

# **Bay Area Air Quality Management District**

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## **Permit Evaluation and Statement of Basis for RENEWAL of**

## **MAJOR FACILITY REVIEW PERMIT**

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

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

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

September 2013

Application Engineer: Tamiko Endow  
Site Engineer: Tamiko Endow

Title V Renewal Application: 24359  
Title V Applications Included: 20343, 23875, 24535

## TABLE OF CONTENTS

A.	BACKGROUND .....	3
B.	FACILITY DESCRIPTION.....	4
C.	PERMIT CONTENT .....	7
I.	Standard Conditions .....	8
II.	Equipment .....	8
III.	Generally Applicable Requirements.....	9
IV.	Source-Specific Applicable Requirements.....	10
V.	Schedule of Compliance.....	12
VI.	Permit Conditions.....	13
VII.	Applicable Limits and Compliance Monitoring Requirements.....	14
VIII.	Test Methods .....	17
IX.	Permit Shield: .....	18
X.	Revision History.....	18
XI.	Glossary.....	18
D.	ALTERNATIVE OPERATING SCENARIOS .....	19
E.	COMPLIANCE STATUS.....	19
F.	DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT .....	19
	APPENDIX A BAAQMD COMPLIANCE REPORT .....	21
	APPENDIX B GLOSSARY .....	25
	APPENDIX C CALCULATIONS.....	34
	APPENDIX D PERMIT APPLICATION ENGINEERING EVALUATIONS.....	35

**TITLE V STATEMENT OF BASIS**  
Guadalupe Rubbish Disposal Company, Inc; PLANT # A3294  
APPLICATION # 24359

**A. BACKGROUND**

The Guadalupe Rubbish Disposal Company, Inc., is subject to the Operating Permit requirements of Title V of the federal clean air act because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. This facility is subject to this NSPS because it commenced modification after May 30, 1991 and has design capacities that are larger than 2.5 million Mg (14.891 million Mg) and larger than 2.5 million m<sup>3</sup> (17.203 MM m<sup>3</sup>). Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-304.

It should be noted that the facility is not a major facility either for hazardous air pollutants (HAP) or for regulated pollutants. Emissions of HAP are well below the 10 tpy individual HAP and/or 25 tpy of any combination of HAPs. The potential to emit for the highest emitting regulated pollutant CO at the flare A-9 is estimated to be 47.8 tpy, which is well below the 100 tpy PTE major facility threshold.

Major Facility Operating permits (Title V permits) must meet requirements of 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all “applicable requirements” (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A3294.

This facility received its initial Title V permit on October 1, 2001 and a minor modification Title V permit on March 12, 2004 and June 24, 2005. The permit was renewed on October 11, 2007. This application (AN 24359) is for the second Title V Permit renewal. Although the current permit expired on October 10, 2012, it continues in force until the District takes final action on the permit renewal.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are valid and correct. This review included an analysis of all applicability determinations for all sources. The review also included an assessment of the sufficiency of all monitoring for determination of compliance with applicable requirements. The statements of basis for permit revisions that have occurred through the last revision of the Major Facility Review permit are hereby incorporated by reference and are available upon request. The proposed permit shows all changes to the permit since the last revision in strikeout/underline format. These changes are discussed in this Statement of Basis.

## **B. FACILITY DESCRIPTION**

The Guadalupe Rubbish Disposal Company (GRDC) landfill is located on a 411-acre site at 15999 Guadalupe Mines Road in San Jose, CA. The site has been used for the disposal of municipal, commercial, industrial and construction wastes since 1929. The facility also accepts green waste materials for recycling in response to Californian Assembly Bill 939. The green waste is received at the landfill or the materials recovery facility (MRF) followed by additional processing into material for alternate daily cover, reuse, or disposal.

On November 21, 1991, GRDC was granted a solid waste facility permit to increase the horizontal capacity from 65 to 115 acres, making the facility a modified facility and therefore subject to the landfill NSPS, 40 CFR Part 60, Subpart WWW.

The facility is currently permitted to receive a maximum of 3,650 tons per day (except for temporary situations approved by the local enforcement agency) of municipal solid wastes delivered to the site by the general public and commercial haulers. The landfill operator reported that, as of December 31, 2011, the total waste in place was 10.4 million tons. Contaminated soil (concentration of VOC greater than 50 ppm, weight) is not accepted at GRDC.

In addition to the landfill, the other permitted sources of emissions at this site include wood debris and shredded wood stockpiles, a material recovery/debris sorting operation, and a construction and demolition debris stockpile.

### Emissions

Landfills generate landfill gas due to the waste decomposition process. The landfill gas contains methane and carbon dioxide, which are greenhouse gases (GHG), and small amounts of non-methane organic compounds (NMOC) and sulfur compounds. Many of the NMOCs are precursor organic compounds (POC), and many NMOCs and also toxic air contaminants (TACs) and hazardous air pollutants (HAPs). Hydrogen sulfide, a TAC, makes up about 95% or more of the sulfur compounds. District and EPA regulations require that landfill gas from larger landfills be continuously collected and controlled to reduce emissions of NMOCs to the atmosphere. These collection and control requirements also reduce GHG, TAC, and HAP emissions.

In accordance with these requirements, the Guadalupe Landfill is equipped with a landfill gas collection system and a landfill gas control system. As of the last issuance of the Permit to Operate for the landfill source, the collection system included 62 vertical gas collection wells and

3 horizontal collectors. The landfill operator reported an average of 1,185 cfm of landfill gas collected from the landfill in 2011.

The GRDC includes a gas collection and control system (GCCS) which routes landfill gas to the Gas Recovery Systems Inc (GRS), BAAQMD facility #B1669, which is a separately owned and operated facility co-located on the landfill site. The GRS facility burns the landfill gas in a series of internal combustion engines, subject to operating conditions specified in the GRS Title V permit. As a backup to the GRS operation, GRDC owns and operates a 70 MM BTU/hour Landfill Gas Flare, A-9, that is capable of burning approximately 2,300 scfm of landfill gas, based on a methane content of 50% by volume and higher heating value of 1,012 Btu/scf. Landfill gas is sent to the flare during periods when one or more engines are off line or during periods when excess landfill gas is collected. Combustion destroys most of the methane, NMOC, TAC, and HAP that are present in the landfill gas; however, landfill gas combustion also produces secondary emissions comprised of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), formaldehyde, and acid gases such as hydrogen chloride (HCl) and hydrogen fluoride (HF).

Operation of the landfill also produces particulate emissions from vehicular traffic, waste and cover material dumping, and other material handling activities such as excavation of waste cells, construction of temporary roads, bulldozing and compacting of waste and cover materials, etc. Since the last renewal of the Title V permit, the District split the existing landfill source (S-9) into three source numbers (S-9, S-31, and S-32) based on the type of emissions and the type of activities that occur at active landfills. These source description changes were necessary due to changes the District is making to its emission inventory calculation programs and due to an amendment of BAAQMD Regulation 3, Fees, Schedule K that was approved by the BAAQMD Board of Directors in June 2011. All active landfills in the Bay Area have undergone similar source description changes.

The new landfill source descriptions for this site are as follows:

S-9 Guadalupe Landfill – Waste Decomposition Process; equipped with gas collection system and abated by A-9 Enclosed Landfill Gas Flare

S-31 Guadalupe Landfill – Waste and Cover Material Dumping

S-32 Guadalupe Landfill – Excavating, Bulldozing, and Compacting Activities

S-31 and S-32 encompass all of the active landfilling activities (vehicle travel on roads, material handling, wind erosion, etc.) that generate particulate emissions from the landfill.

These source description changes were incorporated into this Title V renewal permit by adding the new source descriptions to Table II-C and by adding the new source descriptions to the titles of the applicable tables (Tables IV-C and VII-C). All of the above sources are subject to the permit conditions in Condition #6188 and regulatory requirements that applied to the original S-9.

The emissions from the District’s current emission inventory for the permitted sources at this facility have been summarized in Table 1. The emissions were based on the operating data reported by the facility in 2012 for the year ending December, 2011. Note that S-24 was permitted in 2013, so there is no operating data for emission calculations for this source for 2011. The flare emissions have not been updated since the last permit renewal, so are based on 2006 data.

**Table 1**  
**Facility Emissions from Permitted Sources, Year Ending December 2011**  
**Site #A3294, Guadalupe Rubbish Disposal Company**

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-5, Wood Debris Stockpile	--	--	--	--	--
S-6, Shredded Wood Stockpile/Loadout	0.02	--	--	--	--
S-9, Landfill – Waste Decomposition	--	18.8	0.11	--	--
S-18, Debris Sorting System	0.05	--	--	--	--
S-24, Construction and Demolition Debris Stockpile	unknown	--	--	--	--
S-31, Landfill - Waste & Cover Material Dumping	10.91	--	--	--	--
S-32, Landfill – Excavating, Bulldozing, Compacting	1.64	--	--	--	--
A-9, Enclosed LFG Flare	0.33	0.29	3.98	1.73	1.95
<b>Total Facility Emissions</b>	<b>13.0</b>	<b>19.1</b>	<b>4.1</b>	<b>1.7</b>	<b>2.0</b>

For general comparison purposes, Table 2 below summarizes the estimated facility emissions at the time of issuance of the Title V permit renewal for this site in 2007. Note that the particulate emissions from waste and soil handling at the landfill were being calculated under the original source number, S-9, in 2007.

**Table 2**  
**Estimated Facility Emissions from Permitted Sources at Last Title V Permit Renewal**  
**Site # A3294, Guadalupe Rubbish Disposal Company**

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-5, Wood Debris Stockpile	1.57	--	--	--	--
S-6, Shredded Wood Stockpile/Loadout	0.0	--	--	--	--
S-9, Landfill – Waste Decomposition	19.4	18.8	--	--	--
S-18, Debris Sorting System	0.05	--	--	--	--
S-23, Portable Diesel IC Engine	0.02	0.04	1.04	0.02	0.09
A-9, Enclosed LFG Flare	0.33	0.29	3.98	1.73	1.95
<b>Total Facility Emissions</b>	<b>21.4</b>	<b>19.1</b>	<b>5.0</b>	<b>1.8</b>	<b>2.0</b>

Since the minor modification Title V Permit was renewed in 2007, the following NSR permit applications were processed for GRDC:

- AN18410 Modification to landfill gas collection system configuration
- AN 20342 Change of Condition, S-9
- AN 21840 Less than continuous operation
- AN 21931 Change of Condition
- AN 21927 New Landfill Gas Flare, A-14: Authority to Construct issued 8/9/12
- AN 23874 Modification to landfill gas collection system configuration
- AN 24536 Permitting of a construction and demolition debris stockpile
- AN 25381 Extension of less than continuous operation for leachate collectors

Under Application 21927, an Authority to Construct was issued for a new landfill gas flare, which has not yet been installed and therefore has not been included in this permit renewal. The emission changes associated with the other permits are as follows:

**Table 3**  
**Permitted Emission Increases (tpy) Since 2007 Title V Permit Renewal**  
**Site # A3294, Guadalupe Rubbish Disposal Company**

Application	POC	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>
18410	None	None	None	None	None
20342	None	None	None	None	None
21840	None	None	None	None	None
21931	None	None	None	None	None
23874	None	None	None	None	None
24536	None	None	None	None	0.382
25381	None	None	None	None	None

Since the total on a per pollutant basis is less than 1 ton per year, we conclude there has been no significant increase or change in the pollutant levels at GRDC since the Title V Permit was last renewed.

The facility has submitted 1 additional NSR application. The District has not yet processed this application, so this application has not been included in this permit renewal. Permits issued under this application will be updated to the Title V permit for this facility, separately, under the Title V permit revision procedures after the NSR application has been reviewed and the sources are installed and operating.

- AN 21503 Landfill Gas Fired Engines

### C. PERMIT CONTENT

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Routine changes to the standard permit text in Sections I “Standard Conditions”, III “Generally Applicable Requirements”, and X “Glossary” are not

considered part of the Title V permit renewal process, but may be made at the discretion of the District during the term of this permit.

