

**GUAM EPA
TITLE V FEDERAL OPERATING PERMIT
STATEMENT OF BASIS**

Layon Municipal Solid Waste Landfill

Permit No. FO-020

Facility ID:	FO-020
Facility Name:	Layon Municipal Solid Waste Landfill
Mailing Address:	P.O. Box 2977 Inarajan, Guam 96932
Responsible Official:	Christopher A. Lund; Gershman, Brickner, & Bratton, Inc. (GBB)
Title:	Receiver for the Court
Phone Number:	(671) 646-3249
Contact Name:	Christopher A. Lund; Gershman, Brickner, & Bratton, Inc. (GBB)
Title:	Receiver for the Court
Phone Number:	(671) 646-3249
Person Responsible for Recordkeeping:	Christopher A. Lund; Gershman, Brickner, & Bratton, Inc. (GBB)
Title:	Receiver for the Court
Phone Number:	(671) 646-3249

I. Purpose

The purpose of this engineering evaluation is to identify all applicable requirements, determine if the facility will comply with those applicable requirements, and provide the legal and factual basis for proposed permit conditions.

II. Facility Location

The Layon Landfill facility is located in Inarajan, Guam.

III. Description of Facility Operations

The facility is a waste disposal facility that accepts and processes the municipal solid waste from the Island of Guam under the SIC 4953.. The sources that have the potential to cause

significant emissions of air pollutants are the landfill surface where the fugitive landfill gas is emitted and the flare to be installed for the purpose of combusting captured landfill gas. There are no insignificant emission sources.

IV. Equipment Listing and Permitting History

A listing of all permitted equipment at the facility is presented in the table below.

Emission Unit Number	Unit Description	Associated Control Equipment
FL-1	Landfill Gas Flare	n/a
LF-1	Landfill Gas Surface Emissions	FL-1

V. Potential to Emit

The annual potential to emit for each significant emission unit is presented below.

Emission Unit Number	Potential to Emit (tons/year)						
	NO _x	VOC	SO ₂	PM ₁₀	CO	Lead	HAP
LF-1	--	96.4	--	--	1.1	--	3.3
FL-1	24.5	17.4	5.8	6.9	61.2	--	0.6
TOTAL	24.5	113.8	5.8	6.9	62.3	--	3.9

VI. Guam Requirements

The following table lists the applicable requirements from the Guam Air Pollution Control Standards and Regulations (GAPCSR) and from the approved Guam State Implementation Plan (SIP). For rules where an applicability determination was required, a discussion is included below.

Section 1103.2	Guam Ambient Air Quality Standards
Section 1103.3	Visible Emissions
Section 1103.4	Fugitive Dust
Section 1103.11	Open Burning
Section 1103.12	Control of Odors in Ambient Air
Section 1103.13	Asbestos
Section 1104	Permit Program Regulations
Section 1106.2	New Source Performance Standards
SIP, Section 7.5	Particulate Emissions from Fuel Combustion

VI.A. Particulate Matter (PM) Limits for Fuel Burning Equipment

Section 7.5 of the GEPA SIP requires that for fuel burning equipment between 1 MMBtu/hr and 1,000 MMBtu/hr in size, the allowable particulate emissions shall be calculated using the following equation:

$$Y = 1.02 X^{-0.231}$$

Where:

Y = Allowable particulate emission rate (lb/MMBtu)

X = Operating rate (MMBtu/hr)

Assuming a landfill gas methane content of 50%, a methane heating value of 1,012 Btu/scf, and a maximum collection landfill gas rate of 1,845 scfm, the flare is subject to this limit.

The allowable PM emission rate for this unit was calculated based on operating load and the equation outlined above. The resulting PM emission limit for this emission unit is 0.40 lb/MMBtu. GEPA believes that no additional monitoring is necessary to ensure compliance with this process weight rate limit.

VII. Federal Requirements

The following table lists the applicable requirements from United States Environmental Protection Agency (USEPA) regulations. For rules where an applicability determination was required, a discussion is included below.

40 CFR Part 60, Subpart A	NSPS General Provisions
40 CFR Part 60, Subpart WWW	NSPS for Municipal Solid Waste Landfills
40 CFR Part 61, Subpart M	Asbestos
40 CFR Part 63, Subpart AAAA	National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

VII.A. New Source Performance Standards

VII.A.1 Municipal Solid Waste Landfills

The applicability of the New Source Performance Standard for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) was reviewed, and it was determined that this regulation applies to the facility. NSPS Subpart WWW applies to municipal solid waste landfills that commenced construction, reconstruction or modification on or after May 30, 1991. The Layon Landfill facility will be constructed after this date, so this NSPS applies. As a result, these requirements have been incorporated into the Title V permit for this facility.

VII.B. National Emission Standards for Hazardous Air Pollutants

VII.B.1 Municipal Solid Waste Landfills

The applicability of the NESHAP for municipal solid waste landfills (40 CFR Part 63, Subpart AAAAA) was evaluated for the facility. Subpart AAAAA applies to municipal solid waste landfills that have accepted waste since November 8, 1997 or have additional capacity for waste deposition and meet one of the following three criteria:

1. The municipal solid waste landfill is a major source as defined in 40 CFR 63.2;
2. The municipal solid waste landfill is collocated with a major source as defined in 40 CFR 63.2; or
3. The municipal solid waste landfill is an area source landfills that has a design capacity greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m³) and has estimated uncontrolled emissions greater than or equal to 50 Mg/yr NMOC as calculated according to §60.754(a) of the municipal solid waste landfills NSPS in 40 CFR part 60, subpart WWW, the Federal plan, or a USEPA approved and effective State or tribal plan that applies to the landfill.

