

CACTUS WASTE SYSTEMS, LLC - FLORENCE

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1. Introduction

This permit pertains to a solid waste landfill facility, owned and operated by Cactus Waste Systems, LLC, a Delaware Corporation. The facility opened in 2004, with an overall area of about 805 acres of which approximately 553 will be occupied by the landfill. The facility, commonly known as the Cactus Landfill, is located at 22481 East Deep Well Ranch Road, Florence, Arizona upon a parcel also identified by Pinal County Assessor's Parcel #404-24-0010. The source lies in an area classified as non-attainment for PM₁₀.

The principal business activity is landfilling of solid wastes. Examples of such wastes include municipal solid waste, vegetative (green) waste, construction and demolition waste, auto shredder fluff, dried waste water treatment plant sludge and petroleum contaminated soils. Asbestos materials are independently managed and segregated in a controlled area.

Landfill gas (LFG) generated from the natural decomposition of the waste in the landfill constitutes the primary source of emissions. LFG is composed primarily of methane and carbon dioxide with smaller quantities of nitrogen, oxygen and other compounds. The non-methane organic compounds (NMOC), volatile organic compounds ("VOCs"), hazardous air pollutants ("HAPs") in the LFG are regulated.

Traffic delivering waste materials generates particulate emissions ("PM₁₀" and "PM_{2.5}") or dust. In addition, the daily application of a cover layer of soil also produces PM₁₀ emissions, resulting from soil stockpiling, cover layer distribution, and wind erosion. Soil is typically used as a daily cover material; however, other alternatives as expressly approved under this permit may also be used. Four diesel-driven engines also emit oxides of nitrogen (NO_x) and sulfur dioxide (SO₂).

This facility falls subject to a number of regulatory requirements; the three primary requirements include:

- 40 CFR Part 60, Subpart WWW ("the Landfill NSPS") regulates emissions of LFG. The Landfill NSPS requires that once calculated LFG emissions exceed a certain threshold, a capture-and-control system must be designed and installed. The Landfill NSPS defines a method for calculating emissions as a function of the amount of waste deposited in the facility, and other variables. Upon exceeding the emission threshold of 50 Mg. of NMOC, the permittee is obliged to begin the design process leading to installation of a capture-and-control system. As indicated by the most recent NMOC reports, this facility will most likely not need installation of a gas collection and control system during the term of this permit.
- A National Emission Standard for Hazardous Air Pollutants ("the Asbestos NESHAP") requires that asbestos-containing waste materials be properly identified, documented and handled.
- The Stratospheric Ozone Protection Program established by Clean Air Act Title VI requires, with only limited exceptions, that refrigerants be properly removed from various appliances prior to disposal in a landfill facility. This facility allows final disposal of "white goods," including major consumer appliances and other similar equipment items.

Minor Revision, V20680.R01, approved the installation and operation of a 54.6 mmbtu/hr candlestick flare, a 113 HP diesel generator and a 2,000 gallons diesel storage tank.

Renewal, V20659.00, updated several references, updates the equipment list, and quantifies greenhouse gas emissions within the Technical Support Document.

Permit revision, V20637.R01 (January 2014), updated the equipment list by adding a generator and incorporated the applicable requirements pursuant to Clean Air Act §111 and §112. These requirements include:

- The Compression Ignition (CI) Internal Combustion Engines (ICE) NSPS, 40 CFR 60 Subpart III, for 2007 model year or later engines.
- The Stationary Reciprocating Internal Combustion Engines (RICE) NESHAP, 40 CFR 63 Subpart ZZZZ, for all engines.

Permit Renewal, V20637.000 (April 2010), approved the use of Petroleum Contaminated Soil (PCS) as a landfill cover as long as proper monitoring and records are kept.

A complete list of equipment from which emissions are allowed by this permit is given in Section 11 of this permit.

2. Listing of Federally Enforceable Applicable Requirements

[Mandated by 40 CFR §70.5(c)(4)] (Code §§3-1-060.B.2.d, 3-1-081.A.2, 3-1-081.A.8.a)

- A. SIP-approved PGCAQCD Regulations. Those specific provisions of the Pinal-Gila Counties Air Quality Control District ("PGCAQCD") Regulations, as adopted by the Pinal County Board of Supervisors on March 31, 1975, and approved by the Administrator as elements of the Arizona State Implementation Plan ("SIP") at 43 FR 50531, 50532 (11/15/78), and specifically the following rules:

7-2-1.1	Ambient Air Quality Standards - Non-Specific Particulate
7-2-1.2	Ambient Air Quality Standards - Sulfur Dioxide
7-2-1.4	Ambient Air Quality Standards - Photochemical Oxidants
7-2-1.5	Ambient Air Quality Standards - Carbon Monoxide
7-2-1.6	Ambient Air Quality Standards - Nitrogen Dioxide
7-2-1.7	Ambient Air Quality Standards - Evaluation
7-3-1.2	Emission Standards - Particulate Emissions - Fugitive Dust
7-3-1.3	Emission Standards - Particulates - Open Burning

- B. SIP-approved PGCAQCD Regulations. Those specific provisions of the Pinal-Gila Counties Air Quality Control District Regulations, as last amended by the Pinal County Board of Supervisors on June 16, 1980, and approved by the Administrator as elements of the Arizona SIP at 47 FR 15579 (4/12/82), specifically, the following rules:

7-3-1.1	Visible Emissions; General
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- C. SIP-approved PCAQCD Regulations. Those provisions of the Pinal County Air Quality Control District Code of Regulations, as last amended on 10/12/95, and approved by the Administrator as elements of the Arizona SIP at 61 FR 15717 (4/9/96), specifically, the following rules:

§2-8-300	Performance standard (generic opacity standard)
§3-1-010	Purpose (Permits and Permit Revisions)
§3-1-040	Applicability and classes of permits
§3-1-081	Permit Terms

- D. The following specific elements of 40 CFR Part 60, Subpart WWW (as amended 1998) Standards of Performance for Municipal Solid Waste Landfills:

40 CFR §60.750 Applicability, designation of affected facility, and delegation of authority.

§ 60.751 Definitions.

§ 60.752 Standards for air emissions from municipal solid waste landfills.

§ 60.754 Test methods and procedures.

§ 60.755 Compliance provisions.

§ 60.757 Reporting requirements.

§ 60.758 Recordkeeping requirements.

- E. CAA §608 (11/15/90); 40 CFR Part 82, Subpart F - Recycling and Emissions Reduction (9/7/95); regulations pertaining to use and handling of ozone-depleting substances.
- F. 40 CFR §61.154 (1/16/91) National Emission Standard for Asbestos, Standard for active waste disposal sites.
- G. The Compression Ignition (CI) Internal Combustion Engines (ICE) NSPS, 40 CFR 60 Subpart III, (1/30/13)
- H. The Stationary Reciprocating Internal Combustion Engines (RICE) NESHAP, 40 CFR 63 Subpart ZZZZ, (1/30/13)

3. Compliance Certification

A. Compliance Plan

[Mandated by 40 CFR §70.5(c)(8)] (Code §§3-1-081.C, 3-1-083.A.7)

As the Permittee is currently in compliance, the compliance plan consists of continued adherence to the requirements of this permit and those requirements set forth in applicable regulations and statutes.

B. Compliance Schedule

[Mandated by 40 CFR §§ 70.5(c)(8), 70.6(c)(3)] (Code §§3-1-060.B.1, 3-1-083.A.7.c)

As the Permittee is currently in compliance, no compliance schedule to attain compliance is required.

4. Authority to Construct

[Federally enforceable - Code §§3-1-010, 3-1-040 (as amended 10/12/95) approved as a SIP Element at 65 FR79741 (12/20/00)]

Emissions from this facility, specifically the equipment described in "Equipment Schedule" section below, and the operating configuration more fully described in the application for permit, already fall subject to the independent Federally Enforceable limitations identified elsewhere in this permit. Therefore, based on the regulations in effect upon the date of issuance of this permit and on a finding that allowable emissions from the equipment described in the Equipment Schedule will neither cause nor contribute to a violation of any ambient air quality standard even without any additional limitations, and a further finding that this does not constitute a "major source" within the meaning of Code §3-3-203, this permit constitutes authority to construct and operate such equipment.

5. Emission Limitations and Related Requirements

[Mandated by 40 CFR §70.6(a)(1)] (Code §3-1-081.A.2)

- A. Allowable Emissions
Federally enforceable pursuant to PCAQCD Code § 3-1-040 (10/12/95) approved as SIP Elements at 65 FR 79742 (12/20/00)

Permittee is authorized to discharge or cause to discharge into the atmosphere those emissions of air contaminants as set forth below. Unless exempted under Code §3-1-040.C., or authorized by a separate permit, by this permit or by a revision or operational change allowed under Chapter 3, Article 2 of the Code, Permittee shall not commence construction of, operate or make any modification to this source in a manner which will cause emissions of any regulated air pollutant in excess of the de minimis amount.

- B. New Source Performance Standard - Municipal Solid Waste Landfills
[Federally enforceable pursuant to 40 CFR Part 60, Subpart WWW] (Code §6-1-030.73 (12/3/03))

1. Control Requirement Trigger; Monitoring Prior to Installation of Controls

- a. Permittee shall annually, or on such other schedule as may be allowed under §60.757(b)(1)(ii), submit an NMOC emissions rate report to the Control Officer and the Administrator (Regional Administrator c/o Air Division Permits Office, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901).