## **I. Standard Conditions**

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. This permit does not include Title IV or accidental release provisions.

Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

### Changes to Permit, Section I:

- The dates of adoption and approval of rules in Standard Condition 1.A have been updated. In addition, Regulation 2, Rule 5 and the SIP version of Regulation 2, Rule 6 have been added.
- The bases of Standard Condition I.B.1 and I.B.11, were corrected.
- Editorial revisions were made to Standard Condition I.F.

## **II. Equipment**

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-24). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302. Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403. The permitted sources are listed in Table II-A.

As discussed above, the District is splitting the existing active landfill source (S-9) into three source numbers (S-9, S-31, S-32). Source S-9 will represent the waste decomposition process for this landfill and will include all greenhouse gas, NMOC, TAC, and HAP emissions that occur due to the decomposition of decomposable materials in the landfill. S-9 will continue to include the landfill gas collection system equipment, which is vented to the A-9 Enclosed Landfill Gas Flare. The waste and cover material dumping processes, which include particulate emissions resulting from material handling and delivery will be covered under source S-31. Source S-32 will represent the excavating, bulldozing, and compacting activities that occur at this active landfill and will include the particulate emissions generated by these activities. The new source descriptions for S-9, S-31, and S-32 were used throughout this proposed permit renewal.



Significant sources are those sources that have a potential to emit of more than 2 tons of a “regulated air pollutant,” as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a “hazardous air pollutant,” as defined in BAAQMD Rule 2-6-210, per year. No significant sources have been reported at this facility.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). If a source is also an abatement device, such as when an engine controls VOC emissions, it will be listed in the abatement device table but will have an “S” number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or “A”) device. If the primary function of a device is a non-control function, the device is considered to be a source (or “S”).

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

#### Changes to the Permit, Section II:

- The format of the tables has been updated.
- The description of S-9 was modified and the new source numbers (S-31 and S-32) were added to Table II-A.
- The landfill gas collection system component count has been updated for S-9.
- S-23 was removed from service, so has been deleted from Table II-A.
- S-24, a construction and demolition debris stockpile has been permitted and was added to Table II-A.

### **III. Generally Applicable Requirements**

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. Unpermitted sources may, however, be specifically described in a Title V permit if they are considered *significant sources* pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

#### Changes to Permit, Section III:

- Editorial corrections were made to the text in this section.

- The dates of adoption or approval of the rules and their “federal enforceability” status in Table III have been updated.
- The following rules and standards have been added to conform to current practice:
  - SIP Regulation 2-1-429, Federal Emissions Statement
  - BAAQMD Regulation 6, Particulate Matter and Visible Emissions has been renamed and renumbered as Regulation 6, Rule 1, Particulate Matter - General Requirements
  - SIP Regulation 6, Particulate Matter and Visible Emissions
  - BAAQMD and SIP Regulation 8, Rule 3, Organic Compounds
  - BAAQMD and SIP Regulation 8, Rule 5, Organic Compounds – Storage of Organic Liquids
  - BAAQMD Regulation 9, Rule 2
  - BAAQMD Regulation 11, Rule 3 was deleted.
  - California Health and Safety Code Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines was deleted, as this regulation would be a specific requirement and listed in Section IV.

#### **IV. Source-Specific Applicable Requirements**

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District’s or EPA’s websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

## New Complex Applicability Determinations:

### Applicability of 40 CFR Part 64, Compliance Assurance Monitoring

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. The District has reviewed applicability of the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64, for this facility. Three criteria specified in 40 CFR Part 64.2(a)(1-3) must be met for CAM to apply:

- The source must be subject to a federally enforceable emission limit for a regulated air pollutant, other than an exempt limitation.
- The source must use a control device to achieve compliance with this emission limitation.
- The pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

S-9, Guadalupe Landfill – Waste Decomposition Process Equipped with Gas Collection System; abated by Landfill Gas Flare, A-9:

At this facility, the landfill waste decomposition process and its related emission control device (S-9 and A-9) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2(b)(1)(i), because the landfill and landfill gas control systems are subject to the NSPS and NESHAPS requirements for MSW Landfills (40 CFR Part 60, Subpart WWW and Part 63, Subpart AAAA). These EG and NESHAP requirements were adopted pursuant to Sections 111 and 112 of the Clean Air Act after November 15, 1990. Since the applicable federal requirements contain adequate monitoring provisions, additional compliance monitoring is not necessary. Since S-9 does not meet all three CAM applicability criteria, CAM does not apply to S-9 and A-9.

S-31, Guadalupe Landfill – Waste and Cover Material Dumping; and  
S-32, Guadalupe Landfill – Excavating, Bulldozing, and Compacting Activities

The landfill is not permitted to accept VOC-laden and contaminated soils, therefore fugitive NMOC emissions due to the handling soils with any VOC content is limited to 15 pounds per day under Regulation 8, Rule 2, which is less than 3 tons per year. Additionally, these emissions are fugitive and not controlled through use of an abatement device. Since these NMOC emissions are uncontrolled and less than the major source threshold, the second and third CAM criteria are not met.

These operations also emit fugitive PM<sub>10</sub>, primarily due to on-site vehicle travel. Although some PM<sub>10</sub> emission reductions are employed, such as using water sprays, dust suppressants, road sweeping, etc., these measures are more passive in nature and are intended to prevent PM<sub>10</sub> emissions from forming. Therefore, these emission controls do not constitute a control device as defined in Section 64.1, and the second CAM applicability criteria does not apply. Also, all of the pre-control and post-control PM<sub>10</sub> emissions from these operations are fugitive in nature. Therefore, the second CAM applicability criteria does not apply.

Since S-31 and S-32 do not meet the second or the third CAM applicability criteria - 40 CFR Part 64.2(a)(2 and 3), these sources are not subject to CAM.

Other sources: Wood and Shredded Wood Stockpiles/Loadout (S-5, S-6), Material Recovery Operation (S-18), Construction and Demolition Debris Stockpile (S-24)

These operations emit fugitive PM<sub>10</sub>. Although water sprays are employed to reduce PM<sub>10</sub> emissions, these measures are more passive in nature and are intended to prevent PM<sub>10</sub> emissions from forming. Therefore, these emission controls do not constitute a control device as defined in Section 64.1, and the second CAM applicability criteria does not apply. Also, all of the pre-control and post-control PM<sub>10</sub> emissions from these operations are fugitive in nature. Therefore, the second CAM applicability criteria does not apply.

Since S-5, S-6, S-18, and S-24 do not meet the second or the third CAM applicability criteria - 40 CFR Part 64.2(a)(2 and 3), these sources are not subject to CAM.

#### Changes to Permit, Section IV:

- Editorial corrections were made to the text of Section IV.
- The dates of adoption or approval of the rules and their “federal enforceability” status have been updated.
- Regulation 6 citations have been updated to the new numbering and name (now Regulation 6, Rule 1). A SIP citation of Regulation 6 has been added since the current District rule has been renumbered. Note that the standards are the same in both versions.
- In the title of Table IV-C, the new descriptions for S-31 and S-32 were added.
- The description of certain regulation sections have been expanded and corrected.
- Table IV-E, has been deleted since S-23 was removed from service.
- Table IV-E has been added for source, S-24, which was permitted since the last permit renewal.
- 40 CFR Part 62, Subpart F was adopted since initial issuance of the permit for this site. This regulation was added to Table IV-C.

## **V. Schedule of Compliance**

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

“409.10 A schedule of compliance containing the following elements:

- 10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;
- 10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and
- 10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.”

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

Changes to Permit, Section V:

- None

**VI. Permit Conditions**

Each permit condition is identified with a unique numerical identifier, up to five digits. The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy. This policy was replaced by Regulation 2, Rule 5 in 2005.

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit to assure compliance with the applicable requirements.

Changes to Permit, Section VI:

- In Condition # 6188, Part 2, the equipment (landfill gas well) count as well as the appropriate permit applications have been updated.
- In Condition # 6188, Part 3, alternative wellhead limits and monitoring have been added.

- Condition #23202, which applied to S-23, has been deleted since S-23 has been removed from service.
- Condition #25537, which applies to S-24, has been added.

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

## **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.

Monitoring decisions are typically the result of balancing several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) whether there is some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements. It follows that, although Title V calls for a re-examination of all monitoring, there is a presumption that these factors have been appropriately balanced and incorporated in the District’s prior rule development and/or permit issuance. It is possible that, where a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation. Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring requirements only when it can support a conclusion that existing monitoring is inadequate.

The tables below list only the emission limits for which there is no monitoring in the applicable requirements. For each emission limit without corresponding monitoring, the analysis of the individual source compliance status has been documented. If a determination of inadequate monitoring was found, additional monitoring would be proposed through this permit renewal. However, in the cases identified below, no additional monitoring is being recommended for the reasons identified. The District has examined the monitoring for all other emission limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance.

**Table 4**  
**SO<sub>2</sub> Emission Limits with No Associated Monitoring**  
**Site #A3294, Guadalupe Rubbish Disposal Company**

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-9, Guadalupe Landfill; 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 minutes, AND ≤ 0.05 ppm for 24 hours	None

**SO<sub>2</sub> Discussion:**

Burning of fuel that contains sulfur compounds will result in emissions of sulfur dioxide (SO<sub>2</sub>) as a product of that combustion. The landfill gas burned at the flare at this facility contains small levels of sulfur compounds which will contribute to ground level concentrations of SO<sub>2</sub>.

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO<sub>2</sub> concentration limitations of Regulation 9-1-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). Since the ground level monitoring is expensive, such monitoring is not required if the expected levels of SO<sub>2</sub> emissions are low, resulting in a large expected margin of compliance with the emission limit.

A-9 Landfill Gas Flare: Appendix C presents emission estimates for the maximum emissions (300 ppm SO<sub>2</sub> in the flue gas from the flare A-9, per 9-1-302), as well as estimated actual emissions based on source test results. The concentration of 1422 ppm H<sub>2</sub>S in the landfill gas at this site would be required to generate a flue gas concentration of 300 ppm SO<sub>2</sub> at 0% excess oxygen (stiochiometric combustion). District source tests indicate that the actual concentrations of total reduced sulfur in typical Bay Area landfill gas are less than 400 ppmv, and total reduced sulfur in the landfill gas Guadalupe Rubbish Disposal is less than 150 ppm. This results in actual tested flue gas concentrations under 20 ppm SO<sub>2</sub>.

Regarding ground level concentrations of SO<sub>2</sub> at the property line, computer modeling studies have shown that facilities that are in compliance with the 300 ppm SO<sub>2</sub> standard (Regulation 9-1-302) are not expected to exceed the ground level concentration standards in Regulation 9-1-301. No further monitoring is recommended at this time.

**Table 5**  
**PM Emission Limits with No Associated Monitoring**  
**Site #A3294, Guadalupe Rubbish Disposal Company**

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
A-9 Landfill Gas Flare	BAAQMD 6-1-301 and SIP 6-301	Ringelmann 1.0	None
A-9 Landfill Gas Flare	BAAQMD 6-1-310 and SIP 6-310	≤0.15 grains/dscf	None
S-18 Materials Recovery Operations	BAAQMD 6-1-311 and SIP 6-311	40 pounds/hour, for Process Weight Rate (P) ≥57,320 lb/hr	None

**PM Discussion:**

A-9 Landfill Gas Flare:

BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 limit visible emissions to no darker than 1.0 on the Ringelmann Chart, except for periods or aggregate periods less than 3 minutes in any hour. Visible emissions are normally not associated with proper combustion of gaseous fuels, such as landfill gas. Since A-9 burns only landfill gas, no monitoring is required to assure compliance with this limit.

BAAQMD Regulation 6-1-310 and SIP Regulation 6-310 limit filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume.

