

Bay Area Air Quality Management District

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**Permit Evaluation
for
MAJOR FACILITY REVIEW PERMIT
Minor Revision**

**for
Guadalupe Rubbish Disposal Company
Facility #A3294**

Facility Address:
15999 Guadalupe Mines Road
San Jose, CA 95120

Mailing Address:
P.O. Box 20957
San Jose, CA 95160

Title V – Minor Revision

A. Background

This facility was issued a Major Facility Operating Permit (Title V Permit) on October 1, 2001. Since the initial issuance, Guadalupe Rubbish Disposal has requested that a number of changes be made; including changing the responsible official and plant contact, the addition of new sources, modifications to the gas collection system, and the correction of outdated or erroneous information. The District is proposing to revise the Title V permit as follows:

- Change the Responsible Official and Plant Contact from James Lord to Paul Michael
- Change the Maximum Daily Waste Acceptance Rate for the Landfill to coincide with the Solid Waste Permit.
- Add S-18, Materials Recovery Operation
- Add S-19 and S-20, Dirt Screening Operation
- Add A-9, Enclosed Landfill Gas Flare
- Add A-19, Water Spray System
- Remove expired SIP requirements for Regulation 8, Rule 34
- Remove future effective dates for applicable requirements where those dates have already passed.
- Add the future requirements of the NESHAP for Municipal Solid Waste Landfills.
- Revise and update standard text in permit.
- Update number of active landfill gas collection wells.

The proposed revisions include the addition of (3) new sources and (2) new abatement device. This equipment was added pursuant to three District permit applications, the details of which are included in the attached Engineering Evaluation Reports. The potential increase of criteria pollutant emissions from these applications is summarized as follows:

Permit Application #	Pollutant Increase (tons/yr)				
	NOx	CO	POC	SO2	PM
3072	0.000	0.000	0.000	0.000	0.121
3259	14.191	47.830	0.000	0.894	0.000
6796	1.680	0.204	0.102	0.026	0.021
Total	15.871	48.034	0.102	0.920	0.142

NOx Offsets were provided by the District’s Small Facility Banking Account in accordance with Regulation 2-4-414.

This is a “Minor Permit Revision” because none of the changes made are considered to be “significant permit revisions” as defined by BAAQMD Regulation 2-6-226.3 (e.g. the potential increase of emissions from the new sources does not meet the definition of a major modification under 40 CFR Parts 51 and 52).

B. Permit Content

The following is a brief explanation of the changes made to each section of the permit. The changes are discussed in the order in which they are presented in the permit.

I. Standard Conditions

The amendment date for various BAAQMD and SIP rules were updated or corrected.

II. Equipment

Table II A - Permitted Sources

The maximum waste acceptance rate for the Landfill S-9 was changed from 1,001 tons/day to 3,650 tons/day to correct an error in the initial Title V permit. The 1,001 tons/day limit represented an average daily waste acceptance rate rather the actual limit of 3,650 tons/day given in the facility's solid waste permit.

The Materials Recovery Operation S-18, the Dirt Screen S-19, and the Dirt Screen Diesel IC Engine S-20 were added.

Table II B – Abatement Devices

The Enclosed Gas Flare A-9 and the Water Spray System A-19 were added.

III. Generally Applicable Requirements

Changes to this section of the permit include updating the applicable requirements in Table III to reflect the current versions of the cited regulations and the addition of generally applicable requirements that were overlooked in the initial Title V permit.

IV. Source-Specific Applicable Requirements

Changes to Section IV are primarily routine and include the addition of the applicable requirements associated with newly permitted equipment, corrections of errors or oversights from the initial permit, updating the version dates and federal enforceability status of the cited regulations to reflect recent SIP approvals, and adding the requirements for the NESHAP for Municipal Solid Waste Landfills.

V. Schedule of Compliance

No changes were made to this section.

VI. Permit Conditions

The following modifications were made to the permit conditions of the Title V permit:

- Permit Condition #6188 was modified to reflect the corrected daily waste acceptance limit, the updated number of landfill gas collection wells, and the addition of the Landfill Gas Flare A-9.

