collection header on a monthly basis as provided in condition V.A.3.a.3) above; and
 - 2) Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis as provided in condition V.A.3.a.5) above; and
 - 3) Monitor temperature of the landfill gas on a monthly basis as provided in V.A.3.a.5) above.
- g. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall comply with condition V.A.1.1.d.1.d.2)b) for an enclosed combustor and calibrate, maintain, and operate according to the manufacturers specifications, the following equipment: (§2105.73.d.5, §60.756(b))
- 1) A temperature monitoring device equipped with a continuous recorder and having minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius of ± 0.5 °C, whichever is greater. A temperature monitoring device is not required for boilers or process heaters with design heat input capacity greater than 44 megawatts.
 - 2) A device that records flow to or bypass of the control device.
 - a) The permittee shall either; install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every fifteen (15) minutes; or
 - b) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.
- h. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee, if seeking to install a collection system that does not meet the specifications in 40 CFR 60.759 or seeking to monitor alternative parameters to those required by 40 CFR 60.753 through 40 CFR 60.756, shall provide information satisfactory to the Department as provided in 40 CFR 60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Department may specify additional appropriate monitoring procedures. (§2105.73.d.5, §60.756(e))
- i. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall demonstrate compliance with condition V.A.3.c and monitor surface concentrations of methane according to the instrument specifications and procedures provided in condition V.A.3.d. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. (§2105.73.d.5, §60.756(f))
- j. Compliance with the applicable requirements of 40 CFR 63, Subpart AAAA shall be determined by the permittee as follows: (40 CFR §63.1960)
- 1) The same methods used to determined compliance with 40 CFR 60, Subpart WWW, as

prescribed in sections V.A.2 and V.A.3 of this permit shall be applied, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence.

- 2) Continuous parameter monitoring data collected under 40 CFR 60.756(b)(1), (c)(1), and (d), as prescribed in sections V.A.2 and V.A.3 of this permit shall be used to demonstrate compliance with the operating conditions for control systems. If a deviation occurs, as defined in condition V.A.3.k below, the permittee has failed to meet the control device operating conditions of this permit and has deviated from the requirements of 40 CFR 63, Subpart AAAA.
 - 3) The permittee shall develop and implement a written startup, shutdown and malfunction (SSM) plan according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site. Failures to write, implement, or maintain a copy of the SSM plan is a deviation from the requirements of Subpart AAAA.
- k. For purposes of condition V.A.3.j above, deviations shall include the following items: (40 CFR 63.1965)
- 1) A deviation occurs when the control device operating parameter boundaries described in 40 CFR 60.758(c)(1), as specified at condition V.A.4.4.c below, are exceeded.
 - 2) A deviation occurs when 1 hour or more of the hours during the 3-hour block averaging period does not constitute a valid hour of data. A valid hour of data must have measured values for at least three 15-minute monitoring periods within the hour.
 - 3) A deviation occurs when a SSM plan required by condition V.A.3.j.3) above is not developed, implemented, or maintained on site.
- l. When calculating a 3-hour block average to demonstrate compliance of a monitored parameter, averages shall be calculated by the permittee in the same way as they are calculated in 40 CFR Subpart WWW, except that the data collected during the events listed in conditions V.A.3.1.1) through V.A.3.1.4)) below are not to be included in any average computed under Subpart AAAA: (40 CFR 63.1975)
- 1) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high level adjustments.
 - 2) Startups.
 - 3) Shutdowns.
 - 4) Malfunctions.
- m. The permittee shall demonstrate compliance with condition V.A.1.0 above by calculating the VOC emission rate from the cells, areas or groups of cells treated by the offgas collection system. The collection efficiency determination shall be conducted annually using accepted engineering principles as accepted by the Department. (RACT Order No. 253, Condition 1.3)

4. Record Keeping Requirements:

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall keep for at least 5 years up to date, readily accessible, on-site records of the design capacity report which triggered 40 CFR 60.752(b), the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within four (4) hours. Either paper copy or electronic formats are acceptable. (§2105.73.d.7; §2103.12.j & k; §60.758(a))