Maximum potential PM emissions for A-9 were based on the AP-42 emission factor for landfill gas-fired flares (17 lbs PM<sub>10</sub>/MM dscf of methane). Assuming the landfill gas contains 50% methane with an HHV of 497 BTU/scf LFG and produces 4.773 scdf of exhaust at 0% oxygen per scf of landfill gas burned, maximum calculated emissions (presented in Appendix C) are less than 5 ton/yr. with a resulting PM concentration in the flue gas of 0.013 gr/dscf. As this is far less than the Regulation 6-1-310 limit, no monitoring is required for A-9 to demonstrate compliance with this limit.

S-18 Materials Recovery Operation: Regulation 6-1-311 and SIP Regulation 6-311 limit emissions on a sliding scale based on the process weight rate. The estimated unabated particulate emission factor for S-18 is 2.37E-03 lb/ton throughput (from AP-42 Chapter 13.2.4 “Aggregate Handling and Storage Piles”). S-18 has a maximum capacity of 280 ton/day, resulting in a maximum unabated particulate emission rate of 0.7 lb/day (0.08 lb/hr, based on 8 hour operating day). At a process weight rate of 35 ton/hr, Regulation 6-1-311 and SIP Regulation 6-311 limit emissions to 40 lb/hr (based on the maximum allowable emission rate for any operation processing more than 57,320 pound/hour of material). Since the maximum allowable emission rate is 500 times higher than the expected unabated emission rate, no monitoring is required to demonstrate compliance with Regulation 6-1-311 and SIP Regulation 6-311.



**Table 6**  
**H<sub>2</sub>S Emission Limits with No Associated Monitoring**  
**Site #A3294, Guadalupe Rubbish Disposal Company**

<b>S# &amp; Description</b>	<b>Emission Limit Citation</b>	<b>Federally Enforceable Emission Limit</b>	<b>Monitoring</b>
S-9, Guadalupe Landfill A-9, Landfill Gas Flare	BAAQMD 9-2-301	Property Line Ground Level Limits of H <sub>2</sub> S ≤ 0.06 ppm Averaged over 3 minutes AND ≤ 0.03 ppm Averaged over 60 minutes	None

**H<sub>2</sub>S Discussion:**

BAAQMD Regulation 9-2-301

Area monitoring to demonstrate compliance with the ground level H<sub>2</sub>S concentration limitations of Regulation 9-2-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This regulation is a non-federally enforceable requirement.

The H<sub>2</sub>S emissions near this site are a result of fugitive emissions from the landfill. Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, hydrogen sulfide emissions are typically discovered by smell well before the concentration approaches the lowest 9-2-301 emission limit of 0.03 ppmv. Since odor complaints have not been an issue for this site, monitoring is not recommended at this time.

Changes to the Permit, Section VII:

- Symbols (≤ or ≥, as applicable) have been added to all Section VII tables to clarify limits.
- Citation of the SIP version of Regulation 6 has been added, since the District Regulation 6 has been renumbered to Regulation 6, Rule 1. Note that both rules contain the same standards.
- The revised sources descriptions for S-9, S-31, and S-32 were incorporated into Table VII-C.
- Text was added to clarify limits.
- Regulation 8-34-118 was added to Table VII-C.

**VIII. Test Methods**

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to Permit, Section VIII:

- The Regulation 6, Rule 1 reference has been updated and reference to the SIP version of Regulation 6 has been added.
- Test methods for the BAAQMD and SIP Regulation 8-2-301 limit were clarified.
- Obsolete test methods were removed.
- References to Regulation 8, Rule 34; and Regulation 9, Rule 1 were clarified.
- SIP Regulation 8-40-301 has been removed.
- The test method for Condition #6188 has been expanded.
- The test method for Condition #18258 has been added.
- References to Condition #20516 have been removed.

**IX. Permit Shield:**

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in a major facility review permit explaining that specific federally enforceable regulations and standards do not apply to a source or group of sources, or (2) A provision in a major facility review permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, recordkeeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

This facility has no permit shields. This permit has no streamlining.

Changes to Permit, Section IX:

- None

**X. Revision History**

This section of the permit summarizes each revision to the permit.

Changes to Permit, Section X:

- The permit revisions associated with this renewal were added to Section X.

**XI. Glossary**

This section of the permit defines and explains acronyms, abbreviations, and other terms that are used in this permit.

Changes to Permit, Section XI:

- The glossary was updated by clarifying explanations and adding numerous new terms.

#### **D. ALTERNATIVE OPERATING SCENARIOS**

No alternate operating scenario has been requested for this facility.

#### **E. COMPLIANCE STATUS**

An office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, dated August 14, 2013 presents a review of the compliance record of Guadalupe Rubbish Disposal Company, Inc (Site # A3294). The Compliance and Enforcement Division staff has reviewed the records for Guadalupe Rubbish Disposal Company, Inc for the period between October 12, 2007 and August 13, 2013. This review was initiated as part of the District evaluation of the application for renewal of the Title V permit. During the period subject to review, activities known to the District include:

- No ongoing non-compliance issues were reported by the facility in the annual compliance certifications.
- One Notice of Violation was issued by the District on 5/15/13 for a surface leak exceeding the standard in Regulation 8, Rule 34, Section 303.
- 36 air pollution complaints were filed alleging this facility as the source; of these complaints, the District confirmed this facility was the cause in 3 cases.
- 2 notifications for Reportable Compliance Activities (RCA's) were received – one notice of damage to the landfill gas collection system due to damage by heavy mobile equipment for which relief was granted by the District, and the other for an inoperative temperature recorder, which was restored to service in the due time.
- There were no enforcement agreements, variances, or abatement orders issued to this facility during the period of review.

The responsible official certified that all equipment was operating in compliance on April 6, 2012, with submittal of the application for renewal of the Title V permit. The District has determined that the facility was in intermittent compliance from the date of the last permit renewal and that no evidence of ongoing non-compliance or pattern of violations warrants consideration of a compliance schedule for this facility.

#### **F. DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT**

The Title V permit application for this renewal was received on April 10, 2012.

- Permit Application #21840 was received on April 9, 2010 and the Authority to Construct for this proposed condition change was waived on May 28, 2010. This application has been discussed in this Statement of Basis and has been included in the Title V Permit.

- Permit Application #22931 was received on May 6, 2010 and the Authority to Construct for this proposed condition change was waived on July 1, 2010. This application has been discussed in this Statement of Basis and has been included in the Title V Permit.
- Permit Application #23841 was received on November 11, 2011 and the Authority to Construct for this proposed condition change was waived on November 8, 2012. This application has been discussed in this Statement of Basis and has been included in the Title V Permit.
- Permit Application #24536 was received on June 5, 2012 and the Authority to Construct for this operation was waived on May 21, 2013. This application has been discussed in this Statement of Basis and has been included in the Title V Permit.
- Permit Application #25381 was received on May 3, 2013 and the Authority to Construct for this proposed condition change was waived on July 5, 2013. This application has been discussed in this Statement of Basis and has been included in the Title V Permit.

**APPENDIX A**

**BAAQMD COMPLIANCE REPORT**

**COMPLIANCE & ENFORCEMENT DIVISION**

**COMPLIANCE & ENFORCEMENT DIVISION**

**Inter-Office Memorandum**

**August 14, 2013**

TO: JIM KARAS – DIRECTOR OF ENGINEERING *J. Karas*  
FROM: WAYNE KINO – DIRECTOR OF ENFORCEMENT *W. Kino*  
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

**GUADALUPE RUBBISH AND DISPOSAL COMPANY, INC.; SITE # A3294**

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**Background**

This review was initiated as part of the District evaluation of an application by Guadalupe Rubbish and Disposal Company for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit to Operate. The purpose of this review is to assure that any non-compliance problems identified during the prior five-year permit term have been adequately addressed, or, if non-compliance persists, that a schedule of compliance is properly incorporated into the Title V permit compliance schedule. In addition, the review checks for patterns of recurring violation that may be addressed by additional permit terms. Finally, the review is intended to recommend, if necessary, any additional permit conditions and limitations to improve compliance.

**Compliance Review**

Compliance records were reviewed for the time period from October 12, 2007, through August 13, 2013. The results of this review are summarized as follows.

**1. Violation History**

During the stated review period, staff reviewed Guadalupe Rubbish Disposal Company Annual Compliance Certifications and found no ongoing non-compliance and no recurring pattern of violations.

District-issued Notices of Violation:

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A51088	8-34-303	5/15/2013	1	S-9, surface leak > 500 ppm	PENDING

This violation occurred during the compliance verification inspection on May 15, 2013, in which a surface leak exceeding the leak standard in the landfill gas collection system was found.

H:\Enforcement\Title V Cert\Guadalupe Rubbish Disposal\_A3294\_TitleV\_5yearRenewal\_2013.doc

## 2. Complaint History

The District received a total of thirty-six air pollution complaints during this review period, alleging Guadalupe Rubbish Disposal Company the alleged source. Of these thirty-six complaints, three were confirmed to the site.

## 3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the review period, there were no air quality violations issued as a result of a RCA.

The District received 2 notifications for Reportable Compliance Activities (RCA):

Date Occur	# of Days	Comments	Disposition
11/5/2008	1	Breakdown: Heavy equipment struck and damaged landfill gas collection system	Relief Granted
12/4/2008	9	Temp. recorder inoperative	Recorder back in service in due time

## 4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for Guadalupe Rubbish Disposal Company for this review period.

## Conclusion

Following its review of all available facility and District compliance records for Guadalupe Rubbish Disposal Company, the District's Compliance and Enforcement Division has determined that Guadalupe Rubbish Disposal Company was in intermittent compliance from the date of the last permit renewal, October 12, 2007, through August 13, 2013.

Guadalupe Rubbish Disposal Company has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility. The most recent violation of May 15, 2013, was in compliance the following day. Based on this review, the District has

REVIEW OF COMPLIANCE RECORD OF:  
**GUADALUPE RUBBISH AND DSPOSAL COMPANY – SITE # A3294**  
8/14/2013  
Page 3 of 3

concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.



## **APPENDIX B**

### **GLOSSARY**

**ACT**

Federal Clean Air Act

**AP-42**

An EPA Document “Compilation of Air Pollution Emission Factors” that is used to estimate emissions from numerous source types. It is available electronically from EPA’s web site at: <http://www.epa.gov/ttn/chief/ap42/index.html>

**APCO**

Air Pollution Control Officer: Head of Bay Area Air Quality Management District

**API**

American Petroleum Institute

**ARB**

Air Resources Board (same as CARB)

**ASTM**

American Society for Testing and Materials

**ATC**

Authority to Construct

**ATCM**

Airborne Toxic Control Measure

**BAAQMD**

Bay Area Air Quality Management District

**BACT**

Best Available Control Technology

**BARCT**

Best Available Retrofit Control Technology

**Basis**

The underlying authority that allows the District to impose requirements.

**BDT**

Best Demonstrated Technology

**C1**

An organic chemical compound with one carbon atom, for example: methane

**C3**

An organic chemical compound with three carbon atoms, for example: propane

**C5**

An organic chemical compound with five carbon atoms, for example: pentane

**C6**

An organic chemical compound with six carbon atoms, for example: hexane

**CAA**

The federal Clean Air Act

**CAAQS**

California Ambient Air Quality Standards

**CAPCOA**

California Air Pollution Control Officers Association

**CARB**

California Air Resources Board (same as ARB)

**CCR**

California Code of Regulations

**CEC**

California Energy Commission

**CEQA**

California Environmental Quality Act

**CEM**

A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO<sub>x</sub> concentration) in an exhaust stream.

**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.

**CH<sub>4</sub> or CH<sub>4</sub>**

Methane

**CO**

Carbon Monoxide

**CO<sub>2</sub> or CO<sub>2</sub>**

Carbon Dioxide

**CT**

Combustion Zone Temperature

**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). Used to determine whether threshold-based requirements are triggered.