The NMOC report shall contain an annual or 5-year estimate of the NMOC emission rate calculated using the formula and procedures provided in §60.754(a) or (b) as applicable.

Specifically, unless otherwise approved in writing by the Control Officer or the Administrator:

- i. Tier 1 analyses shall rely on the default values for L_o , k and CNMOC; in accord with §60.754(a)(1)(i) and §60.754(a)(1)(ii).
- ii. Tier 2 analyses shall rely on the default values for L_o and k in accord with §60.754(a)(1)(i) and §60.754(a)(1)(ii) The average CNMOC value shall be calculated in accord with §60.754(a)(3).
- iii. Tier 3 analyses shall rely on the default value for L_o , CNMOC and k values shall be determined in accord with §60.754(a)(3).

Reports shall be due within 30 days of the anniversary date that triggers the reporting requirement.

- b. In accord with 40 CFR §60.757(d), within 30 days of the facility ceasing to accept waste for deposition, Permittee shall notify the Control Officer, and the Administrator, in writing. If a closure report has been submitted to the Administrator, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR §60.7(a)(4).

2. Control System Design

When a NMOC emission rate report, as calculated in accord with 40 CFR §60.754(a), indicates that emissions exceed the 50 Mg./yr. (55 ton-per-year) emission rate cutoff specified in §60.752(b)(2), then Permittee shall either:

- a. Within one year of the date of that report, submit a collection and control system design plan, prepared by a professional engineer to meet the requirements of 40 CFR §60.752(b)(2)(ii), to the Control Officer for approval, as required under §60.752(b)(2), as well as an application for a permit revision to incorporate such changes to this permit. Additionally, Permittee shall send a copy of the control system design to the Administrator. The final system design and the terms of a revised permit will each require approval by both the Control Officer and the Administrator; or
- b. To the extent allowed under §60.757(c), resubmit within 180 days a revised NMOC emissions report(s), recalculated under Tier 2 and/or Tier 3 as set forth in §60.754(a), to determine if the estimated NMOC emission rate exceeds 50 Mg/yr. Permittee may invoke any variable values allowed above for an initial Tier 2/Tier 3 analysis. If the revised NMOC emission report under Tier 2 and/or Tier 3 indicates NMOC emissions in excess of 50 Mg/yr, Permittee shall comply with subparagraph 2.a. of this paragraph. Otherwise, Permittee shall resume annual reporting under subparagraph 1.a. of this paragraph.

3. Collection and Control System (Flare) Design
[Federally enforceable pursuant to 40 CFR Part 60, Subpart WWW 60.752.(b).(2).(ii).(A) & (B)]

- a. An active collection system shall:
 - 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:
 - 5 years or more if active; or
 - 2 years or more if closed or at final grade.
 - iii. Collect gas at a sufficient extraction rate
 - iv. Be designed to minimize off-site migration of subsurface gas.
- b. A passive collection system shall:
 - i. Comply with all the provisions of an active collection system as listed in Section §5.B.3.a of this permit.
 - ii. Be installed with liners on the bottom and all sides in all areas in which gas is to be collected. The liners shall be installed as required under 40 CFR §258.40.
 - iii. Route all the collected gas to a control system that complies with one of the following:

1. An open flare designed and operated in accordance with 40 CFR §60.18, except as noted in 40 CFR §60.754(e); or
 2. A control system designed and operated to reduce NMOC by 98 weight percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 percent or reduce the outlet NMOC concentration to less than 20 ppmv, dry basis as hexane at 3 percent oxygen. The reduction efficiency or ppmv shall be established by an initial performance test to be completed no later than 180 days after initial startup of the approved control system using the test methods specified in 40 CFR 60.754(d).
 3. A treatment system that processes the collected gas for subsequent sale or use. All emissions from any atmospheric vent from the gas treatment system shall be subject to the requirements of either of the previous subsections.
- c. Operate the collection and control device installed to comply with this subpart in accordance with §§ Sections 5.B.5, 5.B.6 and 6.A.5 of this permit.
4. Collection and Control System (Flare) Removal
[Federally enforceable pursuant to 40 CFR Part 60, Subpart WWW 60.752.(b).(2).(v)]
- a. The collection and control device may be capped or removed provided that all of the following conditions are met:
 - i. The landfill shall be a closed landfill as defined in 40 CFR §60.751. A closure report shall be submitted to the Control Officer as provided in Section §7.D.1 of this permit.
 - ii. The collection and control system shall have been in operation a minimum of 15 years; and
 - iv. Following the procedures specified in §60.754(b) of Subpart WWW, 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.
5. Operational Standards for Collection and Control Systems
[Federally enforceable pursuant to 40 CFR Part 60, Subpart WWW 60.753]
- Each owner or operator of an MSW landfill with a gas collection and control system shall:
- a. 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 waste has been in place for:
 - i. 5 years or more if active; or
 - ii. 2 years or more if closed or at final grade.

- b. Operate the collection system with negative pressure at each wellhead except under the following conditions:
 - i. A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the semiannual reports as required in Section §7 of this permit.
 - ii. Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan;
 - iii. 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 Control Officer.

- c. Operate each interior wellhead in the collection system with a landfill gas temperature less than 55 degrees Celsius and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The owner or operator 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.
 - i. The nitrogen level shall be determined using Method 3C, unless an alternative method as allowed by Section §5.B.2.a of this permit.
 - ii. Unless an alternative test method is established as allowed by Section §5.B.2.a of this permit, the oxygen shall be determined by an oxygen meter using Method 3A except that:
 - 1. The span shall be set so that the regulatory limit is between 20 and 50 percent of the span;
 - 2. A data recorder is not required;
 - 3. Only 2 calibration gases are required, a zero and span, and ambient air may be used as the span;
 - 4. A calibration error check is not required; and
 - 5. The allowable sample bias, zero drift, and calibration drift are ± 10 percent.

- d. Operate the collection system so that the methane concentration is less than 500 ppm above background at the surface of the landfill. To determine if this level is exceeded, 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. 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. Areas with steep slopes or other dangerous area may be excluded from the surface testing.

- e. Operate the system such that all collected gases are vented to a control system designed and operated in compliance with Section §5.B.3.b.iii of this permit. In the event the collection and 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 1 hour; and
 - f. Operate the control or treatment system at all times when the collected gas is routed to the system.
 - g. If monitoring demonstrates that the operational requirements in Subsections §5.B.5.b through f, above are not met, corrective action shall be taken as specified in Sections §§6.A.5.a.iii thru v and 6.A.5.b of this permit. If corrective actions are taken as specified, the monitored exceedance is not a violation of the operational requirements of this section.
6. Specifications for Active Collection Systems
[Federally enforceable pursuant to 40 CFR Part 60, Subpart WW, §60.759(a) through (c)]
- a. Each owner or operator seeking to comply with §60.752(b)(2)(i) shall site active collection wells, horizontal collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the Control Officer:
 - i. The collection devices within the interior and along the perimeter areas shall be certified to achieve comprehensive control of surface gas emissions by a professional engineer. The following issues shall be addressed in the design: depth of refuse, refuse gas generation rate and flow characteristics, cover properties, gas system expendability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat.
 - ii. The sufficient density of gas collection devices determined in the previous paragraph shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior.
 - iii. The placement of the gas collection devices shall control all gas producing areas, except as provided by 6.a.iii.1 and 6.a.iii.2 below:
 - 1. Any segregated area of asbestos or nondegradable material may be excluded from collection if documented as provided in the Recordkeeping requirements of this permit. The documentation shall provide the nature, date of deposition, location, and amount of asbestos or nondegradable material deposited in the area, and shall be provided to the Control Officer upon request.
 - 2. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than one percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the Control Officer upon request. A

separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation:

$$Q_i = 2kL_oM_i (e^{-kt_i})(C_{NMOC})(3.9*10^{-9})$$

where

Q_i	=	NMOC emission rate from the i^{th} section, Mg/yr
k	=	methane generation rate constant, year ⁻¹
L_o	=	methane generation potential, cubic meters per megagram solid waste
M_i	=	mass of the degradable solid waste in the i^{th} section, megagrams
t_i	=	age of the solid waste in the i^{th} section, years
C_{NMOC}	=	concentration of nonmethane organic compounds, ppmv

3. The values for k and C_{NMOC} determined in field testing shall be used, if field testing has been performed in determining the NMOC emission rate or the radii of influence (the distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k , L_o , and C_{NMOC} provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall be used. The mass of the nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in paragraph 6.a.iii.1 of this section.
- b. Each owner or operator seeking to comply with 60.752(b)(2)(i)(A) shall construct the gas collection devices using the following equipment or procedures:
1. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration.
 2. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for

example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations.

3. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness.
- c. Each owner or operator seeking to comply with Subpart §60.752(b)(2)(i)(A) shall convey the landfill gases to a control system in compliance with Subpart §60.752(b)(2)(iii) or Section §5.B.3.b of this permit through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures:
1. For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in paragraph 2 below shall be used.
 2. For new collection systems, the maximum flow rate shall be in accordance with Subpart 60.755(a)(1) or / §6.A.5.a of this permit.
- C. Asbestos NESHAP Emission Standards; Standard for Active Waste Disposal Sites
[Currently federally enforceable; 40 CFR Part 61, Subpart M] (Code §§7-1-030, 7-1-060)
1. Signage Requirement

Permittee shall post and maintain a prominent sign at or prior to the facility gatekeeper, indicating that "LOADS WITH ASBESTOS-CONTAINING MATERIALS MUST BE DECLARED TO THE GATEKEEPER."
 2. Records; Regulated Asbestos-containing Waste Area Definition

Permittee shall maintain, until facility closure, records of the location, depth, area and quantity (in volume) of asbestos-containing waste material, as well as a map or diagram showing the disposal area.
 3. Records; Regulated Asbestos-containing Waste Deposition Activity

Receipt, handling and disposal of asbestos containing waste received from sources covered by 40 CFR §61.149 (asbestos mills), 40 CFR §61.150 (demolition, renovation, fabricating and manufacturing), or 40 CFR §61.155 (asbestos conversion operations) must meet the following standards:

 - a. Waste shipment records required

Asbestos containing waste may only be accepted when the transporter presents a complete waste shipment record, identifying:

- i. The name, address and telephone number of the waste generator;
- ii. The name, address and telephone number of the transporter; and
- iii. The quantity of asbestos-containing waste material, expressed in cubic yards or cubic meters.

b. Waste Shipment Receiving Requirements

At the time of accepting asbestos containing waste for disposal, the Permittee shall:

- i. Record the date of receipt of the material.
- ii. Record the presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers.
- iii. Inspect the materials, determine whether or not the quantity of asbestos containing waste material differs from the quantity indicated on the waste shipment record, and record any discrepancies. *Report discrepancies as outlined in §7.below.*
- iv. Inspect the materials to determine the presence, and quantity, of improperly enclosed or uncovered asbestos-containing waste, or any asbestos-containing waste material not sealed in leak-tight containers. *Report discrepancies as outlined in §7.below.*

c. Generator Return Notification Requirement

As soon as possible, and within 30 days after receipt of the asbestos containing waste, the Permittee shall send a copy of the signed waste shipment record to the waste generator.

d. Daily Cover/Suppressant Application Requirement

At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, all asbestos containing waste materials that have been deposited at the site during the operating day or previous 24-hour period shall:

- i. Be covered with at least 6 inches of compacted non-asbestos containing material, or
- ii. Be covered with a resinous or petroleum based dust suppressant agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Used, spent, or other waste oil may not be used as a dust suppression agent.

4. Asbestos Cell Re-opening Notification Requirement

At least 45 days before excavating or otherwise disturbing any asbestos-containing waste material that has been deposited and covered at the site, Permittee shall notify the Control Officer in writing. The notice shall include:

- a. The scheduled starting and completion dates
- b. The reason for disturbing the waste
- c. The procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material.
- d. The location of any temporary storage site and the final disposal site.

If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Control Officer at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification.

D. Stratospheric Ozone and Climate Protection Emission Limitations
[Currently federally enforceable; 40 CFR Part 82 Subpart F] (Code §§1-3-140.15, 1-3-140.58.k)

1. Public Notice Required
[Currently federally enforceable; 40 CFR §82.156.f.3]

At or near the gatekeeper's facility, Permittee shall provide a clearly visible warning sign, notifying suppliers of appliances that refrigerant must be properly removed before delivery of the items to the facility.

2. Signed Written Statement
[Currently federally enforceable; 40 CFR §82.156(f)(2)]

Permittee may allow disposal of small appliances, room air conditioning, motor vehicle air conditioners ("MVAC"), or MVAC-like appliances. Permittee shall first verify that the refrigerant has been evacuated from the appliance or shipment of appliances previously. Such verification shall include a signed statement verifying that all refrigerant that had not leaked previously has been recovered evacuated from the appliance(s) previously, in accord with either 40 CFR §§82.156(g) or 82.156(h). The written statement must include the name and address of the person who recovered the refrigerant and the date the refrigerant was recovered or a contract that the refrigerant was to be removed prior to delivery for disposal.

3. Copy of Written Certification Required for Disposal of Other Appliances Not Covered Above.
[Currently federally enforceable; 40 CFR §82.154.e]

Permittee shall only allow disposal of appliances (other than small appliances, MVACs and MVAC-like appliances allowed under the preceding subsection), including air conditioners, refrigerators, chillers or freezers, to customers which provide the Permittee with a signed written statement, affirming that a certification has previously been

submitted to the Administrator, attesting to compliance with the refrigerant recycling/recovery requirements of 40 CFR §82 Subpart F.

4. Due Diligence Required

Permittee shall exercise reasonable efforts to observe and screen load contents to assure compliance with the stratospheric ozone related emission limitations and prohibitions set forth above.

E. Landfill NESHAP; Operation and Maintenance Requirements

[Currently federally enforceable; 40 CFR Part 63, Subpart AAAA and Subpart A, 40 CFR §63.1980(b), 63.6(e)] (Code §7-1-030)

1. Startup, Shutdown and Malfunction

- a. At all times, including periods of startup, shutdown, and malfunction (SSM), the Permittee must operate and maintain the source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of SSM, this general duty to minimize emissions requires that the Permittee reduce emissions from the source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of SSM does not require the Permittee to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the Permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Control Officer which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the SSM plan required by this permit), review of operation and maintenance records, and inspection of the source.
- b. Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the SSM plan. To the extent that an unexpected event arises during an SSM, the Permittee must comply by minimizing emissions during such an SSM event consistent with safety and good air pollution control practices.
- c. Operation and maintenance requirements established pursuant to Section 112 of the Clean Air Act (the Act) are enforceable independent of emissions limitations or other requirements in relevant standards.

2. Startup, Shutdown and Malfunction (SSM) Plan

- a. Permittee must develop and implement a written SSM plan that describes, in detail, procedures for operating and maintaining the source during SSM periods, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. This plan must be developed by the Permittee's compliance date for that relevant standard.

- b. During SSM periods, the Permittee must operate and maintain the source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the SSM plan developed under this permit.
- c. When actions taken by the Permittee during SSM (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSM plan, the Permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist, or other effective form of recordkeeping that confirms conformance with the SSM plan for that event. In addition, the Permittee must keep records of these events as specified in §6.B.8, including records of the occurrence and duration of each startup, shutdown or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during SSM periods were consistent with the source's SSM plan in the semiannual SSM report required by this permit.
- d. If an action taken by the Permittee during an SSM (including an action taken to correct a malfunction) is not consistent with the procedures specified in the source's SSM plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event (unless the Permittee makes alternative reporting arrangements, in advance, with the Control Officer).
- e. Permittee must maintain at the source a current SSM plan and must make the plan available upon request for inspection and copying by the Control Officer. In addition, if the SSM plan is subsequently revised, the Permittee must maintain at the source each previous (i.e. superseded) version of the SSM plan, and must make each such previous version available for inspection and copying by the Control Officer for a period of 5 years after the revision of the plan. If at any time after adoption of an SSM plan the source ceases operation or is otherwise no longer subject to the NESHAP provisions, the Permittee must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to the NESHAP and must make the plan available upon request for inspection or copying by the Control Officer. The Control Officer may at any time request in writing that the Permittee submit a copy of any SSM plan (or a portion thereof) which is maintained at the source or in the possession of the Permittee. Upon receipt of such a request, the Permittee must promptly submit a copy of the requested plan (or a portion thereof) to the Control Officer. The Control Officer must request that the Permittee submit a particular SSM plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. The Permittee may elect to submit the required copy of any SSM plan to the Control Officer in electronic format. If the Permittee claims that any portion of such an SSM plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR §2.301, the material which is claimed as confidential must be clearly designated in the submission.

- f. To satisfy the requirements of this section to develop an SSM plan, the Permittee may use the source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Control Officer.
- g. Based on the results of a determination made under subsection E.1 above, the Control Officer may require that the Permittee make changes to the SSM plan. The Control Officer must require appropriate revisions to an SSM plan, if the Control Officer finds that the plan:
 - i. Does not address an SSM event that has occurred,
 - ii. Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during an SSM event in a manner consistent with the general duty to minimize emissions,
 - iii. Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable, or
 - iv. Includes an event that does not meet the definition of an SSM event listed in 40 CFR §63.2
- h. Permittee may periodically revise the SSM plan as necessary to satisfy the requirements of this section of to reflect changes in equipment or procedures at the source. The Permittee may make such revisions to the SSM plan without prior approval by the Control Officer. However, each such revision to an SSM plan must be reported in the semiannual report required by this permit. If the SSM plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the SSM plan at the time the Permittee developed the plan, the Permittee must revise the SSM plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the Permittee makes any revision to the SSM plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this section, the revised plan shall not take effect until after the Permittee has provided a written notice describing the revision to the Control Officer.

F. Particulate Emissions – Opacity Limits

- 1. SIP Limitation
Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)] (Code §§2-8-300. and 4-2-040.)

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual (ADEQ, 1992). Nothing in this

limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

2. Visibility Limiting Standard
[Federally enforceable provision, pursuant to Code §2-8-300 (as amended 5/18/05) approved as a SIP element at 47 FR 15043 (3/27/06)]

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR Part 60, Appendix A.

3. Internal Combustion Engines Opacity
(§5-23-1010)

No person shall cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive second which exceeds 40% opacity. For purposes of stationary rotating machinery, visible emissions when starting cold equipment shall be exempt from the 40% opacity standard for 10 minutes.