- Permit Condition #16830, part 4 was corrected to change the basis of the condition from Regulation 6-301 to Regulation 6-303.
- Permit Conditions #18258, #20515, and #20516 were added for the newly permitted sources S-18, S-19, and S-20.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all ‘strike-out’ language will be deleted; all “underline” language will be retained.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes made to this section of the permit generally reflect the changes to other parts of the permit that have previously been discussed. However, since three new sources (S-18, S-19, and S-20) have been added and the Landfill S-9 has been modified by the addition of the Flare A-9, a discussion of the monitoring for these sources is warranted.

The tables below contain only the limits for which there is no monitoring or inadequate monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance.

SO₂ Sources

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-9: Landfill Gas Flare	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None
S-20: Dirt Screen IC Engine	BAAQMD 9-1-301	Property Line Ground Level SO ₂ Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None
S-20: Dirt Screen IC Engine	BAAQMD 9-1-304	Fuel Sulfur Content Limit: ≤ 0.5% sulfur by weight	Records
S-20: Dirt Screen IC Engine	BAAQMD Condition # 20516, Part 4	Fuel Sulfur Content Limit: ≤ 0.05% sulfur by weight	Records

SO₂ Discussion:

BAAQMD Regulation 9-1-301: As discussed below for BAAQMD Regulation 9-1-302 and 9-1-304, this facility will be subject to federally enforceable limits, which will ensure compliance with the BAAQMD Regulation 9-1-302 gas stream emission limit of 300 ppmv of SO₂ in the flare exhaust and with the BAAQMD Regulation 9-1-304 fuel sulfur content limit of 0.5% sulfur by weight. Sources complying with the BAAQMD Regulation 9-1-302 or 9-1-304 limits are not expected to exceed the ground level concentration limits listed in BAAQMD Regulation 9-1-301. Therefore, monitoring for ground level SO₂ concentrations in addition to the proposed landfill gas monitoring and record keeping requirements would not be appropriate.

BAAQMD Regulation 9-1-304: In accordance with BAAQMD Condition # 20516, Part 4, this facility is required to maintain records of vendor certified sulfur content for all fuels burned in the S-20 Dirt Screen IC Engine. The use of vendor certification is a standard method of monitoring for compliance with a liquid fuel sulfur content limit.

BAAQMD Condition # 20516, Part 4: In accordance with this condition, the facility is required to maintain records of vendor certified sulfur content for all fuels burned at S-20. The use of vendor certification is a standard method of monitoring for compliance with a liquid fuel sulfur content limit.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-9: Landfill Gas Flare	BAAQMD 6-301	Ringelmann 1.0	None
S-18: Materials Recovery Operation	BAAQMD 6-301	Ringelmann 1.0	Visual observation of source during operation
S-19: Dirt Screen	BAAQMD 6-301	Ringelmann 1.0	Visual observation of source during operation
S-20: Dirt Screen IC Engine	BAAQMD 6-303	Ringelmann 2.0	Visual observation of source during operation
A-9: Landfill Gas Flare	BAAQMD 6-310	≤ 0.15 grains/dscf	None
S-20: Dirt Screen IC Engine	BAAQMD 6-310	≤ 0.15 grains/dscf	None
S-18: Materials Recovery Operation	BAAQMD 6-311	40 pounds/hour, for Process Weight Rate (P) ≥ 57,320 pounds/hour	None
S-19: Dirt Screen	BAAQMD 6-311	40 pounds/hour, for Process Weight Rate (P) ≥ 57,320 pounds/hour	None

PM Discussion:

BAAQMD Regulation 6-301 for A-9 Landfill Gas Flare: Visible particulate emissions are normally not associated with combustion of gaseous fuels, such as natural gas or landfill gas. Since violations of Ringelmann 1.0 limit are not expected, periodic monitoring for the Ringelmann limit would not be appropriate for this flare.

BAAQMD Regulation 6-301 for S-18 and S-19, and Regulation 6-303 for S-20: Observing a source during operation is a standard method of monitoring for visible emissions. The Permit Holder is required to take all steps necessary to prevent visible emissions from each of these sources including shutting down the source if necessary. Since particulate emissions are visible before a Ringelmann 1.0 limit would be exceeded, these steps should prevent the exceedance of the Ringelmann 1.0 and 2.0 limits.