The landfill is not a major source of HAPs as defined in 40 CFR 63.2 (i.e., 10 tpy or more of any single HAP or 25 tpy of any combination of HAPs) and, therefore, does not meet the first two criteria listed above. The maximum design capacity of the landfill is 9.9 million tons (9.0 million Mg) and potential uncontrolled NMOC emissions are 964 tpy (875 Mg/yr). Therefore, this NESHAP applies to the landfill. As a result, these requirements have been incorporated into the Title V permit for this facility.

VII.C. Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) is intended to provide a reasonable assurance of compliance with applicable requirements for large emission units that rely on pollution control device equipment to achieve compliance. The CAM regulations can be found in 40 CFR Part 64. CAM applicability is determined on a pollutant-specific basis. According to these regulations, an emission unit that meets all of the following criteria is subject to CAM:

1. The unit is located at major source required to obtain Part 70 or 71 permit;
2. The unit is subject to an emission limitation for the applicable pollutant;
3. The unit uses a control device (as defined by 40 CFR 64.1) to achieve compliance;
4. The potential precontrolled emissions of an applicable pollutant from the unit are equal to or greater than the major source threshold for that pollutant; and
5. The unit is not otherwise exempted by the CAM regulations.

Regarding the first requirement, the CAM rule (in 40 CFR 64.1) states that “*Part 70 or 71 permit* shall have the same meaning as provided under [40 CFR 70 or 71] provided that it shall also refer to a permit issued, renewed, amended, revised, or modified under any federal permit program promulgated under Title V [of the Clean Air Act].”

After receiving a special exemption from USEPA, GEPA has adopted an “alternate operating permit program” according to the requirements of 40 CFR 69.13. As a result, it was not immediately clear whether this program satisfied the definition in the CAM rule. USEPA Region 9 was consulted on this matter, and made a determination that GEPA’s alternate operating permit program was promulgated under Title V of the Clean Air Act, so facilities located on Guam are potentially subject to CAM.

The surface landfill gas emissions (Unit LF-1) are the only significant source of emissions at this facility and the VOC emissions from this source are controlled by the flare (Unit FL-1). Therefore, only surface landfill gas VOC emissions were further evaluated for CAM applicability.

VII.C.1 CAM Applicability: Unit LF-1 VOC Emissions

Requirement	Requirement Satisfied?	Discussion
Unit located at major source required to obtain Part 70 or 71 permit	Yes	USEPA has determined that the GEPA permit program satisfies this requirement (see above discussion)
Unit subject to emission limitation	Yes, if NMOC emissions above 50 megagrams per year.	NMOC destruction efficiency from GEPA permit and Municipal Solid Waste Landfill NSPS
Unit uses a control device (as defined by 40 CFR 64.1) to achieve compliance	Yes	Flare is listed as a “control device” in 40 CFR 64.1
Potential precontrolled emissions of an applicable pollutant from the unit are equal to or greater than the major source threshold for that pollutant	Yes	Potential uncontrolled NMOC emissions are 964 tpy, which is above the major source threshold of 100 tpy
Unit is not otherwise exempted by the CAM regulations	No	Unit qualifies for an exemption under 40 CFR 64.2(b)(1)(i), as discussed below

The exemptions from the CAM rule are listed in 40 CFR 64.2(b). Within this subsection, 40 CFR 64.2(b)(1)(i) contains an exemption from CAM for “emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the [Clean Air] Act.” The only limitations on VOC emissions from the proposed landfill derive from the Landfill NSPS and the Landfill NESHAP. NSPS standards are adopted pursuant to section 111 of the Clean Air Act and NESHAP standards are adopted pursuant to section 112 of the Clean Air Act, so each of these was further evaluated.

The Landfill NSPS was originally proposed on May 30, 1991 (56 FR 24468) and the Landfill NESHAP was originally proposed on November 7, 2000 (65 FR 66672). As a result, VOC emissions from the proposed landfill are not subject to CAM since these emissions are only subject to limits in standards proposed by the Administrator after November 15, 1990.

VIII. Periodic Monitoring

Requirement	Requirement Condition #	Monitoring/ Recordkeeping	Monitoring/ Recordkeeping Condition #
Landfill gas collection system operating requirements	II.B.1, II.B.2, II.C.1, and II.C.2	N/A	N/A
Capture efficiency of landfill gas collection system	II.B.3	N/A	N/A
Vent gases to flare	II.B.4	N/A	N/A
Allowable PM emission rate	II.B.5	N/A	N/A
Opacity limit	II.B.6	N/A	N/A
Gauge pressure at each individual well	II.C.1	Monthly gauge pressure measurement	II.F.1.a
Nitrogen concentration in the landfill gas	II.C.2	Monthly nitrogen concentration monitoring	II.F.1.b
Oxygen concentration in the landfill gas	II.C.2	Monthly oxygen concentration monitoring	II.F.1.b

Requirement	Requirement Condition #	Monitoring/ Recordkeeping	Monitoring/ Recordkeeping Condition #
Temperature of the landfill gas	II.C.2	Monthly temperature monitoring	II.F.1.c
Surface concentrations of methane	II.C.5	Quarterly surface methane gas sampling	II.D.2
Preventative maintenance	III.A.1	Maintenance recordkeeping	III.C.1 and III.C.2
Reasonable precautions against airborne fugitive dust	III.A.3	N/A	N/A
Fugitive dust discharge limitations	III.A.4	N/A	N/A