4. Particulate Matter Reasonable Precautions ***[Currently federally enforceable pursuant to Code §4-2-040 (6/29/93) approved as a SIP element at 72 FR 41896 (8/1/07) and PGAQD Reg. 7-3-1.2 approved as a SIP element at 43 FR 53034 (11/15/78)]***

- a. Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, subdivision site, driveway, parking area, vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, or fill dirt to be deposited, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.
- b. Permittee shall not cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, such as but not limited to all-terrain vehicles, trucks, cars, cycles, bikes, or buggies, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.
- c. Permittee shall not disturb or remove soil or natural cover from any area without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.
- d. Permittee shall not crush, screen, handle or convey materials or cause, suffer, allow or permit material to be stacked, piled or otherwise stored without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.
- e. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such a manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne. Other reasonable precautions shall be taken, as necessary, to effectively prevent fugitive dust from becoming airborne.

- f. Permittee shall not cause, suffer, allow or permit transportation of materials likely to give rise to fugitive dust without taking reasonable precautions to prevent fugitive dust from becoming airborne. Earth and other material that is tracked out or transported by trucking and earth moving equipment on paved streets shall be removed by the party or person responsible for such deposits.
5. **Surface Stabilization [*Federally enforceable pursuant to Code §4-1-030 (10/28/15) approved as a SIP element at 82 FR 20267 (5/1/17)*]**
- a. Permittee shall not cause or allow visible fugitive dust emissions from open areas / vacant lots (areas not being utilized for an activity) to exceed 20% opacity based on EPA Method 9 or the continuous plume or intermittent plume methods listed in PCAQCD Code §4-9-340.
- b. Permittee shall erect barriers or no trespassing signs upon evidence of trespass on open areas / vacant lots.
- c. Permittee shall stabilize any open area / vacant lot greater than 1.0 acre that has 0.5 acre or more of disturbed surface and sign up for the Pinal County Dust Control forecast within 30 days of discovery. The open area / vacant lot shall be stabilized the day leading up to and the day that is forecast to be high risk for dust emissions.
- d. Permittee shall not remove vegetation from open areas / vacant lots without applying dust suppressants before and during the weed abatement. Track out onto paved surfaces must be prevented or eliminated and dust suppressants must be applied following weed abatement to stabilize the entire surface.
- e. Stabilization of open areas / vacant lots is determined by the drop ball, threshold friction velocity, flat vegetation or standing vegetation methods listed in PCAQCD Code 4-9-320.
- f. Permittee shall not cause or allow visible fugitive dust emissions from unpaved lots (areas being utilized for an activity) greater than 5000 square feet to exceed 20% opacity based on EPA Method 9 or the continuous plume or intermittent plume methods listed in PCAQCD Code §4-9-340.
- g. Permittee shall not allow silt loading equal to or greater than 0.33 oz/ft² or allow the silt content to exceed 8% on unpaved lots greater than 5000 square feet.
- h. Permittee shall stabilize unpaved lots greater than 5000 square feet by paving, applying a dust suppressant or graveling.
- i. Permittee shall clean up track out on a paved public roadway that exceeds 50 feet within 24 hours of discovery and limit opacity to 20% or less while using a rotary brush or broom.
- j. Permittee shall make a record of the control measures applied.
- G. **NSPS (Subpart III) Standards - Stationary Compression Ignition (CI) Internal Combustion Engines (ICE) IC-2, IC-5, IC-7**
[*Federally enforceable; 40 CFR 60.4201, 60.4204, 60.4206*]

Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder shall comply with the following emission standards:

Unit	Mfg. Date	Displacement per Cylinder (l)	NMHC + NOX g/kw-hr	CO g/kw-hr	PM g/kw-hr
IC-2 Generator (180 HP, 134 kW)	2011	<30	4.0	5.0	0.3
IC-5 Generator (53 HP, 40 kW)	2013	<30	7.5	5.5	0.6
IC-7 Generator (113 HP, 84 kW)	2018	<30	4.0	5.0	0.3

- H. NESHAP (Subpart ZZZZ) Standards - Stationary Reciprocating Internal Combustion Engines (RICE) NESHAP Non-emergency Generator Maintenance Requirements IC-1 (Tipper Engine, 130 HP, 97 kW) and IC-4 (Air Compressor, 55 HP, 41 kW)
[Federally enforceable; 40 CFR 63 Subpart ZZZZ, Table 2d.1]

1. Change oil and filter every 1,000 hours of operation or annually, whichever comes first
2. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
3. Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes after which time the non-startup emission limitations apply.

- I. Stationary Rotating Machinery
(§5-23-1010)

1. The permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any stationary rotating machinery in excess of the amount calculated by the following equation:

$$E = 1.02Q^{0.769}$$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the total heat input of all operating fuel-burning units on a plant or premises in million Btu/hr.

2. Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu heat input when low fuel sulfur is used.

- J. Fuel Use Limitations

1. Primary Fuel for NSPS Subpart III generators, model year 2007 and newer
[Federally enforceable; 40 CFR §60.4207.a, 40 CFR 80.510.b]
 - a. Owners and operators of CI ICE with a displacement of less than 30 liters per cylinder that use diesel fuel must only use diesel fuel meeting the requirements of 40 CFR 80.510.b which requires that diesel fuel shall:
 - i. Have a maximum sulfur content of 15 parts per million (ppm) and;
 - ii. Either a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
2. Primary Fuel for generators older than model year 2007
(Code §§5-23-1000, 1010.F)
 - a. Permittee shall only use gasoline or "low sulfur" diesel fuel, having a sulfur content of less than 0.90% by weight.

- K. General Maintenance Obligation.
[Federally Enforceable pursuant to code §3-1-081.E (9/5/01) approved as a SIP element at 66 FR 63166 (12/5/01)] (PCAQCD Code §§3-1-081.E., 8-1-030.A.3)

At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate the permitted facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

- L. Additional Applicable Limitations

1. Open Burning Prohibition
[Federally enforceable - PGCAQCD Reg. 7-3-1.3 (3/31/75) approved as a SIP Element at 43 FR 50531 (11/15/78)]

Unless authorized by a separate permit, open burning shall be prohibited.
2. Asbestos NESHAP Compliance
[Currently federally enforceable; 40 CFR Part 61, Subpart M] (Code §§7-1-030, 7-1-060)

Permittee shall comply with Code §§7-1-030.A. and 7-1-060 and 40 CFR Part 61, Subpart M, when conducting any renovation or demolition activities at the facility.
3. Stratospheric Ozone and Climate Protection
[Currently federally enforceable; 40 CFR Part 82 Subpart F]

When servicing any on-site heating or cooling equipment that uses a closed-cycle refrigeration system, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Recycling and Emissions Reduction.
4. Daily Cover Requirement.

[Apparently federally enforceable under PCAQCD Permit A20500 §B.I.E.3 (4/22/94), and authority derived from EPA SIP-approval of predecessor PGAQCD NSR-program; see 43 FR 50531 (11/15/78)]

Permittee shall cover disposed solid waste with at least six inches of earthen material or approved alternate cover as designated below, at the end of each operating day, or at more frequent intervals if necessary. Approved alternate cover materials include:

- a. Auto shredder fluff;
- b. Wood chips;
- c. Tire chips;
- d. Foam;
- e. Tarps;
- f. Petroleum contaminated soils that are not regulated hazardous waste and contain no free liquids;
- g. Construction debris that does not include regulated asbestos containing material.

6. Compliance Demonstration

[Mandated by 40 CFR §70.6(c)] (Code §§3-1-060.b.2.d, 3-1-081.A.2, 3-1-083)

A. Monitoring and Testing

[Mandated by 40 CFR §70.6(a)(3)] (Code §3-1-083)

1. Fuel Use Monitoring (Code §5-23-1010.F)

- a. Permittee shall demonstrate compliance with the fuel-sulfur limitation by maintaining fuel documentation which demonstrates diesel fuel delivered was "low sulfur" diesel fuel.
- b. Permittee shall report to the department any daily period during which the sulfur content of the diesel fuel being fired in the generators or tipper exceeds 15 ppm.

2. Soil Moisture Content Determination; Emission Inventory Revision (Code §§3-1-103, 3-7-590.C.1)

To accurately quantify actual regulated emissions associated with the use of soil as daily cover, when the tipping rate exceeds 750 tons-per-day, as averaged over the preceding twelve months, Permittee shall commence a soil-moisture testing program. Permittee shall prepare and submit for the Control Officer's approval a testing program, which at a minimum shall employ ASTM or other recognized testing methods.

The soil obtained for testing shall be collected from the bottom cut of soil stockpiled for the purposes of application of daily cover, and shall be obtained prior to the application of water for dust control. The soil testing program shall proceed on a quarterly basis, for not less than one year in order to achieve a site-specific seasonally representative soil moisture content. Since the program is not meant to be a perpetual obligation, the program shall cease upon written notification by the Director that the intent and purpose of the program has been fulfilled. Subsequent emission inventory submittal shall use the test-determined average soil moisture content in calculating emissions under AP-42 Section 13.2.4-6 Eq. (1).

3. Petroleum Contaminate Soils (PCS) Monitoring

- a. Permittee shall request laboratory results from each supplier of PCS indicating that the concentrations of organic compounds in the soil do not exceed the "Hazardous Waste" level designations as defined in the Arizona Revised Statutes (A.R.S) §49-921(5).
- b. Permittee shall inspect all deliveries of PCS at the gate to ensure that they do not contain any free liquids. Records of these inspections shall be kept.