- b. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in conditions V.A.4.b.1) and V.A.4.b.2) below as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of five (5) years. Records of control device vendor specifications shall be maintained until removal. (§2105.73.d.7; §2103.12.j & k; §60.758(b))
- 1) For purposes of demonstrating compliance with condition V.A.1.d.2)a):
 - a) The maximum expected gas generation flow rate as calculated in condition V.A.3.3.a.1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Department.
 - b) The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 40 CFR 60.759(a)(1).
 - 2) For purposes of demonstrating compliance with condition V.A.1.1.d.1.d.2)b) through use of an enclosed combustion device other than a boiler or process heater with a design heat input capacity greater than 44 megawatts:
 - a) The average combustion temperature measured at least every fifteen (15) minutes and averaged over the same time period of the performance test.
 - b) The percent reduction of NMOC determined as specified in condition V.A.1.1.d.1.d.2)b) achieved by the control device.
- c. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall keep for 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in conditions V.A.3.3.f through V.A.3.3.i as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. (§2105.73.d.7; §2103.12.j & k; §60.758(c))
- 1) The permittee shall report and record exceedances under 40 CFR 60.757(f), as specified in condition V.A.5.e for an enclosed combustors with design heat input capacity of 44 megawatts (150 million British thermal unit per hour) or greater, all 3-hour periods of operation during which the average combustion temperature was more than 28°C below the average combustion temperature during the most recent performance test at which compliance with condition V.A.1.1.d.1.d.2)b) was determined.
 - 2) The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under condition V.A.3.3.g.3.g.2).
- d. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. (§2105.73.d.7; §2103.12.j & k; §60.758(d))
- 1) The permittee shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors as specified in condition V.A.3.3.b.

- 2) The permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in 40 CFR 60.759(a)(3)(i) as well as any non-productive areas excluded from collection as provided in 40 CFR 60.759(a)(3)(ii).
- e. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall keep for at least 5 years up to- date, readily accessible records of all collection and control system exceedances of the operational standards in conditions V.A.1.1.e through V.A.1.1.k, exclusive of V.A.1.1.i, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. (§2105.73.d.7; §2103.12.j & k; §60.758(e))
- f. If the permittee converts the landfill design capacity from volume to mass or mass to volume to demonstrate that landfill design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, as provided in the definition of design capacity, the permittee shall keep readily accessible, on-site records of the annual recalculation of site-specific density, design capacity, and the supporting documentation. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. (§2105.73.d.7; §2103.12.j & k; §60.758(f))
- g. Compliance with the record keeping requirements of 40 CFR 60, Subpart WWW, as prescribed in this section V.A.4, shall be considered as compliant with the record keeping requirements of 40 CFR 63, Subpart AAAA. (40 CFR 63.1980(a)).
- h. The permittee shall keep records and reports as specified in the general provisions of 40 CFR 60 and 40 CFR 63 as shown in Table 1 of 40 CFR 63, Subpart AAAA. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. (40 CFR 63.1980(b)).
- i. The permittee shall at all times maintain all records regarding gas monitoring data, tonnage records and waste characterization. Such records shall provide sufficient data and calculations to clearly demonstrate that all requirements of both Section 2105.06 of Article XXI and Order No. 253 are being met. (§2105.06, RACT Order No. 253, Condition 1.8)
- j. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance.(§2103.12.h.1)
- k. Unless otherwise specified, all records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2)

5. Reporting Requirements:

- a. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall submit a non methane organic compound (NMOC) emission rate report to the Department initially and annually thereafter, except as provided at conditions V.A.5.a.3) or V.A.5.a.5) below. The Department may request such additional information as may be necessary to verify the reported NMOC emission rate. (40 CFR 60.757(b); §2103.12.k)