**District**

The Bay Area Air Quality Management District

**dscf**

Dry Standard Cubic Feet

**dscm**

Dry Standard Cubic Meter

**E 6, E 9, E 12**

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals  $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$ . Scientific notation is used to express large or small numbers without writing out long strings of zeros.

**EG**

Emission Guidelines

**EGT**

Exhaust Gas Temperature

**EO**

Executive Order

**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 (HAP), and Part 72 (Permits Regulation, Acid Rain), and also 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.

**FR**

Federal Register

**GDF**

Gasoline Dispensing Facility

**GLM**

Ground Level Monitor

**grains**

1/7000 of a pound

**H<sub>2</sub>S or H<sub>2</sub>S**

Hydrogen Sulfide

**H<sub>2</sub>SO<sub>4</sub> or H<sub>2</sub>SO<sub>4</sub>**

Sulfuric Acid

**H&SC**

Health and Safety Code

**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.

**Hg**

Mercury

**HHV**

Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

**GRDC**

Guadalupe Rubbish Disposal Company, Inc

**LFG**

Landfill gas

**LHV**

Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60 °F.

**Major Facility**

A facility with potential emissions of: (1) at least 100 tons per year of any regulated air pollutant, (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.

**MAX or Max.**

Maximum

**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.

**Mg**

Mega (million) gram

**MIN or Min.**

Minimum

**MOP**

The District's Manual of Procedures.

**MSDS**

Material Safety Data Sheet

**MSW**

Municipal solid waste

**MSWL**

Municipal solid waste landfill

**MTBE**

methyl tertiary-butyl ether

**MW**

Molecular weight

**N2 or N<sub>2</sub>**

Nitrogen

**NA**

Not Applicable

**NAAQS**

National Ambient Air Quality Standards

**NESHAPs**

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

**NMHC**

Non-methane Hydrocarbons (same as NMOC).

**NMOC**

Non-methane Organic Compounds (same as NMHC).

**NO<sub>x</sub> or NO<sub>x</sub>**

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 both 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 air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

**O<sub>2</sub> or O<sub>2</sub>**

Oxygen

**Offset Requirement**

A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>.

**Phase II Acid Rain Facility**

A facility that generates electricity for sale through fossil-fuel combustion and by virtue of certain other characteristics (defined in Regulation 2, Rule 6) is subject to Titles IV and V of the Clean Air Act.

**POC**

Precursor Organic Compounds

**PM**

Total Particulate Matter

**PM<sub>10</sub> or PM<sub>10</sub>**

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 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.

**PV or P/V Valve**

Pressure/Vacuum Valve

**Regulated Organic Liquid**

"Regulated organic liquids" are those liquids which require permits, or which are subject to some regulation, when processed at a liquid-handling operation. For example, for refinery marine terminals, regulated organic liquids are defined as "organic liquids" in Regulation 8, Rule 44.

**RMP**

Risk Management Plan

**RWQCB**

Regional Water Quality Control Board

**S**

Sulfur

**SCR**

A "selective catalytic reduction" unit is an abatement device that reduces NO<sub>x</sub> concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NO<sub>x</sub> compounds to nitrogen gas.

**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.

**SO<sub>2</sub> or SO<sub>2</sub>**

Sulfur dioxide

**SO<sub>3</sub> or SO<sub>3</sub>**

Sulfur trioxide

**SSM**

Startup, Shutdown, or Malfunction

**SSM Plan**

A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

**TAC**

Toxic Air Contaminant (as identified by CARB)

**THC**

Total Hydrocarbons includes all NMHC plus methane (same as TOC).

**therm**

100,000 British Thermal Unit

**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 includes all NMOC plus methane (same as THC).

**TPH**

Total Petroleum Hydrocarbons

**TRMP**

Toxic Risk Management Policy

**TRS**

Total Reduced Sulfur, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO<sub>2</sub> that will be present in the combusted fuel gas, since sulfur compounds are converted to SO<sub>2</sub> by the combustion process.

**TSP**

Total Suspended Particulate

**TVP**

True Vapor Pressure

**VMT**

Vehicle Miles Traveled

**VOC**

Volatile Organic Compounds

**Symbols:**

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

**Units of Measure:**

atm	=	atmospheres
bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft <sup>3</sup>	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
in	=	inches
kg	=	kilograms
kW	=	kilowatts
lb	=	pound



lb-mol	=	pound-mole
M	=	thousand
m <sup>2</sup>	=	square meter
m <sup>3</sup>	=	cubic meters
Mg	=	mega grams
min	=	minute
mm	=	millimeter
MM	=	million
MM BTU	=	million BTU
MM cf	=	one million cubic feet
mm Hg	=	millimeters of mercury (pressure)
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppbw	=	parts per billion, by weight
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
yd	=	yard
yd <sup>3</sup>	=	cubic yards
yr	=	year

## APPENDIX C

### CALCULATIONS

1. H<sub>2</sub>S Concentration in Landfill gas to achieve 300 ppm SO<sub>2</sub> in Flue Gas

Basis: 300 ppm SO<sub>2</sub> in flue gas (FG) @ 0% excess oxygen

Landfill Gas Heat Content (from source test):  $[127E6 \text{ Btu/day}] / [(180 \text{ scf/min})(1440 \text{ min/day})] = 490 \text{ Btu/scf}$ .

F Factor (@ 0% oxygen) = 4.7356 scf FG/scf LFG (based on 490 Btu/scf @ ~49.5% methane)

H<sub>2</sub>S in LFG =  $(300 \text{ cu ft SO}_2/1E6 \text{ cu ft FG})(4.7356 \text{ cu ft FG/cu ft LFG}) = 1421 \text{ ppm H}_2\text{S in LFG}$

2. Estimated Actual SO<sub>2</sub> emissions vs maximum at 300 ppm SO<sub>2</sub> in Flue Gas from LFG Comb

Basis: 6.3% excess oxygen; F Factor =  $(1.43)(4.7356) = 6.772 \text{ cu ft FG/cu ft LFG}$

Source tested SO<sub>2</sub> in flue gas: 18 ppm

Concentration of H<sub>2</sub>S in LFG =  $(18 \text{ cu ft SO}_2/1E6 \text{ cu ft FG})(6.772 \text{ cu ft FG/cu ft LFG}) = 122 \text{ ppm H}_2\text{S (LFG) in LFG}$

Actual Emissions =  $(2000 \text{ dscf/min})(1440 \text{ min/day})(365 \text{ day/yr})(122 \text{ cu ft H}_2\text{S} / 1E6 \text{ cu ft LFG})(\text{mole}/387 \text{ cu ft})(1 \text{ cu ft SO}_2/\text{cu ft H}_2\text{S})(64.1 \text{ lb SO}_2/\text{mole})(\text{ton}/2000 \text{ lb}) = 10.6 \text{ tpy}$

Maximum Emissions =  $(10.6 \text{ tpy})(1421 \text{ ppm}/122 \text{ ppm}) = 123.7 \text{ tpy}$

3. PM Emissions From A-9 LFG Flare

PM Factor:  $(17 \text{ lbs PM}_{10}/\text{MM dscf CH}_4, \text{ AP-42}) / (1E6 \text{ scf CH}_4/\text{MM dscf CH}_4) * (0.50 \text{ scf CH}_4/\text{scf LFG}) / (497 \text{ BTU}/\text{scf LFG}) * (1E6 \text{ BTU}/\text{MM BTU}) = 0.0171 \text{ lbs PM}_{10}/\text{MM BTU}$

A-9:  $[(2000 \text{ dscfm})(4.97E-04 \text{ MMBtu}/\text{dscf LFG})(60 \text{ min/hr})(8760 \text{ hr/yr})(0.0171 \text{ lbs PM}_{10}/\text{MM BTU})] / (2000 \text{ pounds PM}_{10}/\text{ton PM}_{10}) = 4.5 \text{ tons PM}_{10}/\text{year}$

PM Concentration:  $[(0.0171 \text{ lb PM}/\text{MM Btu})(7000 \text{ gr/lb})(1 \text{ MM Btu}/1E6 \text{ BTU})(497 \text{ Btu}/\text{scf})] / (4.736 \text{ cu ft flue gas}/\text{cu ft LFG}, @ 0\% \text{ O}_2) = 0.013 \text{ gr}/\text{dscf}$

## APPENDIX D

### PERMIT APPLICATION ENGINEERING EVALUATIONS

Engineering Evaluations for the following permit applications are attached to the Statement of Basis in this Appendix.

<u>AN</u>	<u>TITLE</u>
18410	Modification to landfill gas collection system configuration
20342	Change of Condition, S-9
21840	Less than continuous operation
21931	Change of Condition
23874	Modification to landfill gas collection system configuration
24536	Permitting of a construction and demolition debris stockpile
25381	Extension of less than continuous operation for leachate collectors

## ENGINEERING EVALUATION REPORT

PLANT NAME	Guadalupe Rubbish Disposal Company
PLANT NUMBER	A3294
APPLICATION NUMBER	18410
PLANT/SITE ADDRESS	
DATE	<u>10 July 2008</u>
ENGINEER	R.E. Frazier
PAGE	1 of 2

### 1. BACKGROUND

Waste Management/Guadalupe Rubbish Disposal Company, Inc (GRDC), has submitted an application for a change of condition to operate the Guadalupe Rubbish Disposal Company as follows:

#### *S-9 Landfill with Gas Collection System*

This facility was recently modified according to AN 15380 which allowed the facility to install up to 16 new vertical and 8 horizontal landfill gas (LFG) wells and to decommission up to 7 vertical and 5 horizontal wells. Although the application period has not ended, GRDC completed the decommissioning phase of their proposed project and therefore needs to apply for an A/C for additional modifications to the landfill.

When the present application was submitted, the total well count was as follows:

Vertical Gas Extraction Wells	39
Horizontal Collectors:	3

The applicant has applied for an Authority to Construct for the following modifications:

New Vertical Wells:	30
New Horizontal Wells:	10
Replacement Vertical Wells:	15
Decommissioned Vertical Wells:	15
Decommissioned Horizontal Trench Collectors:	5

### 2. EMISSIONS DISCUSSION

The collected landfill gas from this facility is processed preferentially at rich-burn engines S-2, S-3, S-4, S-5 and S-7 lean burn engine, at the GRS facility adjacent GRDC. Any LFG in excess is flared at A-9 enclosed landfill gas flare. The proposed changes are required to optimize the operation of the landfill gas collection system and are maintenance-related requirements and do not result from any increase in plant capacity. All emissions have been previously accounted for in the original permit application for GRDC..

### 3. STATEMENT OF COMPLIANCE

There are no new District of Federal regulations triggered by the proposed landfill gas collection system modification. However, changing the number of gas collection wells at the landfill requires that the permit condition # 6188 be changed to reflect the correct configuration of the landfill, and the Title V Permit modified accordingly. This permit will address the permit change while the Title V modification will be handled in the Title V minor modification application (AN 18413) that is tandem with AN 18410.

### 4. MODIFIED PERMIT CONDITIONS

It is recommended that part 2 of Condition # 6188 be changed to 1) account for the current and potential future extraction wells and associated systems, 2) to modify the language of the Part to make the wording consistent with other current landfill permits. The wording was carefully developed and was recommended by Carol S. Allen, Senior Engineer and Landfill Specialist, Toxics Evaluation. The revised condition is listed as follows (underline is new text):

2. The Guadalupe Rubbish Disposal Company landfill shall be equipped with a landfill gas collection system, described as follows.

- a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below as of July 10, 2008. Well and collector locations, depths, and lengths are described in detail in Permit Applications #1684, 8118, 9780, 15380 and 18410. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described below. Increasing or decreasing the number of vertical wells or horizontal collectors are considered modifications that are subject to the Authority to Construct requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Authority to Construct requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 2b as evidenced by start-up/shut-down notification letters submitted to the District.