4. Leachate Recycling Monitoring and Testing
(Code §§1-3-140.10, 3-1-103, 5-24-1030.D)

To allow verification of the projected data upon which this permit is based, Permittee shall determine and record the volume of leachate withdrawn from the collection system.

5. Collection and Control System Compliance Provisions [*40 CFR §60.755(a) and (b)*]

- a. If the facility is required to install a collection and control system; unless an alternative is approved, the specified methods in paragraphs i. through vi. below shall be used to determine whether the gas collection system is in compliance with the requirements of this permit

- i. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance, 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 Control Officer. If k has been determined as specified in a Tier 3 analysis, 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.

1. For sites with unknown year-to-year solid waste acceptance rate:

$$Q_m = 2L_oR(e^{-kc} - e^{-kt})$$

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, Mg/yr

k = methane generation constant, years⁻¹

t = age of the landfill at equipment installation plus the time the Permittee intends to use the gas remover 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 $e^{-kc} = 1$)

2. For sites with known year-to-year solid waste acceptance rate:

$$Q_m = 32k L_o M_i (e^{-kt_i})$$

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

k = methane generation constant, years⁻¹

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

M_i = mass of solid waste in the i th section, years

t_i = age of the i th section, years

3. 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 above. If the landfill is still accepting waste, the actual measured flow data will not equal the maximum expected gas generation rate. Therefore, calculations using the equations 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.

- ii. For the purposes of determining sufficient density of gas collectors for, the Permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the Control Officer, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards.
- iii. For the purposes of demonstrating whether the gas collection system flow rate is sufficient to determine compliance, the owner or operator 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 5 calendar days, except for the three conditions allowed under §60.753(b). If negative pressure cannot be achieved without excess air infiltration within 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 time line for correcting the exceedances may be submitted to the Control Officer for approval.
- iv. Owners or operators are not required to expand the system as required in subsection iii above, during the first 180 days after gas collection system startup.

- v. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the owner or operator shall monitor each well monthly for temperature and nitrogen or oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 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 exceedance of other operational or performance standards. An alternative time line for correcting the exceedances may be submitted to the Control Officer for approval.
- vi. An owner or operator seeking to demonstrate compliance, through the use of a collection system not conforming to the specifications provided in §60.759 shall provide information satisfactory to the Control Officer as specified in §60.752(b)(2)(i)(c) demonstrating that off-site migration is being controlled.
- vii. For the purpose of compliance with §60.753(a), each owner or operator of a controlled landfill shall place each well or design component as specified in the approved design plan as provided in §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:
 - 1. 5 years or more if active; or
 - 2. 2 years or more if closed or at final grade.

b. **Methane Concentration Limits for an Active Collection System**
[40 CFR §60.755(c)]

The following procedures shall be used to determine compliance with the surface methane operational standard.

- i. 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 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 Section §6.A.5.c of this permit.
- ii. 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 the perimeter wells.
- iii. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A of the 40 CFR §60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.

- iv. Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the action specified in 1 through 5 below shall be taken. As long as the specified actions have been taken, the exceedance is not a violation of the operational requirements.
 - 1. The location of each monitored exceedance shall be marked and the location recorded.
 - 2. 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 10 calendar days of detecting the exceedance.
 - 3. 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 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, then the action specified in subsection 5 shall be taken, and further monitoring of that location is required until the action specified in subsection 5 has been taken.
 - 4. 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 subsections B and C shall be re-monitored 1 month from the initial exceedance. If the 1 month re-monitoring shows a concentration less than 500 parts per million (ppm) above background, then no further monitoring of that location is required until the next quarterly monitoring period. If the 1 month re-monitoring shows an exceedance, then the actions specified in subsections C or E shall be taken.
 - 5. For any location where the monitored methane concentration equals or exceeds 500 ppm 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 Control Officer for approval.
- v. The Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
- c. Surface Emission Monitoring Devices for an Active Collection System
[40 CFR §60.755(d)]

The Permittee shall comply with the following instrumentation specifications and procedures for surface emission monitoring devices:

- i. The portable analyzer shall meet the instrument specifications provided in section 3 of Method 21 of appendix A of 40 CFR §60, except that “methane” shall replace all references to VOC.
 - ii. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air.
 - iii. 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.
 - iv. 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.
- d. The provisions specified in Section §6.A.5 apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices.

6. **Monitoring of Collection and Control System Operations**
[40 CFR §60.756(a) through (f)]

a. **Active Collection System**

Unless an alternative has been approved:

- i. The Permittee shall install a sampling port and a thermometer, or other temperature measuring device, or an access port for temperature measurements at each wellhead and:
 1. Measure the gauge pressure in the gas collection header on a monthly basis; and
 2. Monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis; and
 3. Monitor temperature of the landfill gas on a monthly basis.

b. **Enclosed Combustors**

Permittee shall calibrate, maintain, and operate according to the manufacturer’s specification, the following equipment:

- i. A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 °C, whichever is greater. A temperature monitoring device is not required for boilers or

process heaters with design heat input capacity equal to or greater than 44 megawatts.

- ii. A device that records flow to or bypass of the control device. Permittee shall either:
 - A. Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device every 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.

c. Open Flares

Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

- i. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or at the flame itself to indicate the continuous presence of a flame.
- ii. A device that records flow to or bypass of the flare. The Permittee shall either:
 - A. Install, calibrate, and maintain a gas flow rate measuring device that shall record the flow to the control device at least every 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.

d. Surface Methane Monitoring Devices

Permittee shall monitor surface concentrations of methane according to the instrument specifications and provisions specified Section §6.A.5.c 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.

e. Other Devices

If the Permittee uses a device other than an open flare or an enclosed combustor, the Permittee shall provide information satisfactory to the Control Officer, describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Control Officer shall review the information and either approve it, or request that additional information be submitted. The Control Officer may specify additional appropriate monitoring procedures.

f. Alternative

If the Permittee seeks to install a collection system that does not meet the specifications in Section §5.B.6 of this permit for an active collection system or seeks to monitor alternative parameters shall provide information satisfactory to the Control Officer, describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Control Officer may specify additional appropriate monitoring procedures.

7. Testing of Collection and Control System Operations

[Currently federally enforceable pursuant to PCAQCD Reg. 3-1-170 (11/3/93) approved as a SIP element at 65 FR 79742]

a. Initial Testing

Permittee shall conduct initial performance tests within 180 days of start-up of the control system utilizing EPA Method 22, and in accordance with Section §5.B.3 of this permit.

b. Subsequent Testing

Unless a different flare or other approved control system is installed, flare tests shall be performed annually utilizing EPA Method 22, no later than the anniversary date of the initial performance test. If a different flare or other approved control system is installed the initial testing listed above shall be repeated.

c. Test Protocols

Required tests shall use standard EPA test methods (40 CFR Part 60). At least sixty (60) days before the test, Permittee shall submit a test protocol to PCAQCD for review and approval.

d. Test Reports

Test reports shall be submitted to the District for approval within forty-five (45) days after the test.

B. Recordkeeping

[Mandated by 40 CFR §70.6(a)(3)] (Code §3-1-083.A.2)

1. General NSPS-related Recordkeeping Requirements

- a. Monitoring-related Records
[Federally enforceable pursuant to Code §6-1-030.1 and 40 CFR Part 60, Subpart A, namely 40 CFR §60.7(f)]

Permittee shall maintain, either at the source or at a centralized location, a file of all measurements, including monitoring-system-, monitoring-device-, and performance-testing measurements; all monitoring system performance evaluations; all monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.

- b. Excess Emission Records
[Federally enforceable pursuant to Code §6-1-030.1 and 40 CFR §60.7(b)]

Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, malfunction or period of excess emissions in the operation of the permitted facility or any air pollution control equipment.

2. Dust Suppression Activity Records
[Federally enforceable - PGCAQCD Reg. 7-3-1.2 (3/31/75) approved as a SIP Element at 43 FR 50531 (11/15/78); Code §4-2-040., as limited by §1-1-105 (10/12/95), approved as SIP Elements at 61 FR 15717 (4/9/96)]

To provide a reasonable demonstration of effort with regard to applying water for purposes of dust suppression, Permittee shall maintain a daily log for each day the facility is open, and shall enter either:

- a. the quantity of water applied; or
- b. the reason why water was not applied (*e.g.* "it rained all day", "traffic was below the threshold that triggers a watering requirement," or "the haul roads were visibly damp.")

3. Landfill-NSPS-specific Records
[Federally enforceable pursuant to 40 CFR §60.758.a and 60.758.b and Code §§1-3-140.15 and 1-3-140.58.k]

- a. Permittee shall keep for at least 5 years up-to-date, readily accessible, on-site records of the maximum design capacity, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable.

- b. Permittee is expected to have:

- i. The maximum expected gas generation flow rate as calculated in Section §6.A.5.a.i. The Permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the Control Officer.

- ii. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in Section §5.B.6.a.
- c. Permittee using an enclosed combustion device other than a boiler or a process heater with a design heat input capacity equal to or greater than 44 megawatts is expected to have;
 - i. The average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test.
 - ii. The percent reduction of NMOC determined by the control device.
- d. Permittee using a boiler or process heater of any size is expected to have a description of the location at which the gas collection vent stream is introduced into the boiler or process heater over the same time period of the performance testing.
- e. Permittee using an open flare, the flare type (i.e. steam assisted, air assisted, or nonassisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in 40 CFR §60.18, is expected to have continuous records of the flare pilot flame or flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.