- 1) The NMOC emission rate report shall contain an annual or 5-year estimate of the NMOC emission rate using the formula and procedures provided in conditions V.A.2.2.b through V.A.2.2.f, or V.A.2.**Error! Reference source not found.**, as applicable.
 - 2) The NMOC emission rate reports shall be submitted annually, except as provided in the following V.A.5.a.3) and V.A.5.a.5) below.
 - 3) If the estimated NMOC emission rate as reported in the annual report to the Department is less than 50 megagrams per year in each of the next five (5) consecutive years, the permittee may elect to submit an estimate of the NMOC emission rate for the next five (5) year period in lieu of the annual report. This estimate shall include the current amount of solid waste-in place and the estimated waste acceptance rate for each year of the five (5) years for which an NMOC emission rate is estimated. All data and calculations upon which this estimate is based shall be provided to the Department. This estimate shall be revised at least once every five (5) years. If the actual waste acceptance rate exceeds the estimated waste acceptance rate in any year reported in the five (5) year estimate, a revised five (5) year estimate shall be submitted to the Department. The revised estimate shall cover the five (5) year period beginning with the year in which the actual waste acceptance rate exceeded the estimated waste acceptance rate.
 - 4) The NMOC emission rate report shall include all the data, calculations, sample reports, and measurements used to estimate the annual or five (5) year emission rate.
 - 5) The permittee is exempted from the requirements of preceding conditions V.A.5.a.1) through V.A.5.a.4) above after the installation of a collection and control system in compliance with 40 CFR 60.752(b)(2), during such time as the system is in operation and in compliance with 40 CFR 60.753 and 60.755.
- b. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall submit a collection and control system design plan to the Department within one (1) year of the first NMOC emission rate report, required under condition V.A.5.a above, in which NMOC emission rate exceeds 50 megagrams (Mg) per year, except as follows: (40 CFR 60.757(c); §2103.12.j & k)
- 1) If the permittee elects to recalculate the NMOC emission rate after Tier 2 sampling and analysis as provided in condition V.A.2.2.d and the resulting rate is less than 50 megagrams per year, annual periodic reporting shall be resumed, using the Tier 2 determined site-specific NMOC concentration, until the calculated emission rate is equal to or greater than 50 megagrams per year or the landfill is closed. The revised NMOC emission rate report, with the recalculated emission rate based on NMOC sampling and analysis, shall be submitted within 180 days of the first calculated exceedance of 50 megagrams per year.
 - 2) 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 in condition V.A.2.2.e, and the resulting NMOC emission rate is less than 50 megagrams per year, annual periodic reporting shall be resumed. The resulting site-specific methane generation rate constant (k) shall be used in the emission rate calculation until such time as the emissions rate calculation results in an exceedance. The revised NMOC emission rate report based on the provisions of condition V.A.2.2.e and the resulting site-specific methane generation rate constant (k) shall be submitted to the Department within one (1) year of the first calculated emission rate exceeding 50 megagrams per year.

- c. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall submit a closure report to the Department within thirty days of waste acceptance cessation. The Department 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 Department, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4). (40 CFR 60.757(d); §2103.12.k)
- d. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall submit an equipment removal report to the Department thirty (30) days prior to removal or cessation of operation of the control equipment. The equipment removal report shall contain all of the following items (40 CFR 60.757(e); §2103.12.k):
- a) A copy of the closure report submitted in accordance with condition V.A.5.c,
 - b) A copy of the initial performance test report demonstrating that the fifteen (15) year minimum control period has expired, and
 - c) Dated copies of three (3) successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.
 - d) The Department may request such additional information as may be necessary to verify that all of the conditions for removal in 40 CFR 60.752(b)(2)(v), as specified in condition V.A.1.1.d.1.d.4), have been met.
- e. Except as provided in 40 CFR 60.752(b)(2)(i)(B), the permittee shall submit annual reports of the following information recorded pursuant to conditions V.A.5.e.1) through V.A.5.e.6) below. The initial annual report shall be submitted within 180 days of installation and start-up of the collection and control system, and shall include the initial performance test report required under 40 CFR 60.8. For enclosed combustion devices and flares, reportable exceedances are defined under 40 CFR 60.758(c), as specified at condition V.A.4.4.c. (40 CFR 60.757(f); §2103.12.k)
- 1) Value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d), as specified at conditions V.A.3.3.f and V.A.3.3.g.
 - 2) Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under condition V.A.3.3.g.3.g.2).
 - 3) Description and duration of all periods when the control device was not operating for a period exceeding one (1) hour and length of time the control device was not operating.
 - 4) All periods when the collection system was not operating in excess of five (5) days.
 - 5) Location of each exceedance of the 500 parts per million methane concentration as provided in condition V.A.1.h and the concentration recorded at each location for which an exceedance was recorded in the previous month.
 - 6) Date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), and (c)(4), respectively specified at conditions V.A.3.3.a.3), V.A.3.3.b, and V.A.3.3.c.3.c.4)
- f. The permittee shall include the following information with the initial performance test report required under 40CFR 60.8 in order to demonstrate compliance with condition V.A.1.1.d.1.d.2)a):(40 CFR 60.757(g); §2103.12.k)