BAAQMD Regulation 6-310 for A-9 Landfill Gas Flare: Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Using the AP-42 emission factor for landfill gas combustion in a flare (0.0171 pounds PM₁₀/MM BTU) and assuming the landfill gas contains up to 55% methane, the maximum PM₁₀ emission rate from A-9 is:

$$(0.0171 \text{ lb PM}_{10}/\text{MM BTU}) * (7000 \text{ gr/lb}) * (1 \text{ MM BTU}/10^6 \text{ BTU}) * (547 \text{ BTU}/\text{ft}^3 \text{ LFG}) / (5.1506 \text{ ft}^3 \text{ flue gas, dry, } 0\% \text{ O}_2/\text{ft}^3 \text{ LFG}) = 0.012 \text{ gr/dscf @ } 0\% \text{ O}_2$$

The Regulation 6-310 grain-loading limit (0.15 gr/dscf) is far above any expected PM emissions from the flare. It would therefore not be appropriate to add periodic monitoring for this standard.

BAAQMD Regulation 6-310 for S-20 Dirt Screen IC Engine: BAAQMD Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. If it is assumed that the diesel engine exhaust gases contain 15% excess oxygen under normal operating conditions, the Regulation 6-310 limit can be compared to the AP-42 PM emission factor as follows:

From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O₂ this factor becomes:

$$9,190 \times [21\% / (21\% - 15\%)] = 32,165 \text{ dscf (combustion products) / MMBTU}$$

The conversion of 0.15 gr/dscf @ 15% O₂ to lb/MMBTU is then:

$$(32,165 \text{ dscf/MMBTU}) \times (0.15 \text{ gr/dscf}) \times (\text{lb}/7,000 \text{ gr}) = 0.69 \text{ lb/MMBTU}$$

Based on the fuel consumption rate (i.e. 0.53 MMBTU/hr) and PM emissions data for S-20, the PM emission rate in terms of fuel consumption is 0.04 lb/MMBTU. Since the PM emission rate is well below the converted Regulation 6-310 emission rate, compliance is assumed. Therefore, the addition of periodic monitoring to demonstrate compliance with Regulation 6-310 is not recommended.

BAAQMD Regulation 6-311 for S-18 Materials Recovery Operation and S-19 Dirt Screen: This regulation limits mass emissions on a sliding scale based on the process weight rate. Since it would be virtually impossible to meaningfully monitor compliance with these limits due to variable operation rates and the fugitive nature of the particulate emissions, emission calculations will be used to demonstrate ongoing compliance with this regulation using assumptions about material throughput and emission rates.

For the Materials Recovery Operation S-18, BAAQMD has used an unabated particulate emission factor of 2.37 E-03 pounds/ton (from AP-42 Chapter 13.2.4 “Aggregate Handling and Storage Piles”). S-18 has a maximum capacity of 280 tons/day, resulting in a maximum unabated particulate emission rate of 0.7 pounds/day (or 0.08 pounds/hour, based on 8 hours of operation). At a process weight rate of 35 tons per hour, Regulation 6-311 limits emissions to 40 pounds/hour (maximum allowable emission rate for any operation processing more than 57,320 pounds/hour of material). The maximum allowable emission rate is 500 times higher than the expected unabated emission rate. The results are similar for any process weight rate at which S-18 may be operating. Therefore, no monitoring is recommended for this standard.

Particulate matter (PM) emissions from the Dirt Screen S-19 were estimated using the “fines screening (controlled)” emission factor of 0.0021 lb/ton from EPA AP-42 Table 11.19.2-2 “Emission Factors for Crushed Stone Processing Operations”. The applicant has stated that S-19 has a proposed capacity of 100 tons per hour. Therefore, the maximum projected hourly PM emission is 0.21 pounds. Since this is far below the Regulation 6-311 limit 40 pounds/hour, compliance is assumed and no monitoring is recommended for this standard.

VIII. Test Methods

The changes made to this section are routine and include the removal of outdated SIP 8-34 required test methods and the addition of test methods corresponding to the applicable requirements for the newly added equipment.

IX. Permit Shield:

No changes were made to this section.

APPENDIX A
BAAQMD ENGINEERING EVALUATION REPORTS

APPENDIX B
GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon Monoxide

Cumulative Increase

The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP

Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

HAP

Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Major Facility

A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MFR

Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO_x

Oxides of nitrogen.

NSPS

Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and

implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NO_x, PM₁₀, and SO₂.

Phase II Acid Rain Facility

A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SIP

State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO₂

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

Title V

Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC

Total Organic Compounds (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year