4. Collection and Control Equipment Operating Parameters

[Federally enforceable pursuant to 40 CFR §60.758(a) and 60.758(c), (d) and (e)]

Permittee shall keep 5 years up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored in this permit. Permittee shall have up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test were exceeded.

- a. The following constitute exceedances that shall be recorded and reported under Section §7:
 - i. For enclosed combustors except for boilers and process heaters with design heat input capacity of 44 megawatts (150 million British thermal Units per hour) or greater, all 3 hour periods of operation during which an average combustion temperature was more than 28EC below the average combustion temperature during the most recent performance test at which compliance was determined.
 - ii. For the boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone.
- b. 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 used to seal bypass lines.

- c. If the Permittee uses a boiler or process heater with a design heat input capacity of 44 megawatts or greater, then the Permittee shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Example of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State, local, Tribal, or Federal regulatory requirements.)
- d. If the Permittee uses an open flare, the Permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.

5. Plot Map

[Federally enforceable pursuant to 40 CFR §60.758(e)]

Permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map which shows each existing and planned collector in the system and provides a unique identification location label for each collector.

- a. The Permittee shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors.
- b. The Permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection, as well as any nonproductive areas excluded from collection.

6. Exceedance Records

[Federally enforceable pursuant to 40 CFR §60.758]

Permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standard of this permit, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.

7. Stratospheric Ozone and Climate Protection

[Currently federally enforceable; 40 CFR Part 82 Subpart F]

If Permittee elects to allow disposal of devices that once used refrigerants, Permittee shall retain records adequate to show continuing compliance, including as necessary:

- a. Copies of the signed written statements, affirming refrigerant removal from small appliances, motor vehicle air conditioners, or motor-vehicle-air-conditioner-like appliances, shall be kept on-site; and
- b. Copies of the signed written statements from those disposing of appliances not covered under the preceding sub-paragraph, verifying customer-compliance with the certification requirements under 40 CFR §82.154.e; or
- c. Copies of verifications from "qualified parties" into whose hands Permittee is disposing of such items, as outlined above.

8. Daily Cover Requirement.
[Apparently federally enforceable under PCAQCD Permit A20500 §B.I.E.3 (4/22/94), and authority derived from EPA SIP-approval of predecessor PGAQCD NSR-program; see 43 FR 50531 (11/15/78)]
- a. Permittee shall maintain records showing that cover was applied on at least a daily basis during active days; equipment operating logs may be used for this purpose.
 - b. Permittee shall maintain records showing, on a calendar-month-basis, the quantity of auto shredder fluff used as daily cover at the facility.
 - c. Permittee shall maintain records of the amount of PCS brought on the site on a monthly basis, along with laboratory results for each of the deliveries, showing that the delivery contained no hazardous waste, and records of the gate inspections for free liquids. The PCS records shall contain:
 - i. Tons of PCS received;
 - ii. Type of contamination (TCH, BTEX...)
 - iii. The maximum and average TCH and/or BTEX expressed in mg/kg;
 - iv. Potential VOC emissions calculated as follows:
$$\text{VOC (tons)} = \text{PCH (mg/kg)} \times 10^{-6} \times \text{tons of soil}$$
$$\text{VOC (tons)} = \text{BTEX (mg/kg)} \times 10^{-6} \times \text{tons of soil}$$
9. Startup, Shutdown and Malfunction Recordkeeping
[Currently Federally Enforceable, 40 CFR §63.1980(b) and §63.10(b)]
- Permittee shall maintain relevant records of the following:
- a. The occurrence and duration of each startup, shutdown or malfunction of operation (i.e. process equipment),
 - b. The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment,
 - c. All required maintenance performed on the air pollution control and monitoring equipment,
 - d. Actions taken during SSM periods (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSM plan,
 - e. All information necessary to demonstrate conformance with the SSM plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent

with the procedures specified in such plan. (The information needed to demonstrate conformance with the SSM plan may be recorded using a checklist, or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events).

- C. Stationary Reciprocating Internal Combustion Engines (RICE) Compliance Demonstration for NESHAP 40 CFR 63 Subpart ZZZZ
1. Non-emergency Generator Maintenance Requirements
[Currently federally enforceable; 40 CFR 63.6625(e),(f),(h),(i)]
 Generators that commenced construction before June 12, 2006 must:
 - i. Operate and maintain engine according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions.
 2. Non-emergency Generator Recordkeeping
[Currently federally enforceable; 40 CFR 63.6655]
 - i. Record the occurrence and duration of each malfunction of operation and the corrective actions taken.
 - ii. Record when the required maintenance was performed.
- D. Stationary Compression Ignition (CI) Internal Combustion Engine (ICE) Operational Compliance Demonstration for NSPS 40 CFR 60 Subpart IIII
[Federally enforceable; 40 CFR §60.4211.a and c]
1. All engines and control devices must be installed, configured, operated and maintained according to the specifications and instructions provided by the engine manufacturer.
 2. Owners and operators of 2007 or later model year engines must demonstrate compliance by:
 - i. Purchasing an engine that is certified to meet non-road emission standards for the model year and maximum engine power.
- E. Hours of Operation Records
(Code §§3-1-083.A, 3-1-103)

Permittee shall record the number of hours of operation of each non-emergency engine in support of the annual emissions inventory required by this permit.

7. Reporting Obligations

- A. Regular Compliance Reporting
[Mandated by 40 CFR §70.6(a)(3)] (Code §3-1-083.A.3.a)

Permittee shall submit a semi-annual report containing a summary of the information required to be recorded pursuant to this permit, which summary shall clearly show that Permittee has

complied with the operational and emissions limitations under this permit. All instances of deviations from permit requirements shall be clearly identified in such reports. For brevity, such deviation reports may incorporate by reference any written supplemental upset reports filed by Permittee during the reporting period. The report shall be submitted to the District within 30 days after the end of each calendar half. Appendix A of this permit is a form which may be used for the report.

B. Regular Compliance/Compliance Progress Certification
[Mandated by 40 CFR §70.6(c)(5)] (Code §3-1-083.A.4)

Permittee shall annually submit a certification of compliance with the provisions of this permit. The certification shall be separately submitted to both the District and to the Enforcement Office (AIR 5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901. The certification shall:

1. Be signed by a responsible official, as defined in Code §3-1-030.18;
2. Identify each term or condition of the permit that is the basis of the certification;
3. State the compliance status with respect to each such term or condition;
4. State whether compliance with respect to each such term or condition has been continuous or intermittent;
5. Identify the method(s) used for determining the compliance status of the source, currently and over the reporting period; and
6. Be postmarked within thirty (30) days of the start of each calendar year.

C. Annual Emissions Inventory
[Code §§3-1-103, 3-7-590.C.1.]

Permittee shall complete and submit to the District an annual emissions inventory, disclosing actual emissions for the preceding calendar year. The submittal shall be made on a form provided by the District. The inventory is due by the latter of March 31st, or ninety (90) days after the form is furnished by the District.

D. Reporting Operational Changes

1. Asbestos NESHAP Emission Standards; Standard for Active Waste Disposal Sites; Closure Notification
[Currently federally enforceable; 40 CFR Part 61, Subpart M] (Code §§7-1-030, 7-1-060)

a. Closure notification requirement

Upon facility closure, Permittee shall:

- i. Submit to the Control Officer a copy of the asbestos waste disposal locations and quantities.

- ii. Comply with all of the requirements of 40 CFR §61.151, including those pertaining to post-closure obligations.

E. NSPS Reporting

[Federally enforceable pursuant to Code §6-1-030.1 and 40 CFR §60.757(a)(4)]

1. Generally.

Permittee shall provide to the District and to the Regional EPA Office (Regional Administrator c/o Air Division Permits Office, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901) notification of any physical or operational change which may increase the emission rate of any air pollutant to which a standard applies, unless the change is specifically exempted under 40 CFR § 60.14(e) or 40 CFR Part 60, Subpart WWW. The notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change.

2. Landfill NSPS Annual Emission Estimate Reports

a. *See §5.B. above.*

b. Permittee is exempted from the requirements of Sections §5.B.2 after the installation of a collection and control system in compliance with Section §5.B.3 during such time that the collection and control system is in operation and in compliance with this permit.

c. If actions taken by the Permittee during SSM of the source (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSM plan, the Permittee shall state such information in an SSM report. Such a report shall identify any instance where any action taken by the Permittee during SSM (including actions taken to correct a malfunction) is not consistent with the SSM plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The SSM report shall consist of a letter, containing the name, title and signature of the Permittee or other responsible official who is certifying its accuracy, which shall be submitted to the Control Officer semiannually. The SSM report shall be delivered or postmarked by the 30th day following the end of each calendar half.

d. Any time an action taken by the Permittee during an SSM event is not consistent with the procedures specified in the SSM plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the Permittee shall report the actions taken for that event (via telephone call or facsimile transmission) to the Control Officer within 2 working days after commencing actions inconsistent with the plan followed by a letter (containing the name, title and signature of the responsible official who is certifying its accuracy) delivered or postmarked within 7 working days after the end of the event. The letter shall explain the circumstances of the event, the reasons for not following the SSM

plan, and describe all excess emissions and/or parameter monitoring exceedances which are believed to have occurred.