- 1) A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion.
 - 2) The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based.
 - 3) The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material.
 - 4) The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non productivity and the calculations of gas generation flow rate for each excluded area.
 - 5) The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill
 - 6) The provision for the control of off-site migration
- g. Compliance with the reporting requirements of 40 CFR 60, Subpart WWW, as prescribed in this section V.A.5 shall be considered as compliant with the record keeping requirements of 40 CFR 63, Subpart AAAA. (40 CFR 63.1980(a); §2103.12.k).
- h. The permittee shall report non-compliance information required to be recorded by the Department in V.A.4.4.j above in accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k.1)
- i. Reporting instances of non-compliance in accordance with condition V.A.5.h above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level condition IV.8

6. Work Practice Standards:

- a. The permittee shall not, at any time, conduct operations at the landfill unless all equipment is properly operated and maintained according to good engineering and air pollution control practices. (§2105.03)
- b. Unless specified elsewhere, the permittee shall calibrate, maintain, and operate all instrumentation, process equipment, and control equipment according to manufacturers' recommendations and good engineering practices. (§2105.03)

7. Additional Requirements:

None unless provided elsewhere.

B. Process P002: Two (2) Enclosed Ground Flares and One (1) Utility Flare, Stack # S001, S002 and S003

Process Description: Two (2) enclosed ground flares for collected landfill gas VOC destruction and one (1) utility flare

Facility ID: S001, S002, and S003

Max. Design Rate: 120 MMBtu/hour, 90 MMBtu/hr and 15 MMBtu/hr, respectively

Capacity: 4,000 scfm, 3,000 scfm and 500 scfm respectively

Raw Materials: Landfill Gas, Propane or natural gas for flare startup

Control Device: None

1. Restrictions:

- a. The permittee shall operate the primary flare S001 at a minimum temperature of 1500°F or the minimum temperature at which 98% destruction efficiency was demonstrated during the most recent stack test, whichever is greater, and shall have a residence time of at least 0.5 seconds at all times. (IP 0215-I002, Condition V.A.1.e; §60.752.b.2.iii.B.2)
- b. The permittee shall operate the back-up flare S002 at a temperature of 1400°F or the minimum temperature at which 98% destruction efficiency was demonstrated during the most recent stack test, whichever is greater, and shall have a residence time of at least 0.5 seconds at all times. (Permit No. 1023394-000-20600, Condition 2; §60.752.b.2.iii.B.2)
- c. Flares S001 and S002 shall be operated to achieve and maintain a destruction/removal efficiency (DRE) of at least 98% (by weight) for non-methane organic compounds (NMOC) at all times. (IP-0215-I002, Condition V.A.1.c; §60.752.b.2.iii.B)
- d. The permittee shall operate flares S001 & S002 with no visible flame emitting from the flare. (IP-0215-I002, Condition V.A.1.d; Permit No. 1023394-000-20600)
- e. The permittee shall equip flares S001 and S002 with an automatic pilot ignition source using only propane or natural gas as an auxiliary fuel. (Permit No. 1023394-000-20600, Condition 1; IP-0215-I002, Condition V.A.1.g)
- f. The permittee shall operate the flares with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. (§2102.04.b.6, IP-0215-I002, Condition V.A.1.h; §60.752.b.2.iii.A; §60.18.c.1)
- g. The permittee shall operate enclosed flare S002 and the utility flare, identified as S003, only during emergency situations when flare S001 is non-functional. The permittee shall notify the Department of the usage of either of the backup flares within 24 hours. (§2102.04.b.6)
- h. The permittee shall operate flares S001 & S002 with a flame present at all the times during operation. The flare shall be operated with an automatic shut-off mechanism designed to immediately stop the flow of the gases when a flame-out occurs. During restart or start-up, there shall be sufficient flow of auxiliary fuel to the burners such that the un-burnt landfill gases are not emitted to the atmosphere. (§2103.12.a.2.B; §2102.04.e; IP-0215-I002, Condition V.A.1.g)