Vertical Wells	<u>39</u>
Horizontal Collectors	<u>2</u>

- b. The Permit Holder has been issued a Permit to Operate (Application 18410) for the landfill gas collection system component modifications described below as of July 10, 2008. Well and collector locations, depths, and lengths are as described in Permit Application #~~8677~~ 18410.

- Install up to 30 new vertical wells
- Install up to 10 new horizontal trench collectors
- Replace up to 15 vertical wells.
- Decommission up to 15 vertical wells
- Decommission up to 5 horizontal trench collectors

(Basis: Regulations 8-34-301.1, 8-34-303, 8-34-304 and 8-34-305)

**5. RECOMMENDATIONS**

Recommend that a Permit to Operate be issued to Waste Management/Guadalupe Rubbish Disposal Company subject to modified condition 6188 for the following source:

S-9 Landfill with Gas Collection System

by:

\_\_\_\_\_  
Randy E. Frazier, P.E.  
Senior Air Quality Engineer  
10 July 2008

## ENGINEERING EVALUATION REPORT

<b>PLANT NAME</b>	<b>Guadalupe Rubbish Disposal Company, Inc</b>
<b>PLANT NUMBER</b>	<b>A3294</b>
<b>APPLICATION NUMBER</b>	<b>20342 (NSR)</b>
<b>PLANT/SITE ADDRESS</b>	<b>15999 Guadalupe Mines Road/San Jose, CA</b>
<b>DATE</b>	<b>8 April 2009</b>
<b>ENGINEER</b>	<b>R.E. Frazier</b>
<b>PAGE</b>	<b>1 of 5</b>

### 1. BACKGROUND

Waste Management owns and operates the Guadalupe Rubbish Disposal Company landfill located on Guadalupe Mines Road in San Jose. This facility includes an active landfill gas collection system which is subject to BAAQMD Regulation 8-34. The landfill gas collection system, source S-9 is subject to 8-34-305 which requires each well to operate at a negative pressure and at a maximum wellhead landfill gas temperature of 131 F and either N<sub>2</sub> concentration less than 20% or O<sub>2</sub> concentration less than 5%. The purpose of these limits is to assist landfill operators when the wellhead conditions could possibly sustain a subsurface face rather than the desired anaerobic decomposition.

In the present case, GRDC has discovered 3 wells, 108, 115 and 116 which are operating at temperatures near or above the 131 F upper limit of 8-34-305. GRDC has evaluated these wells and has concluded that the elevated temperature profiles are normal for these wells, and is therefore seeking an alternative temperature limit for these wells. Regulation 8-34 allows the District to establish such alternative levels as long as the alternative limits do not cause subsurface fires or in any way inhibit anaerobic decomposition.

GRDC has also requested that the District establish permit condition wording that will allow for the imposition of alternative temperature requirements, if future monitoring shows that additional wells show similar elevated temperatures with no evidence of subsurface fires.

The alternative wellhead standards will be reflected in changes to permit condition 6188 for S-1.

In addition, the current permit condition 6188 for the landfill gas collection system allows the current, future and new component count (based on the 4-3-2009 GRDC notification letter). The component count listed in the permit condition 6188 should be revised to reflect the new count.

<b>Component</b>	<b>Count</b>	<b>4-3-09 Memo Action</b>	<b>New Count</b>
Existing Vertical Wells	39		<b>37</b>
Existing Horiz Collectors	2		<b>2</b>
New Vert Wells-Permitted	30		<b>30</b>
New Horiz Coll-Permitted	10		<b>10</b>
Replacemt Vert Wells-Permitted	15		<b>15</b>
Decomm Vert Wells-Permitted	15	Decomm VW95 & VW109 (2 VWs)	<b>13</b>
<b>Decomm Horiz Collectors-Permitted</b>	<b>5</b>		<b>5</b>

### 2. WELLHEAD DATA/DISCUSSION OF ALTERNATIVE STANDARDS

Regulation 8-34-305 specifies wellhead performance standards designed to minimize the potential for subterranean fires and/or landfill gas emissions. Section 8-34-305 requires each wellhead to operate under vacuum conditions with a maximum temperature of 131 F, and with either a maximum 20% nitrogen concentration or a maximum 5% oxygen concentration. Exceptions are allowed "if the operator has discovered the excess and has satisfied all requirements of Section 8-34-414 [Repair Schedule for Wellhead Excesses] or has received permit conditions containing alternative operating levels".

Accordingly, GRDC has requested an alternative wellhead temperature standard for 3 landfill gas wells. With a single test exception, all of the wells in question have been shown to be operating in vacuum pressure condition and are expected to continue to do so.

Alternative Wellhead Temperature Standard: Although the maximum temperature limit of 131° F (55° C) is specified in 8-34-305.2, it is not unusual to observe higher temperatures on a routine basis at wells that are operating properly. According to published data, the observed subsurface landfill gas temperature during normal thermophilic bacterial reaction can range from 113° F to 149° F. Temperatures as high as 158° F have been observed with no subsurface combustion. Furthermore, due to the variable nature of landfill operations, landfilled materials, soil overlay, compaction, density, moisture content, etc, it is not unusual to see considerable variation in the wellhead temperature from well to well. GRDC has requested an alternative maximum temperature standard of 145° F at the 3 landfill gas wellheads listed in Part 1 of this Engineering Evaluation. Following is a summary of operating data for wells 108, 115, and 116.

Wellhead ID	Temp Range	Ave Temp, °F	Methane Range	Ave Methane	Ave Pressure	Ave Oxygen	Ave CO, ppmv
108 (15 tests)	64 - 134	116	16 – 58	49	-6.9	0.1%	90
115 (15 tests)	127 – 134	130	41 – 52	47	-2.6	0 %	140
116 (13 tests)	127 - 135	130	49 - 56	53	-3.0	0%	130

In all monitoring cases, the oxygen levels are too low to sustain subsurface combustion of methane in the landfill gas. Also, average CO levels are below 200 ppm, with the maximum CO level of 250 ppm. It should be noted that CO is not typically detected in landfill gas. EPA and California Integrated Waste Management Board documents state that a landfill gas CO concentration greater than 1000 ppmv with a gas temperature greater than 140° F and a waste mass temperature greater than 170° F are some of the indicators that a subsurface fire exists. CO concentrations greater than 100 ppmv and rapid increases in gas temperature are suspicious and should be investigated further. Detectable CO concentrations of less than 100 ppmv CO may indicate that a subsurface fire has occurred but that the fire is no longer burning, while CO readings less than 100 ppmv are within the error of the testing instrumentation.

Although the average CO for wells 115 and 116 are above the level deemed suspicious, they are well below the levels where fires are thought to be actively occurring (1000 ppm). Further, all oxygen levels in the landfills are below levels required for combustion, therefore it can be concluded that no subsurface combustion is taking place.

Furthermore, GRDC has investigated these wells and has concluded that the wells are operating properly, with elevated temperatures indicative of aggressive microbial decomposition of the in-place refuse. Condition 6188, Part 6 will be modified accordingly.

No increased emissions are expected for either of these alternative wellhead standards.

### 3. STATEMENT OF COMPLIANCE

**A. Regulation 1 – General Provisions and Definitions:** §1-301: Prohibits discharging emissions in quantities that cause injury, detriment, nuisance, or annoyance. The proposed permit condition changes will not result in any increase in emissions and therefore is not expected to create any situation which violates Regulation 1-301.

**B. Permits – General Requirements, Regulation 2 Rule 1:** District policy requires that any modification or alteration of a Title V facility be evaluated via an NSR permit application, whether the change results in an emission increase or not. Exceptions to this rule would be for administrative changes. This change would result in a Minor Title V Permit modification – therefore an NSR permit application is required. According to the definitions found in 2-1-233, a permit application is required since the project would be deemed an alteration of a source.

This source is not located within 1000 feet of the nearest school nor are there any increases in toxic emissions, therefore no public notification is required.

**C. Permits – New Source Review, Regulation 2 Rule 2 (BACT/Offsets):** BACT and offset issues are irrelevant since there are no emission increases.

- D. **Permits- New Source Review, Regulation 2 Rule 2 (PSD):** None of the PSD triggers specified in 2-2-304 are triggered; therefore a PSD analysis is not required for this application.
- E. **Permits - Regulation 2 Rule 5: Toxic Evaluation//BACT/Offsets:**  
There are no emissions increases resulting from this project therefore, no health risk screening evaluation is required for this evaluation.
- F. **Permits - Regulation 2 Rule 6: Major Facility Review:** Since Guadalupe Rubbis Disposal Company is a Title V major facility, a major facility permit revision is required. Application 20343 is the minor modification permit application for this alteration.
- G. **Regulation 3 – Fees:** Guadalupe Rubbish Disposal Company has complied with fee requirements for this permit application.
- H. **Regulation 8 Rule 34:** Regulation 8-34-305 states:

**Wellhead Requirements:** Effective July 1, 2002 and except as provided in Sections 8-34-119 or 120, each wellhead in the gas collection system shall meet the requirements of Sections 8-34-305.1 and 305.2 and either 305.3 or 305.4, unless the operator has discovered the excess and has satisfied all of the requirements of Section 8-34-414; or the operator has received permit conditions containing alternative operating levels:

- 305.1 Each wellhead shall operate under a vacuum (negative pressure); and
- 305.2 The landfill gas temperature in each wellhead shall be less than 55° C (131° F); and either
- 305.3 The nitrogen concentration in each wellhead shall be less than 20% by volume; or
- 305.4 The oxygen concentration in each wellhead shall be less than 5% by volume.

This section has been appropriately addressed and the result will be an alternative wellhead standard for landfill gas wells 108, 115, and 116.

**I. NSPS/NESHAPS**

NSPS Requirements: The Guadalupe Rubbish Disposal Company Landfill is subject to the NSPS for air emissions from municipal solid waste landfills (40 CFR Part 60 subpart WWW). As long as the facility complies with the requirements of regulation 8 Rule 34, the landfill will be in compliance with all applicable requirements of the NSPS (40 CFR, Part 60, Subpart WWW). The significant point that should be noted is that the NSPS requirements for the wellheads mirror the requirements previously enumerated for Regulation 8-34-305. The NSPS also allows for the establishment of an alternative wellhead standard as long as the higher wellhead operating temperature has been demonstrated to not cause fires or to significantly inhibit anaerobic decomposition by killing methanogens. GRDC will continue to monitor the wellhead landfill gas compositions and temperatures to ensure that the anaerobic decomposition is within normal tolerances and that fires are not occurring.

NESHAP Requirements: Any landfills that are subject to the landfill gas collection and control requirements of either the NSPS for MSW Landfill or the EG for MSW Landfills are also subject to the NESHAPs for MSW Landfills (see 40 CFR Part 63, Subpart AAAA). The NESHAP requires that facilities subject to the requirement prepare and implement startup, shutdown and malfunction plans (SSM Plans) as well as additional reporting requirements. All applicable NESHAP requirements are included in the existing MFR permit. Guadalupe Rubbish Disposal Company is expected to continue to comply with these requirements.

**J. CEQA**

This permit application is for a change of conditions that does not have any impact on emissions. For this reason the application is categorically exempt from CEQA pursuant to Regulation 2-1-312.1 and 2-1-312.2. No further CEQA review is required.



#### 4. CONDITIONS

Condition 6188, Part 3 will be revised as follows – with additions shown in underline form.