3. Active Collection Systems Semi Annual Report

The Permittee using an active collection system shall submit to the Control Officer reports of the recorded information in paragraphs 1-6 of this section every 6 months. 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 in Section §6.B.4.

- a. Value and length of time for exceedance of applicable parameters monitored.
- b. 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.
- c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
- d. All periods when the collection system was not operating in excess of 5 days.
- e. The location of each exceedance of the 500 ppm methane concentration, and the concentration recorded at each location for which an exceedance was recorded in the previous month.
- f. The date of installation and the location of each well or collection system expansion added.

4. Collection System Report

Permittee shall include the following information with the initial performance test report required under 40 CFR §60.8:

- a. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion;
- b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based;
- c. The documentation of the presence of asbestos or nondegradable material for each from which collection wells have been excluded based on the presence asbestos or nondegradable material;
- d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area;

- e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill;
- f. The provisions for controlling off-site migration.

5. Equipment Removal

The Permittee shall submit an equipment removal report to the Control Officer 30 days prior to removal or cessation of operation of the control equipment.

- a. The equipment removal report shall contain all of the following items:
 - i. A copy of the closure report submitted in accordance with Section §7.E.6 below.
 - ii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired; and
 - iii. Dated copies of three successive NMOC emissions rate reports demonstrating that the landfill is no longer producing 50 Mg/yr or greater of NMOC.
- b. The Control Officer may request such additional information as may be necessary to verify that all of the conditions for removal have been met.

6. Closure Report

The Permittee shall submit a closure report to the Control Officer within 30 days of waste acceptance cessation. The Control Officer 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 Control Officer, no additional wastes may be placed into the landfill without filing a notification of modification as described in 40 CFR §60.7(a)(4).

F. Deviation Reporting Requirement

[Mandated by 40 CFR §§70.6(a)(3)(iii)(B), 70.6(g), 40 CFR 63.6640(b)(e)] (Code §3-1-083.A.3.b.)

Permittee shall report any deviation from the requirements of this permit along with the probable cause for such deviation, and any corrective actions or preventative measures taken to the District within ten days of the earlier of date the Permittee learned, or should have learned, of the deviation unless earlier notification is required by the provisions of this permit.

G. Asbestos NESHAP Reporting Requirements

[Currently federally enforceable; 40 CFR Part 61, Subpart M] (Code §§7-1-030, 7-1-060)

- 1. Receipt, handling and disposal of asbestos containing waste received from sources covered by 40 CFR §61.159 (asbestos mills), 40 CFR §61.150 (demolition, renovation, fabricating and manufacturing), or 40 CFR §61.155 (asbestos conversion operations) must meet the following standards:
 - a. If Permittee discovers improperly enclosed or uncovered asbestos-containing waste materials, or any asbestos-containing waste material not sealed in leak-tight containers, Permittee shall by the following working day report in writing

to the Control Officer, as well as to any additional local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program for the waste generator, reporting the incident and submitting a copy of the waste shipment record.

- b. If Permittee discovers a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, Permittee shall attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, Permittee shall immediately report in writing to the Control Officer, as well as to any additional local, State, or EPA Regional Office responsible for administering the asbestos NESHAP program for the waste generator, describing the discrepancy, the attempts to reconcile the discrepancy, and submit an accompanying copy of the waste shipment record.

8. Fee Payment

[Mandated by 40 CFR §§70.6(a)(7), 70.9] (Code §3-1-081.A.9)

As an essential term of this permit, an annual permit fee shall be assessed by the District and paid by Permittee in accord with the provisions of Code Chapter 3, Article 7 generally, and Code §3-1-081.A.9. The annual permit fee shall be due on or before the anniversary date of the issuance of an individual permit, or formal grant of approval to operate under a general permit. The District will notify the Permittee of the amount to be due, as well as the specific date on which the fee is due.

9. General Conditions

- A. Term
[Mandated by 40 CFR §70.6(a)(2)] (Code §3-1-089)

This permit shall have a term of five (5) years, measured from the date of issuance.

- B. Basic Obligation
[Mandated by 40 CFR §§70.4(b)(15), 70.6(a)(6)(i), 70.6(a)(6)(ii), 70.7.b] (Code §3-1-081.)

1. The owner or operator ("Permittee") of the facilities shall operate them in compliance with all conditions of this permit, the Pinal County Air Quality Control District ("the District") Code of Regulations ("Code"), and consistent with all State and Federal laws, statutes, and codes relating to air quality that apply to these facilities. Any permit noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application and may additionally constitute a violation of the Clean Air Act (1990).
2. All equipment, facilities, and systems used to achieve compliance with the terms and conditions of this permit shall at all times be maintained and operated in good working order.
3. 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.

- C. Duty to Supplement Application
[Mandated by 40 CFR §§70.5(b), 70.6(a)(6)(v)] (Code §3-1-081.A.8.e.)

Permittee shall furnish to the District within a reasonable time, which shall not exceed thirty days unless the Control Officer fixes some other time period for response, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking, reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required under this permit. For information claimed to be confidential, Permittee shall submit along with the requested information or records a showing as required under Code §3-1-120, and shall separately submit a full duplicate copy to the EPA Regional Office (Regional Administrator c/o Air Division Permits Office, EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901).

D. Right to Enter
[Mandated by 40 CFR §70.6(c)(2)] (Code §§ 3-1-083.A.6, 3-1-132)

Authorized representatives of the District shall, upon presentation of proper credentials and while observing reasonable standard safety requirements as set forth by the owner or operator of the source, be allowed for purposes of ascertaining compliance with this permit and with other applicable requirements:

1. To enter upon the premises where the source is located, where emissions-related activity is conducted, or in which any records are required to be kept under the terms and conditions of this permit;
2. To inspect any equipment, operation, or method required in this permit; and
3. To sample or monitor emissions from the source, or other substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements;
4. To have access to and copy, at reasonable times, any records that are required to be kept under the conditions of this permit; and
5. To record any inspection by use of written, electronic, magnetic and photographic media.

E. Transfer of Ownership
[Mandated by 40 CFR §70.7(d)(4)] (Code §3-1-090)

This permit may be transferred under an administrative permit amendment from one person to another by notifying the District at least 30 days in advance of the transfer. The notice shall contain all the information and items required by Code § 3-1-090. The transfer may take place if not denied by the District within 10 days of the receipt of the transfer notification.

F. Posting of Permit
(Code §3-1-100)

Permittee shall firmly affix the permit, an approved facsimile of the permit, or other approved identification bearing the permit number, upon such building, structure, facility or installation for which the permit was issued. In the event that such building, structure, facility or installation is so constructed or operated that the permit cannot be so placed, the permit shall be mounted so as to be clearly visible in an accessible place within a reasonable distance of the equipment or maintained readily available at all times on the operating premises.

G. Permit Revocation for Cause

[Mandated by 40 CFR §70.6(a)(6)(iii)] (Code §3-1-140)

The Director of the District ("Director") may issue a notice of intent to revoke this permit for cause pursuant to Code §3-1-140, which cause shall include occurrence of any of the following:

1. The Director has reasonable cause to believe that the permit was obtained by fraud or material misrepresentation;
2. Permittee failed to disclose a material fact required by the permit application form or a regulation applicable to the permit;
3. The terms and conditions of the permit have been or are being violated.

H. Certification of Truth, Accuracy, and Completeness

[Mandated by 40 CFR §§70.5(a)(2), 70.6(a)(3)(iii)(B)] [Federally enforceable - Code §§3-1-083.A.5, 3-1-175 (as amended 10/12/95) approved as SIP Elements at 61 FR 15717 (4/9/96)]

Any application form, report, or compliance certification submitted pursuant to the Code shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under Chapter 3 of the Code shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

I. Renewal of Permit

[Mandated by 40 CFR §§70.5(a)(1)(iii), 70.7(c)] (Code §3-1-050.C.2)

Expiration of this permit will terminate the facility's right to operate unless either a timely application for renewal has been submitted in accordance with §§3-1-050, 3-1-055 and 3-1-060, or a substitute application for a general permit under §3-5-490. For Class I permit renewals, a timely application is one that is submitted at least 6 months, but not greater than 18 months prior to the date of the permit expiration. For Class II or Class III permit renewals, a timely application is one that is submitted at least 3 months, but not greater than 12 months prior to the date of permit expiration.

J. Severability

[Mandated by 40 CFR §70.6(a)(5)] (Code §3-1-081.A.7)

Pursuant to Code § 3-1-081.A.7., the provisions of this permit are severable, and if any provision of this permit is held invalid the remainder of this permit shall not be affected thereby.

K. Permit Shield

[Mandated by 40 CFR §70.6(f)] (Code § 3-1-102.)

Subject to the following schedule of exclusions¹, compliance with the terms of this permit shall be deemed compliance with any applicable requirement identified in this permit. The permit-shield exclusions include:

1. Pinal-Gila Counties Air Quality Control District ("PGCAQCD") Rule §7-1-2.6 Recordkeeping and Reporting (3/31/75);
2. PGCAQCD Rule §7-2-1.8 Anti-Degradation;

¹ See the Technical Support Document for an explanation of the exclusions.

3. PGCAQCD Rule §7-3-1.3 Open Burning;
4. Any part of 40 CFR Part 60, Subpart WWW not expressly listed as an Applicable Requirement in §2 of this permit².