- i. Emissions from enclosed ground flare S001 shall not exceed the limitations given in Table V-B-1 below: (§2103.12.a.2.B; IP-0215-I002, Condition V.A.1.i)

TABLE V-B-1 - Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter/PM10	1.88	8.22
Sulfur Dioxide	2.01	8.80
Nitrogen Oxides	9.6	42.05
Carbon Monoxide	24	105.12
Volatile Organic Compounds	0.25	1.11
Non-Methane Organic Compounds (NMOC)	0.65	2.84
Hydrochloric Acid (single HAP)	0.83	3.64

*A year is defined as any consecutive 12-month period.

- j. Emissions from enclosed ground flare S002 shall not exceed the limitations given in Table V-B-2 below: (§2103.12.a.2.B)

TABLE V-B-2 - Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter/PM10	1.41	6.17
Sulfur Dioxide	1.51	6.60
Nitrogen Oxides	7.20	31.54
Carbon Monoxide	18.00	78.84
Volatile Organic Compounds	0.19	0.83
Non-Methane Organic Compounds (NMOCs)	0.49	2.13
Hydrochloric Acid	0.71	3.09

*A year is defined as any consecutive 12-month period.

- k. Emissions from utility flare shall not exceed the limitations given in Table V-B-3 below: (§2103.12.a.2.B)

TABLE V-B-3 - Emission Limitations

POLLUTANT	HOURLY EMISSION LIMIT (lb/hr)	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter/PM10	0.23	1.03
Sulfur Dioxide	0.25	1.10
Nitrogen Oxides	1.02	4.47
Carbon Monoxide	5.55	24.31
Volatile Organic Compounds	0.03	0.14
Non-Methane Organic Compounds (NMOC)	0.08	0.36
Hydrochloric Acid	0.12	0.52

*A year is defined as any consecutive 12-month period.

1. For each flare, landfill gas flaring shall not exceed the maximum potential usage of 4,000 scf per minute (240,000 scf in any one hour), 3,000 scf per minute (180,000 scf in any one hour), and 500 scf per minute (30,000 scf in any one hour), for S001, S002 and S003, respectively. (§2103.12.h.1)

2. Testing Requirements:

- a. The permittee shall test the two (2) enclosed ground flares S001 and S002 for compliance with NMOC destruction efficiency once every five (5) years according to approved U.S. EPA test methods and Section 2108.02 of Article XXI, as specified in condition V.A.2.A.2.a above. (RACT Order No. 253, Condition 1.5; IP-0215-I002, Condition V.A.2.a)
- b. The permittee shall test the enclosed flares S001 and S002 to demonstrate compliance with condition V.B.1.i and V.B.1.j above for NO_x, and CO. The testing shall also include a determination of the flue gas exit temperature to confirm the accuracy of the flare's temperature recording device. The test shall be repeated once every five (5) years from the date of the prior test. The testing shall be conducted in accordance with approved U.S. EPA test methods and Site Level Condition IV.14 above. (IP-0215-I002, Condition V.A.2.b)

3. Monitoring Requirements:

- a. The permittee shall continuously measure the flue gas temperature to flare S001. (IP-0215-I002, Condition V.A.3)
- b. The permittee shall comply with the monitoring requirements of §60.756 for the flares, as specified in Emission Unit Level Section V.A.3. (§2105.73.d.5, §60.756)

4. Record Keeping Requirements:

- a. The permittee shall record the continuous measurements of flare flue gas temperature for S001 required by condition V.B.3.a above. (IP-0215-I002, Condition V.A.4.a)
- b. The permittee shall comply with the record keeping requirements of §60.758 for the flares, as specified in Emission Unit Level Section V.A.4. (§2105.73.d.7, §60.758)
- c. The permittee shall record all instances of non-compliance with the conditions of this permit upon occurrence along with corrective action taken to restore compliance.(§2103.12.h.1)
- d. All records shall be retained by the facility for at least five (5) years. These records shall be made available to the Department upon request for inspection and/or copying. (§2103.12.j.2; IP-0215-I002, Condition V.A.4.b)