3. The landfill gas collection system described in Part 2 above shall be operated continuously. Wells shall not be disconnected or removed from operation nor shall isolation or adjustment valves be closed without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (Basis: Regulation 8-34-301, Regulation 8-34-305)

Each landfill gas collection system wellhead associated with the gas collection system components listed in Part 2 shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for the component and the operator complies with all of the additional requirements identified in this subpart. Components that are subject to an alternative wellhead limit may still use the Regulation 8-34-414 repair schedule for operator discovered excesses of the alternative limit, although invoking the 8-34-414 repair schedule replaces the monitoring requirements described in Parts 3 (b - h). (Basis: Regulation 8-34-305 and 8-34-414)

- a. For each of the wells identified in Part 3(b), the Regulation 8-34-305.2 wellhead temperature limit does not apply, and the landfill gas temperature at each wellhead shall not exceed 145 degrees F.
- b. The wells that are subject to Part 3(a) alternative wellhead temperature limit are: #108, 115, and 116. If any other component has a wellhead temperature of 131 degrees F or higher, the permit holder may elect to add this component to the above list of alternative temperature limit wells by satisfying the following requirements:
  - i. The wellhead temperature shall not exceed 145 degrees F.
  - ii. The carbon monoxide (CO) concentration in the wellhead gases shall not exceed 500 ppmv.
  - iii. Prior to adding a component to the list in this subpart, the permit holder shall monitor the gas in the component for CO concentration at least two times, with no more than 15 days between tests. CO monitoring shall continue on a monthly basis, or more frequently if required by subparts 3(d - g), until the permit holder is allowed to discontinue monitoring per subpart 3(g).
  - iv. The permit holder shall comply with all applicable monitoring and recordkeeping requirements in subpart 3(c - h).
  - v. The component shall not exceed any wellhead limit other than temperature and shall have had no excesses of 8-34-305 wellhead limits (other than temperature) during the 120 days prior to adding this component to the list in this subpart.
  - vi. Within 30 days of adding a component to the list in this subpart, the permit holder shall notify the District in writing that the operator is requesting to add the component to the Part 3(b) list of alternative temperature limit wells. This notification shall include the well ID number, a map of the collection system to identify the location of the well, and the dates and results of all monitoring conducted on the well to verify that the above requirements have been satisfied.
  - vii. If the Regulation 8-34-414 repair schedule has been invoked for the wellhead temperature excess, and the operator has met the requirements of 8-34-414.1 and 8-34-414.2, then compliance with the requirements of this subpart shall be deemed an acceptable resolution of the wellhead temperature excess in lieu of the collection system expansion specified in 8-34-414.3 and 8-34-414.4.
- c. The permit holder shall demonstrate compliance with the alternative wellhead temperature limit in Part 3a by monitoring and recording the temperature of the landfill gas in each wellhead on a monthly basis, in accordance with 8-34-501.8, 501.9, and 505.
- d. If the temperature of the landfill gas in a wellhead exceeds 140 degrees F, the permit holder shall investigate the possibility of a subsurface fire at the wellhead by monitoring for CO concentration in the wellhead gases and by searching for smoke, smoldering odors, combustion residues, and other fire indicators in the wellhead and in the landfill area near the wellhead. Within 5 days of triggering a fire investigation, the operator shall measure the CO concentration in the landfill gas at the wellhead using a portable CO monitor or an EPA approved test method. CO monitoring shall continue according to the frequency specified in subparts 3(e - g).
- e. If the CO concentration is greater than 500 ppmv, the permit holder shall immediately take all steps necessary to prevent or extinguish the subsurface fire, including disconnecting the well from the vacuum system if necessary. If the well is not disconnected from the vacuum system or upon reconnecting a well to the vacuum system, the permit holder shall monitor the well for CO concentration, wellhead

temperature, and other fire indicators on at least a weekly basis until the CO concentration drops to 500 ppmv or less.

- f. If the CO concentration is less than or equal to 500 ppmv but greater than 100 ppmv, the permit holder shall monitor for CO concentration at least twice per month (at least once every 15 days) until the CO concentration drops to 100 ppmv or less. Wellhead temperature and other fire indicators shall be evaluated at each of these semi-monthly monitoring events.
- g. If the CO concentration is less than or equal to 100 ppmv, the permit holder shall monitor for CO concentration on a monthly basis. CO monitoring may be discontinued if 3 consecutive CO measurements are 100 ppmv or less and the wellhead temperature during each of these three monitoring events is 140 degrees F or less. If a component has 3 or more CO measurements of 100 ppmv or less but the wellhead temperature was greater than 140 degrees F, the permit holder must receive written approval from the District before discontinuing the monthly CO monitoring for that component.
- h. The permit holder shall record the dates and results of all monitoring events required by this subpart in a District-approved log. If part 3e applies, the permit holder shall also describe all actions taken to prevent or extinguish the fire.  
(Basis: Regulations 8-34-303, 304, 305, 40 CFR 60.755(a) and 60.759)

**5. RECOMMENDATIONS**

Issue a change of permit condition # 6188 for the following source:

**S-9 GRDC Landfill with Gas Collection System**

by:

\_\_\_\_\_  
Randy E. Frazier, P.E.  
8 April 2009

**Engineering Evaluation Report**  
Guadalupe Rubbish Disposal Company, P#3294  
15999 Guadalupe Mines Road, San Jose  
Application #21840

**Background**

Guadalupe Landfill is an active municipal solid waste landfill operated by Waste Management of California (“Applicant”). The Applicant has requested approval of less than continuous operation (LTCO) and alternate operating limits for two horizontal collectors, which are part of the landfill gas leachate collection and removal system.

The horizontal collectors H11L and H12L were connected to the landfill gas collection system and started up in January 2010. They consist of perforated piping covered with a permeable gravel layer, which is designed to allow liquid to enter the piping and travel by gravity to a sump that discharges to a sewer line. The collectors are located directly above the impermeable bottom liner of the landfill and extend across the bottom and up the sides of the landfill liner in the current fill area. There is currently minimal fill on the side slope of the landfill liner.

With little cover over the leachate collection system in this area, vacuum applied to the horizontal collectors can result in air infiltration into the leachate collection system. However, without application of a vacuum to the leachate collection system, landfill gas can accumulate in the leachate collection system and eventually build up enough pressure to migrate out of the landfill in areas with minimal cover. To avoid surface emissions in the area where the permeable layer over the leachate collection system has little cover and to also limit the amount of air infiltration into the collected landfill gas, the Applicant has proposed to intermittently operate the horizontal leachate collectors H11L and H12L of the following source:

**S-9, Landfill with Gas Collection System**

**Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device. All of these forms of emissions are attributed to the landfill source, S-9, and are a function of the permitted capacity of the landfill.

Under this application, the Applicant has not proposed any modification to the landfill capacity, therefore there is no associated increase in any of these emissions. Although the Applicant has proposed to intermittently cease gas collection at the 2 horizontal collectors, this is not expected to result in additional emissions due to surface leaks as long as the Applicant complies with the surface monitoring and wellhead monitoring requirements.

**Cumulative Increase**

There is no change in emissions associated with the LTCO request for the horizontal collectors H11L and H12L, therefore no emission increase will be charged to this application.

## **Compliance Determination**

### **Regulation 1, “General Provisions and Definitions”**

### **Regulation 2, Rule 1, “Permits – General Requirements” - Public Notice Requirements**

### **Regulation 2, Rule 2, “Permits – New Source Review” - Best Available Control Technology (BACT) Requirements, Emission Offsets and Prevention of Significant Deterioration (PSD)**

### **Regulation 2, Rule 5, “Permits – New Source Review of Toxic Air Contaminants” - Health Risk Assessment Requirements**

### **Regulation 6, Rule 1, “Particulate Matter – General Requirements”**

### **Regulation 9, Rule 2, “Inorganic Gaseous Pollutants – Hydrogen Sulfide”**

As there is no change in emissions associated with this request, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6 (particulate matter), and Regulation 9, Rule 2 (hydrogen sulfide) is expected. The public notification requirements of Regulation 2, Rule 1, as well as the BACT, PSD, emission offsets, and the health risk assessment requirements in Regulation 2, Rule 5 do not apply as the proposed alternate operating limitations do not constitute a modification of the landfill.

### **California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

The requested alternate maximum oxygen limit for the specified wells and allowance for intermittent operation will be a modification of the permit conditions for the landfill, S-9, but will not involve physical modification of the landfill and is not expected to increase emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

### **Major Facility Review, Regulation 2, Rule 6**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 60. The federal operating permit requirements of this program have been codified in District Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit, which was issued in October 2001. The permit was renewed in October 2007. The proposed establishment of an alternate well oxygen content limit and intermittent operation of the 2 horizontal collectors is considered a minor revision to the Title V permit, which will be processed under Application #20343.

### **Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"**

Regulation 8, Rule 34, Section 301 requires that the landfill gas collection system be operated continuously, unless the requirements of Section 8-34-404 are met. Section 8-34-305.1 requires a vacuum to be applied at each wellhead, and Section 305.4 limits oxygen concentration to less than 5% by volume. The well oxygen limit is intended to minimize air intrusion into the landfill gas. Exceptions are allowed to the requirements of Section 8-34-305 if the operator has satisfied the requirements of Section 8-34-414 (Repair Schedule for Wellhead Excesses) or has received permit conditions containing alternative operating levels.

Since start-up in January, the Applicant has measured rising oxygen concentrations at H11L with corresponding decreasing levels of methane in the collected gas. Likewise the methane concentration measured at H12L has been decreasing with rising balance gas measurements. As air intrusion is expected to continue with continuous vacuum at these collectors, the Applicant has requested a higher maximum operating value of 15% oxygen at H11L and H12L and to be allowed to shut off gas collection if the measured oxygen content is approaching 15%. This will allow the Applicant to balance the prevention of landfill gas build-up and potential surface emissions against air intrusion into the collected landfill gas. The Applicant has proposed to continue the required monthly monitoring and inspection of the horizontal collectors to determine when the vacuum on the collectors should be shut-off or turned on.

Section 8-34-404 requires a LTCO petition to be submitted in writing, contain the landfill gas flowrate and methane concentrations for the components for which the petition applies, include a map showing

locations of individual components, and an operating, maintenance, and inspection schedule. If granted, the owner/operator must petition to renew the LTCO provisions every 3 years.

Since the air intrusion cannot be prevented at H11L and H12L horizontal leachate collectors until additional waste is placed over the leachate collection system at the sides of the landfill, the requested higher oxygen content limit and intermittent operation of wells H11L and H12L will be granted and added to the permit conditions for the landfill. The Applicant will continue to monitor the landfill gas composition and monitor for surface emissions to ensure that emissions are not caused due to gas build-up in the horizontal collectors. No increase in emissions is expected due to this change.

**40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):**  
**Subpart A, Standards of Performance for New Stationary Sources – General Provisions**  
**Subpart Cc, Standards of Performance for New Stationary Sources – Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills**

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have had no design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. Therefore, the facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34.

**40 CFR Part 70, State Operating Permit Programs (Title V):**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 70. As a designated facility, this facility is subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6.