L. Permit Revisions

[Mandated by 40 CFR §70.7(d), 70.7(e)] (Code Chapter 3, Article 2, specifically Code §3-1-081.A.8.c)

1. This permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
2. Permit amendments, permit revisions, and changes made without a permit revision shall conform to the requirements in Article 2, Chapter 3, of the Code.

M. Permit Re-opening

[Mandated by 40 CFR §§70.6(a)(6)(iii), 70.7(f), 70.7(g)] (Code §3-1-087.)

1. This permit shall be reopened if either:
 - a. Additional applicable requirements under the Clean Air Act (1990) become applicable to this source, and on that date, this permit has a remaining term of three or more years. Provided, that no such reopening under this subparagraph is required if the effective date of the newly applicable requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to Code §3-1-089.C.
 - b. The Control Officer determines that it contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of it;
 - c. The Control Officer determines that it needs to be revised or revoked to assure compliance with the applicable requirements; or
 - d. The EPA Administrator finds that cause exists to terminate, modify, or revoke and reissue this permit.
2. If this permit must be reopened for cause, the District will notify the permittee in accord with Code §3-1-087.A.3.

N. Record Retention

[Mandated by 40 CFR §70.6(a)(3)(ii)(B)] (Code §3-1-083.A.2.b)

Permittee shall retain for a period of five (5) years all documents required under this permit, including reports, monitoring data, support information, calibration and maintenance records, and all original recordings or physical records of required continuous monitoring instrumentation.

² Note that this permit includes both incorporation-by-reference of the substance of the Landfill NSPS, and also includes a number of paraphrased translations of the Landfill NSPS requirements. In so doing, this permit intends those paraphrased provisions to constitute limited guidance as to achieve *prima facie* compliance with the NSPS, but to still invoke the literal language of the standard itself as the legal standard with which the Permittee must comply in order to actually invoke a "shield."

- O. Scope of License Conferred
[Mandated by 40 CFR §70.6(a)(6)(iv)] (Code §3-1-081.A.8.d)

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

- P. Excess Emission Reports; Emergency Provision
[Mandated by 40 CFR §70.6(g)] (Code §3-1-081.E, Code §8-1-030)

1. To the extent Permittee may wish to offer a showing in mitigation of any potential penalty, underlying upset events resulting in excess emissions shall reported as follows:

- a. The permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. Such report shall be in two parts:

- i. Notifications by telephone or facsimile within 24 hours or the next business day, whichever is later, of the time when the owner or operator first learned of the occurrence of excess emissions, including all available information required under subparagraph b. below.
- ii. Detailed written notification within 3 working days of the initial occurrence containing the information required under subparagraph b. below.

- b. The excess emissions report shall contain the following information:

- i. The identity of each stack or other emission point where the excess emissions occurred.
- ii. The magnitude of the excess emissions expressed in the units of the applicable limitation.
- iii. The time and duration or expected duration of the excess emissions.
- iv. The identity of the equipment from which the excess emissions occurred.
- v. The nature and cause of such emissions.
- vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.
- vii. The steps that were or are being taken to limit the excess emissions. To the extent this permit defines procedures governing operations during periods of start-up or malfunction, the report shall contain a list of steps taken to comply with this permit.
- viii. To the extent excess emissions are continuous or recurring, the initial notification shall include an estimate of the time the excess emissions will continue. Continued excess emissions beyond the estimated date will require an additional notification.

2. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
3. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of the following subparagraph are met.
4. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The permittee submitted notice of the emergency to the Control Officer by certified mail or hand delivery within 2 working days of the time when emissions limitations were exceeded due to emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

10. Additional provisions applicable to Title V Sources

(Code §3-1-081.B.2)

Subject to the following specific exclusions, all terms and conditions of this permit are enforceable by the Administrator and citizens under the Clean Air Act. The exclusions include:

- A. Section 1. Introduction
- B. Section 9.F Posting of Permit

11. Equipment Schedule

[Mandated by 40 CFR §70.5(c)] (Code §3-1-050)

Equipment for which emissions are allowed by this permit are as follows:

- A. One landfill facility, consisting of 553 acres of landfill footprint.
- B. One generator, powered by a Caterpillar Olympian, Model XQ125, 180 HP diesel engine, installed July 2004 (IC-2)

- C. One generator powered by a Spectrum Detroit Diesel, Model 150 0S60, 130 HP diesel tipper engine, 2004, (IC-1)
- D. 55 HP diesel powered air compressor, 2004 (IC-4)
- E. 53 HP diesel powered generator, 2013 (IC-5)
- F. Candlestick flare, 54.6 mm btu/hr, John Zink Company
- G. Diesel generator, 113 HP, Multiquip, Model #DCA85USJ, Mfg. date 2018

12. Insignificant Activities:

- A. 5,000 gallon aboveground diesel tank.
- B. 15 HP diesel powered light plant engine, 2004 (IC-3)
- C. 20 HP gasoline powered pressure washer, 2017 (IC-6)
- D. 2,000 gallons above ground diesel tank

**Appendix A: Semi-annual Report
Permit V20680.R01**

Abstract - This constitutes a semi-annual report, documenting emissions and emission-related activity during the subject reporting period.

Facility - Cactus Waste Systems, LLC
22481 East Deep Well Ranch Road
Florence, Arizona 85132

Reporting Period - January to June __ or July to December __ Year_____

Parametric Emissions Report

Waste deposited _____ (This period)
Quantity Units

Amount of PCS used as cover _____ tons

Estimated VOC emissions from PCS cover _____ tons

Engines Compliance

Operational hours of the IC-1 (Tipper Engine) - _____ hours

Operational hours of the IC-2 (Generator) - _____ hours

Operational hours of the IC-4 (Air Compressor) - _____ hours

Operational hours of the IC-5 (Portable Generator) - _____ hours

Operational hours of the IC-7 (Rental Generator) - _____ hours

Were the emissions standards for IC-2 and IC-5 met as required in Section §5.C of this permit?
Yes_____ No_____

Were the maintenance requirements for engines IC-1 and IC-4 met as required in Section §5.D of this permit?
Yes_____ No_____

Monitoring Verification

If the 750 tons/day tipping rate was exceeded, did Permittee conduct a Soil Moisture Determination as required by §6.A.2?

Were deliveries of PCS inspected at the gate in accordance with §6.A.3? Yes_____ No_____

Was the generator maintenance require by §6.C performed? Yes_____ No_____

Was diesel fuel with more than 0.8% sulfur or 15 ppm used during the reporting period? Yes_____ No_____ (Attach records of such occurrences with the dates)

Record Generation Verification

Were the required records of each of the following maintained?

- Water sprayed for dust suppression? Yes_____ No_____
- Asbestos cell size and location? Yes_____ No_____
- Asbestos waste shipment records? Yes_____ No_____
- Did this facility prohibit disposal of refrigerant-containing mechanical equipment?
Yes_____ No_____

If on-site disposal was allowed, were written statements collected regarding refrigerant removal from

- Small appliances/MVACs? Yes_____ No_____
- Larger appliances? Yes_____ No_____

If collected equipment is disposed off-site, is written verification of contractor certification retained?

- The sulfur content in diesel fuel? Yes_____ No_____
 - Daily cover logs? Yes_____ No_____
 - Monthly records of auto shredder fluff used for daily cover? Yes_____ No_____
 - Did this facility experience any excess emission incidents? Yes_____ No_____
- If so, were excess emission reports timely filed? Yes_____ No_____

Collection and Control

Performance Testing

- Was the initial performance test completed within 180 days of initial startup of the control system as required by §6.A.7.a? Yes_____ No_____
- Was the annual Method 22 test conducted on the flare as required by §6.A.7.b? Yes_____ No_____
- Were test protocols and results submitted as required by §6.A.7.c and d? Yes_____ No_____

Were the following records maintained?

- Maximum gas generation flow rate as calculated in §6.A.5.a.i & as required by §6.B.3.b.i
Yes_____ No_____
- Density of wells, horizontal collectors, surface collectors or other gas extraction devices as required by §6.B.3.b.i? Yes_____ No_____
- All visible emission readings from the flare, heat content determination, flow rate and exit velocity determinations made during the performance test as required by §6.B.3.e? Yes_____ No_____
- Periods of operation during which parameters determined by the most recent test were exceeded as required by §6.B.4? Yes_____ No_____
- Indication of flow to the control device or indication of bypass or records of monthly inspection of items used to seal bypass as required by §6.B.4.b? Yes_____ No_____

- Flare flame or pilot flame monitoring and periods of operation in which the flame or flare pilot flame were absent as required by §6.B.4.d? Yes_____ No_____
- A plot map as required by §6.B.6? Yes_____ No_____
- All collection and control system exceedances of the operational standards of the permit as required by §6.B.6 Yes_____ No_____
- The information required in §6.B.9 for each SSM? Yes_____ No_____

SSM Plan

- Has Permittee developed and implemented a written SSM plan per §5.E? Yes_____ No_____
- If a SSM occurred was the semi-annual SSM report required by §7.E.2.c submitted?
Yes_____ No_____
- Were any actions during an SSM not consistent with the SSM plan and if so was it report as required by §7.E.2.d Yes_____ No_____
- Was the semi-annual active collection report submitted as required by §7.E.3 and §7.E.4?
Yes_____ No_____

Certification by Responsible Official

I certify that, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate and complete.

Signed _____

Printed Name _____

Title _____

Date _____

Contact Phone Number _____

Mail to - Pinal County Air Quality Control District
P.O. Box 987
Florence, AZ 85132