5. Reporting Requirements:

The permittee shall report the following information to the Department in accordance with General Condition III.15 above The reports shall contain all required information for the time period of the report: (§2103.12.k.1)

- a. The permittee shall comply with the reporting requirements of §60.757 for the flares, as specified in Emission Unit Level Section V.A.5. (§2105.73.d.6, §60.757)
- b. The permittee shall report non-compliance information required to be recorded by the Department in V.B.4.c above accordance with General Condition III.15 above. The reports shall contain all required information for the time period of the report: (§2103.12.k.1)
- c. Reporting instances of non-compliance in accordance with condition V.B.5.b above does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8, if appropriate. (§2103.12.k.1)

6. Work Practice Standards:

None unless provided elsewhere.

C. Fugitive Emissions Due to Landfill Operations and Construction

Process Description: Earthcover (soil/rock) extraction, processing, application of sub-base, structural fill, protective cover soils, application of daily and intermediate soils, screening operations, wind erosion of in-place soils and paved /unpaved plant roads

Facility ID: F001

Max. Design Rate: 131 MMBtu/hour, 90 MMBtu/hr and 46.5 MMBtu/hr, respectively

Capacity: 2,999,000 Yd³ of daily cover, 145,800 Yd³ of intermediate cover soils, total protective cover soils of 218,800 Yd³, total sub-base soils of 72,900 Yd³, structural fill soils of 415,100 Yd³, and final cover soils of 291,800 Yd³, 0.2 miles of paved roads and 0.9 miles of Unpaved Roads

Raw Materials: Landfill Gas, Propane or natural gas for flare startup

Control Device: Fugitive Dust Control Measures

1. Restrictions:

- a. The permittee shall at no time use any soils contaminated with HAPS or petroleum hydrocarbons with a concentration of greater than 200 ppmv as a soil cover without Department approval. (Permit No. 215-I001, Condition V.B.1.a.1)
- b. The permittee shall not use waste oil as a dust suppressant. (Permit No. 215-I001, Condition V.B.1.a.2)
- c. Emissions of particulate matter from landfill construction and operations shall not exceed the limitation given in Table V-C-1. (§2103.12.a.2.B, Permit No. 215-I001, Condition V.B.1.b)

TABLE V-C-1 - Emission Limitations

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter/PM10	56.0

*A year is defined as any consecutive 12-month period

2. Testing Requirements:

The Department reserves the right to require emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Site Level Condition IV.14 entitled “Emissions Testing.” (§2103.12.h.1)

3. Monitoring Requirements (§2102.04.e):

None unless provided elsewhere.

4. Record Keeping Requirements (§2103.12.j & k):

- a. The permittee shall maintain onsite records showing the maximum design capacity, current amount of solid waste in place and the month-to-month solid waste acceptance rate. Documentation concerning the nature, deposition date, amount and location of any non-landfill

gas producing areas (including asbestos) excluded from the gas collection system shall be maintained. (Permit No. 215-I001, Condition V.B.2)

- b. The permittee shall maintain records describing the time, location, type and amount of roadway surface treatment required at condition V.C.6 below. Records shall be maintained on-site for at least five years and provided to the Department upon request. Such records shall include the following: (§2103.12.j)
- 1) For paved roads and parking areas:
 - a) Daily log of time and location of any vacuum sweeping conducted, including daily engine run time or odometer readings;
 - b) Identification, time and location of any maintenance, repairs, patching, treatment, or repaving of roads; and
 - c) Maintenance of a log explaining the reasons any required vacuum sweeping was not performed.
 - 2) For unpaved roads and shoulders of paved roads, record keeping of water flushing shall include:
 - a) Daily log of time and location of treated areas;
 - b) Identification of dust suppressants if applied;
 - c) Daily log of meter readings of spray bar and/or pump or odometer reading of trucks used to apply water and/or dust suppressants;
 - d) Daily log of the dilution ratios of the dust suppressants and diluents used if chemical suppressants are used; and,
 - e) Purchase records of the chemical suppressants, if used.