**Permit Condition #6188**

Part 3 of Condition #6188 will be amended as indicated below to include the new alternate oxygen limit and operating requirements for wells H11L and H12L:

3. The landfill gas collection system described in Part 2 above shall be operated continuously. Wells shall not be disconnected or removed from operation nor shall isolation or adjustment valves be closed without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (basis: Regulation 8-34-301, Regulation 8-34-305)

Each landfill gas collection system wellhead associated with the gas collection system components listed in Part 2 shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for the component and the Permit Holder complies with all of the additional requirements identified in this subpart. Components that are subject to an alternative wellhead limit may still use the Regulation 8-34-414 repair schedule for operator discovered excesses of the alternative limit, although invoking the 8-34-414 repair schedule replaces the monitoring requirements described in Parts 3 (b - h). (Basis: Regulation 8-34-305 and 8-34-414)

- a. For each of the wells identified in Part 3(b), the Regulation 8-34-305.2 wellhead temperature limit does not apply, and the landfill gas temperature at each wellhead shall not exceed 145 degrees F.
- b. The wells that are subject to Part 3(a) alternative wellhead temperature limit are: #108, 115, and 116. If any other component has a wellhead temperature of 131 degrees F or higher, the Permit Holder may elect to add this component to the above list of alternative temperature limit wells by satisfying the following requirements:

- i. The wellhead temperature shall not exceed 145 degrees F.
  - ii. The carbon monoxide (CO) concentration in the wellhead gases shall not exceed 500 ppmv.
  - iii. Prior to adding a component to the list in this subpart, the Permit Holder shall monitor the gas in the component for CO concentration at least two times, with no more than 15 days between tests. CO monitoring shall continue on a monthly basis, or more frequently if required by subparts 3(d - g), until the Permit Holder is allowed to discontinue monitoring per subpart 3(g).
  - iv. The Permit Holder shall comply with all applicable monitoring and recordkeeping requirements in subpart 3(c - h).
  - v. The component shall not exceed any wellhead limit other than temperature and shall have had no excesses of 8-34-305 wellhead limits (other than temperature) during the 120 days prior to adding this component to the list in this subpart.
  - vi. Within 30 days of adding a component to the list in this subpart, the Permit Holder shall notify the District in writing that the operator is requesting to add the component to the Part 3(b) list of alternative temperature limit wells. This notification shall include the well ID number, a map of the collection system to identify the location of the well, and the dates and results of all monitoring conducted on the well to verify that the above requirements have been satisfied.
  - vii. If the Regulation 8-34-414 repair schedule has been invoked for the wellhead temperature excess, and the operator has met the requirements of 8-34-414.1 and 8-34-414.2, then compliance with the requirements of this subpart shall be deemed an acceptable resolution of the wellhead temperature excess in lieu of the collection system expansion specified in 8-34-414.3 and 8-34-414.4.
- c. The Permit Holder shall demonstrate compliance with the alternative wellhead temperature limit in Part 3(a) by monitoring and recording the temperature of the landfill gas in each wellhead on a monthly basis, in accordance with 8-34-501.8, 501.9, and 505.
- d. If the temperature of the landfill gas in a wellhead exceeds 140 degrees F, the Permit Holder shall investigate the possibility of a subsurface fire at the wellhead by monitoring for CO concentration in the wellhead gases and by searching for smoke, smoldering odors, combustion residues, and other fire indicators in the wellhead and in the landfill area near the wellhead. Within 5 days of triggering a fire investigation, the operator shall measure the CO concentration in the landfill gas at the wellhead using a portable CO monitor or an EPA approved test method. CO monitoring shall continue according to the frequency specified in subparts 3(e - g).
- e. If the CO concentration is greater than 500 ppmv, the Permit Holder shall immediately take all steps necessary to prevent or extinguish the subsurface fire, including disconnecting the well from the vacuum system if necessary. If the well is not disconnected from the vacuum system or upon reconnecting a well to the vacuum system, the permit holder shall monitor the well for CO concentration, wellhead temperature, and other fire indicators on at least a weekly basis until the CO concentration drops to 500 ppmv or less.
- f. If the CO concentration is less than or equal to 500 ppmv but greater than 100 ppmv, the Permit Holder shall monitor for CO concentration at least twice per month (at least once every 15 days) until the CO concentration drops to 100 ppmv or less. Wellhead temperature and other fire indicators shall be evaluated at each of these semi-monthly monitoring events.
- g. If the CO concentration is less than or equal to 100 ppmv, the Permit Holder shall monitor for CO concentration on a monthly basis. CO monitoring may be discontinued if 3 consecutive CO measurements are 100 ppmv or less and the wellhead temperature during each of these three monitoring events is 140 degrees F or less. If a component has 3 or more CO measurements of

100 ppmv or less but the wellhead temperature was greater than 140 degrees F, the Permit Holder must receive written approval from the District before discontinuing the monthly CO monitoring for that component.

- h. The Permit Holder shall record the dates and results of all monitoring events required by this ~~subpart~~Part 3 in a District-approved log. If ~~p~~Part 3(e) applies, the Permit Holder shall also describe all actions taken to prevent or extinguish the fire.
- i. For each of the components indentified in Part 3(j), the continuous operation requirement in Regulation 8-34-301.1, the negative pressure requirement in Regulation 8-34-305.1, and the oxygen concentration limit in Regulation 8-34-305.4 shall not apply. Approval of less than continuous operation for the components in Part 3(j) must be renewed every 3 years. Renewal is required by June 2013 or the alternate operating mode specified in 3(j) will no longer apply.
- j. The components that are subject to this alternative operating mode are the horizontal collectors H11L and H12L. Horizontal collectors H11L and H12L shall be subject to the following operating limitations:
  - i. Under no circumstances shall the measured oxygen level exceed 15% by volume.
  - ii. If compliance with Part 3(j)(i) requires turning off the vacuum to a horizontal collector, the horizontal collector may be operated with a maximum pressure of up to 0.5 inches water column.
  - iii. The landfill gas temperature at each collector shall be less than 55 degrees C (131 degrees F).
  - iv. In order to demonstrate compliance with subparts 3(j)(i-iii), the Permit Holder shall install and maintain a District-approved vacuum/pressure gauge on each collector and shall monitor and record the oxygen content, pressure, and landfill gas temperature at each collector at least once every calendar month.

(Basis: Regulations 8-34-303, 304, 305, 404, 40 CFR 60.755(a) and 60.759)

### **Recommendations**

I recommend issuing a Change of Conditions for the following source:

### **S-9, Landfill with Gas Collection System**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

**Engineering Evaluation Report**  
Guadalupe Rubbish Disposal Company, P#3294  
15999 Guadalupe Mines Road, San Jose  
Application #21931

**Background**

Guadalupe Landfill is an active municipal solid waste landfill operated by Waste Management of California (“Applicant”). Under Application 18410, the Applicant requested approval of changes to the landfill gas collection system. Under that application, an Authority to Construct was issued on July 22, 2008, authorizing addition of 30 new vertical wells and 10 new horizontal wells, replacement of 15 vertical wells, decommissioning of 15 vertical wells, and decommissioning of 5 horizontal trench collectors. Some of the authorized collection system changes have been made, and the Authority to Construct issued under Application 18410 is about to expire.

The District’s policy for permitting alterations of a landfill gas collection system has changed. To reduce the administrative overhead required to manage Authorities to Construct (which expire in 2 years) for such alterations, the District is now granting approval of landfill gas collection system alterations as a Change of Conditions.

The current well count at this site is 51 vertical wells and 3 horizontal collectors. The Applicant has submitted this application for a Change of Conditions under the accelerated permitting program, requesting approval of the following changes to the landfill gas collection system:

- S-9, Landfill with Gas Collection System -**
- Installation of up to 70 new vertical wells**
- Installation of up to 20 new horizontal trench collections**
- Replacement of up to 40 vertical wells**
- Decommissioning of up to 20 vertical wells**
- Decommissioning of up to 10 horizontal trench collectors**

**Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device.

All of these emissions are attributed to the landfill source, S-9, and are a function of the permitted capacity of the landfill. . Under this application, the Applicant has not proposed any modification to the landfill waste capacity. The changes to the collection system, including addition of new wells, will not result in additional gas generation or any change in the landfill gas production rate; it will merely allow for better collection of the generated gas. Therefore, there is no emission increase at the landfill associated with the addition of collection wells. This type of change is therefore not a “modification” of the landfill source as defined in Regulation 1-217:

*“Any physical change in existing plant or change in the method of operation which results or may result in either an increase in emission of any air pollutant subject to District control, or the emission of any such air pollutant not previously emitted. ....”*



### Cumulative Increase

The District tracks increases in emissions from each facility. As there is no increase in emissions associated with the proposed landfill gas collection well changes, there will be no change to the cumulative emission total for this site.

### Compliance Determination - Statement of Compliance

There are no new District or federal regulations triggered by this proposed landfill gas collection system modifications. However, changing the number of landfill gas collection wells will require that the Title V permit for the facility be modified. This change qualifies as a minor revision to the Title V permit and will be processed under Application 20343.

### California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1

The requested changes to the landfill gas collection system for the permitted source, S-9, will not result in an emission increase. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

### Permit Condition #6188

Part 2 of Condition #6188 will be amended as indicated below to include the proposed alterations to the landfill gas collection system:

2. The owner/operator shall ensure that the landfill gas collection system, described in subpart 2a below, is operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the APCO, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 117, and 118. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in subpart 2a below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors, or the locations of wells or collectors are alterations that are subject to this requirement. Adding or modifying risers, laterals, or header pipes are not subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to subpart 2b, as evidenced by start-up/shut-down notification letters submitted to the District.
  - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shutdown notifications submitted through June 24, 2010. Well and collector locations, depths, and lengths are as described in Permit Applications 1684, 8118, 9780, 15380, and 18410.

Required Number of Vertical Wells: 51  
Required Number of Horizontal Collectors: 3

b. The owner/operator is authorized to make the landfill gas collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #21931.

	<u>Minimum</u>	<u>Maximum</u>
<u>Install new vertical wells:</u>	0	70
<u>Replace vertical wells:</u>	0	40
<u>Decommission vertical wells:</u>	0	20
<u>Install new horizontal trench collectors</u>	0	20
<u>Decommission horizontal trench collectors</u>	0	10

Wells installed, relocated, replaced, or shutdown pursuant to subpart 2b shall be added to or removed from subpart 2a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well.

(Basis: Regulation 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, and 8-34-305)

**Recommendations**

I recommend issuing a Change of Conditions to Condition #6188 to allow alterations to the landfill gas collection system for the following source:

**S-9, Landfill with Gas Collection System**

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

**Engineering Evaluation Report**  
Guadalupe Recycling and Disposal Facility, P#3294  
15999 Guadalupe Mines Road, San Jose  
Application #23874

**Background**

Waste Management (“Applicant”) operates the Guadalupe Recycling and Disposal Facility, located at 15999 Guadalupe Mines Road, in San Jose (Plant #3294).. The Applicant has requested a Change of Conditions to allow installation, decommissioning, and maintenance of vertical landfill gas collection wells and horizontal landfill gas trench collectors at the existing Landfill, S-9.

The most recent changes to the gas collection system were approved under Application #21931. As of 4/8/11, 11 additional vertical wells had been added, bringing the total wells to 62 vertical wells and 3 horizontal collectors. The Applicant has requested approval of the following alterations to gas collection system under the accelerated permitting program:

S-9, Guadalupe Landfill – Waste Decomposition Process, equipped with Gas Collection System, equipped with (62) Vertical Gas Extraction Wells and (3) Horizontal Collectors:

- Installation of up to (70) New Vertical Gas Extraction Wells,  
Replacement of up to (40) Vertical Gas Extraction Wells,  
Decommissioning of up to (40) Vertical Gas Extraction Wells,
- Installation of up to (20) New Horizontal Trench Collectors,  
Decommissioning of up to (10) Horizontal Trench Collectors

**Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device.

All of these emissions are attributed to the landfill source, S-9, and are a function of the permitted capacity of the landfill. . Under this application, the Applicant has not proposed any modification to the landfill waste capacity. The changes to the collection system, including addition of new wells, will not result in additional gas generation or any change in the landfill gas production rate; it will merely allow for better collection of the generated gas. Therefore, there is no emission increase at the landfill associated with the addition of collection wells. This type of change is therefore not a “modification” of the landfill source as defined in Regulation 1-217:

*“Any physical change in existing plant or change in the method of operation which results or may result in either an increase in emission of any air pollutant subject to District control, or the emission of any such air pollutant not previously emitted. ....”*

The collected landfill gas is currently flared at the existing flare, A-9 with a combustion capacity of 60 MMBtu/hr. The Applicant recently applied for and was issued an Authority to Construct to install a larger replacement flare, A-14, with a combustion capacity of 120 MMBtu/hr (4,000 scf landfill gas/minute). The Applicant reported that the annual quantity of landfill gas collected (as of the end of 2011) was 622.6 million cubic feet. This rate is equivalent to a flowrate of 1,185 cfm, within the capacity of the existing flare and well within the capacity of the larger replacement flare. The increase in landfill gas collection rate due to the proposed additional wells is within the capacity of the replacement flare. As emissions from the flare have already been fully offset under Application #21927, there is no emission increase due to this application.

### **Cumulative Increase**

There is no change in emissions associated with the request to alter the landfill gas collection system, therefore there will be no change to the cumulative emission increases for this facility as a result of this application.