5. Reporting Requirements:

None unless provided elsewhere.

6. Work Practice Standards:

- a. The permittee shall take all reasonable actions to prevent particulate matter due to source activities from becoming airborne. In no case shall fugitive emissions from the use of roads, soil or rock processing, blasting and stockpiling of material cross the property boundary. (Permit No. 215-I001, Condition V.B.3.a)
- b. The permittee shall ensure that Earth or other material deposited by trucking or other means on the paved roadways, including public roadways, is promptly removed. (Permit No. 215-I001, Condition V.B.3.b)
- c. During landfill construction and covering operations, the permittee shall make available a pressurized water truck on-site and use such as needed to minimize the generation of fugitive dust. Sufficient water shall be applied to control fugitive dust from construction and covering operations. (Permit No. 215-I001, Condition V.B.3.c)
- d. The permittee shall ensure that the access roadways if unpaved at the unloading areas of active cells shall have a crown so that water runs off and does not pool. Water or other chemical dust

suppressants shall be applied to the unpaved road surface to reduce fugitive dusts. Water, if used shall be applied at least twice daily during dry weather conditions, and chemical dust suppressants, if used, shall be applied as needed, but at least monthly. (Permit No. 215-I001, Condition V.B.3.d)

- e. The permittee shall apply water or chemical dust suppressants on the shoulder of access roadways and the shoulder of the public highway for a distance of 500 feet, as needed, in the direction of egress. Water, if used, shall be applied at least twice a day. Chemical dust suppressants, if used, shall be applied at least monthly. Application of dust suppressants on the public highway shall be done in accordance with the appropriate Pennsylvania Department of Transportation procedures. (Permit No. 215-I001, Condition V.B.3.e)
- f. The permittee shall ensure that Earth or other material deposited by trucking or other means on the paved roadways, including public highways, is promptly removed from the paved roadways. (Permit No. 215-I001, Condition V.B.3.f)
- g. Upon leaving the landfill, the permittee shall ensure that the undercarriage, wheels and chassis of the vehicles which were used to transport wastes and earth, are washed to prevent earthen carryout onto roadways. (Permit No. 215-I001, Condition V.B.3.g)
- h. A speed limit of 15 miles per hour shall be observed on all paved access roadways and 10 miles per hour on all unpaved areas. Speed limits shall be posted and landfill personnel shall enforce these speed limits. (Permit No. 215-I001, Condition V.B.3.h)

VI. MISCELLANEOUS

The following table summarizes the processes and/or activities conducted at the Monroeville Landfill that were determined to be insignificant.

**TABLE VIII-1
Insignificant Processes**

I.D	Source Description	Basis for Exemption	Restrictions
D001	Three (3) motor oil storage tanks, with a capacity of 500 gallons each	PTE less than 0.15 TPY of VOC	None
D002	Two (2) hydraulic oil storage tanks, with a capacity of 500 gallons each	PTE less than 0.3 TPY of VOC	None
D003	Two (2) underground diesel storage tanks, with a capacity of 2000 gallons each	PTE less than 0.01 TPY of VOC	None
D004	Two (2) leachate storage tanks, with a capacity of 700,000 gallons each	PTE less than 0.01 TPY of VOC	None

VII. ALTERNATIVE OPERATING SCENARIOS

There are no alternative operating scenarios for this facility

VIII. EMISSIONS LIMITATIONS SUMMARY

[This section is provided for informational purposes only and is not intended to be an applicable requirement.]

The tons per year emission limitations including fugitive for the Monroeville Landfill facility are summarized in the following table:

**TABLE VII-1
Emission Limitations**

POLLUTANT	ANNUAL EMISSION LIMIT (tons/year)*
Particulate Matter	71.42
CO	208.27
Nitrogen Oxides	78.06
Sulfur Oxides	16.50
Volatile Organic Compounds	37.45
NMOC	95.33
HCL	7.25

* A year is defined as any consecutive 12-month period.