### **Statement of Compliance**

#### **Regulation 1, “General Provisions and Definitions”**

##### **Regulation 2, Rule 1, “Permits – General Requirements” - Public Notice Requirements**

##### **Regulation 2, Rule 2, “Permits – New Source Review” - Best Available Control Technology (BACT) Requirements, Emission Offsets and Prevention of Significant Deterioration (PSD)**

##### **Regulation 2, Rule 5, “Permits – New Source Review of Toxic Air Contaminants” - Health Risk Assessment Requirements**

#### **Regulation 6, Rule 1, “Particulate Matter – General Requirements”**

#### **Regulation 9, Rule 2, “Inorganic Gaseous Pollutants – Hydrogen Sulfide”**

As there is no change in emissions associated with the proposed alterations to the landfill gas collection system, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6, Rule 1 (particulate and visible emissions), and Regulation 9, Rule 2 (hydrogen sulfide) is expected. In addition, the public notification requirements of Regulation 2, Rule 1, Section 412, the BACT, PSD, and emission offset requirements in Regulation 2, Rule 2, as well as the health risk assessment requirements in Regulation 2, Rule 5 are requirements triggered by emission increases and also do not apply.

#### **California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

The proposed alterations to the collection systems will require a change to the permit conditions for the permitted source, S-5, but will not involve an increase emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

### **Major Facility Review, Regulation 2, Rule 6**

#### **40 CFR Part 70, State Operating Permit Programs (Title V)**

The Title V federal permitting requirements of 40 CFR Part 70 have been codified and are enforced through District Regulation 2, Rule 6. This facility is a designated facility and is therefore subject to Title V and Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on October 1, 2001 and underwent minor permit revisions in 2004 and 2005. The permit was renewed on October 11, 2007, and is due for renewal again. As required by Regulation 2, Rule 6, the Applicant has submitted an application for renewal of the permit this year. The proposed collection system alterations are considered a minor revision to the Title V permit and will be processed as a minor revision under Application #23875 or will be processed with the renewal of the Title V permit under Application #24359.

**Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"  
40 CFR Part 60, Subpart Cc, Standards of Performance for New Stationary Sources (NSPS)–  
Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills**

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have not undergone a design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The District’s Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. This facility is currently subject to the EG, which is enforced through compliance with District Regulation 8, Rule 34. Continued compliance with these regulations is expected.

**Permit Condition #6188**

Part 2 of the permit condition #6188 will be modified as indicated below to address the gas and leachate collection system modifications proposed under this application:

2. The owner/operator shall ensure that the landfill gas collection system, described in subpart 2a below, is operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the APCO, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 117, and 118. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in subpart 2a below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors, or the locations of wells or collectors are alterations that are subject to this requirement. Adding or modifying risers, laterals, or header pipes are not subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to subpart 2b, as evidenced by start-up/shut-down notification letters submitted to the District.
  - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below, which includes all start-up/shutdown notifications submitted through June 24, 2010. Well and collector locations, depths, and lengths are as described in Permit Applications 1684, 8118, 9780, 15380, ~~and~~ 18410, and 21931.

Required Number of Vertical Wells:    5462  
Required Number of Horizontal Collectors:    3

- b. The owner/operator is authorized to make the landfill gas collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #~~21931~~23874.

	Minimum	Maximum
Install new vertical wells:	0	70
Replace vertical wells:	0	40
Decommission vertical wells:	0	<u>2040</u>
Install new horizontal trench collectors	0	20
Decommission horizontal trench collectors	0	10

Wells installed, relocated, replaced, or shutdown pursuant to subpart 2b shall be added to or removed from subpart 2a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well.

(Basis: Regulation 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, and 8-34-305)

## Recommendations

I recommend issuing a Change of Conditions to Condition #6188 to allow alterations to the landfill gas collection system for the following source:

S-9, Guadalupe Landfill – Waste Decomposition Process, equipped with Gas Collection System, equipped with (62) Vertical Gas Extraction Wells and (3) Horizontal Collectors:

- Installation of up to (70) New Vertical Gas Extraction Wells,  
Replacement of up to (40) Vertical Gas Extraction Wells,  
Decommissioning of up to (40) Vertical Gas Extraction Wells,
- Installation of up to (20) New Horizontal Trench Collectors,  
Decommissioning of up to (10) Horizontal Trench Collectors

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date

**Engineering Evaluation Report**  
Guadalupe Recycling and Disposal Facility, P#3294  
15999 Guadalupe Mines Road, San Jose  
Application #24536

**Background**

Waste Management (“Applicant”) has applied for a Permit to Operate Construction and Demolition (C&D) Debris Stockpiles at the Guadalupe Recycling and Disposal Facility, located at 15999 Guadalupe Mines Road, in San Jose (Plant #3294).

Customers will unload C&D materials into a designated staging area. The materials will be shredded, stockpiled, and dispersed onsite as alternative daily cover. The Applicant has proposed a maximum stockpile size of 625 tons and a maximum annual throughput of 200,000 tons per year. Materials added to and removed from the stockpile will be unloaded and loaded during the site’s operational hours, not to exceed 12 hours per day.

**S-24, Construction & Demolition Debris Stockpile, 200,000 tons per year, maximum**

At this time, the Applicant has submitted only an application for the proposed stockpiles, and not the portable diesel engine/processing equipment that will be used to process the stockpiled material. The District has been working with several other air Districts in California to define a permitting policy to clarify the circumstances under which portable equipment registered under the state’s portable equipment registration program (PERP) becomes subject to District stationary source permit requirements. As this policy is not yet final, this application will evaluate only the stockpile handling emissions associated with the proposed recycling operation. The Applicant has been informed that, pending issuance of the District policy on state registered portable equipment, a District permit may be required for the PERP-certified processing equipment operated at this site.

**Emission Calculations**

Particulate emissions will be generated from the unloading, storage, processing, then distribution of the processed material onsite. The PM10 emissions for this project have been based on emission factors from EPA’s AP-42, Compilation of Air Pollution Emission Factors, 5<sup>th</sup> Edition, Chapter 13.2.4, Aggregate Handling and Storage Piles. The C&D debris is expected to be composed of mixed materials, which is expected to result in lower emissions than the aggregate handling emission factors have estimated.

The emission calculations include two extra handling/transfer steps for the processing of the stockpiled material. The initial unloading of the material at the site, loading of the processed product to be distributed onsite, and delivery as alternative daily cover are emissions that would occur as part of the standard landfill operations. In addition, no emissions for increased vehicle traffic have been assessed, since the initial drop off of the material and delivery to the working face of the landfill are part of the standard landfill operations.

Note that since the District policy regarding permitting of PERP-registered equipment operated at facilities within the District is currently under development, the emissions from the portable processing operation will not be considered under this application. If a District permit is required of the PERP equipment, the emissions from the processing and handling operation, as well as the diesel engine used to power this equipment, will be assessed at that time under a separate application.

The emissions have been calculated based on the Applicant's proposed annual limit of 200,000 tons. The Applicant estimates that the maximum stockpile size is 625 tons at any one time, so an estimated maximum daily processing limit of 1,000 tons was used to calculate the expected maximum daily emissions for the Best Available Control Technology analysis. Emissions from wind erosion are expected to be insignificant. The particulate emission calculations are shown in the attached spreadsheet and summarized in Table 1 below.

**Table 1  
Criteria Pollutant Project Emissions**

	<b>Emission Factor (lbs/ton)</b>	<b>Annual Emissions (lbs/yr)</b>	<b>Maximum Daily Emissions (lbs/day)</b>
<b>Project Total PM10</b>	0.001911	764.4	3.82
<b>Project Total PM2.5</b>	0.000289	6.52	0.03

**Cumulative Increase**

The District tracks increases in emissions from each facility. These cumulative emissions were reset on April 5, 1991 for all facilities. The post-project cumulative increase for this facility consists of the emissions listed under the current Plant #3294, shown below, as well as the increase in particulate emissions from this project.

**Table 2  
P#3294, Cumulative Emission Increases Since 4/5/91**

<b>Pollutant</b>	<b>Existing, tpy</b>	<b>Increase, tpy</b>	<b>New, tpy</b>
PM10	0.691	0.3822	1.0732
PM2.5	---	0.0033	0.0033

**Compliance Determination**

**Regulation 1, "General Provisions and Definitions"**

The facility is subject to Regulation 1, Section 301, which prohibits discharge of air contaminants resulting in public nuisance. The emissions from the project are not expected to be significant, therefore the operation is not expected to be the source of dust complaints.

**Public Notice Requirements, Regulation 2, Rule 1**

The public notification requirements of Regulation 2-1-412 apply to modifications which result in an increase in toxic air contaminant or hazardous air contaminant emission at facilities within 1,000 feet of the boundary of a K-12 school. The applicant has reported no K-12 school within that radius of this facility, and the District's database confirms that the closest K-12 school is located 0.85 mile from the facility (4,488 feet). Therefore, the public notice requirements do not apply.

**California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with CEQA requirements except for ministerial projects or projects exempt from CEQA under Section 2-1-312. This project is considered to be ministerial and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 11.7, Crushing and Grinding. Chapter 11.7 addresses emissions and permit conditions for bulk unloading and loading and storage piles and fits this proposed project.



**Best Available Control Technology (BACT) Requirements, Regulation 2, Rule 2**

Reasonably Available Control Technology (RACT) Requirements, Regulation 2, Rule 2

Per Regulation 2, Rule 2, BACT is triggered when the maximum emissions from a source are 10 lbs per day or more. The maximum daily PM10 and PM2.5 emissions from this operation are estimated by the maximum quantity of material that is handled in one day. The Applicant estimates the maximum stockpile size of 625 tons. Based on a higher daily rate of 1,000 tons per day, the daily emissions are less than 4 lbs/day. Since this is less than the 10 lbs per day BACT trigger level, a BACT review is not required. Note that a maximum processing rate of 2,500 tons per day results in emissions of 9.55 lbs per day, so this is the rate which will be included in the permit conditions to ensure that the BACT trigger level is not exceeded.

Emission Offsets and Prevention of Significant Deterioration (PSD), Regulation 2, Rule 2

The PM10 emission offset requirements are specified in District Regulation 2, Rule 2, Section 303. PM10 emission offsets must be provided for new or modified sources located at a major facility that will result in a cumulative increase in excess of 1.0 ton per year since April 5, 1991.

The existing sources at this site include the landfill, woodwaste stockpiles, shredded wood stockpiles, a debris sorting system, and the landfill gas flare. All of these sources also emit PM10. The actual PM10 emissions from these sources in the District’s emission inventory, based on 2011 data reported by the Applicant, are 13 tons per year. The potential PM10 emissions from the facility are summarized in Table 3, below.

**Table 3  
P#3294, PM10 Potential to Emit**

<b>Source/AD</b>	<b>Capacity</b>	<b>EF Basis</b>	<b>PTE, tpy</b>
S-5, Woodwaste Debris Stockpiles	200 tpd	specific	2.04
S-6, Shredded Wood Stockpiles & Loadout	200 tpd	specific	0.04
S-18, Debris Sorting System	900 tpd	specific	0.39
S-24, C&D Stockpiles	200,000 tpy	general	0.38
S-31, Landfill Waste/Cover Dumping	2400 tpd	specific	49.49
S-32, Landfill Excvtng/Bulldz/Compctng	2400 tpd	specific	24.84
A-9, Flare	60 MMBtu/hr	general	4.47
Facility Total			81.7

Since the potential PM10 emissions are less than 100 tons per year, this facility is not major for PM10, and PM10 emission offsets are not required. Note that the facility has been issued an Authority to Construct to replace the existing flare, A-9, with a new flare, A-14 which has double the capacity of the existing flare; however, even considering the potential emissions from the larger flare, the potential facility emissions will not exceed 100 tons PM10 per year.

**Health Risk Assessment Requirements, Regulation 2, Rule 5**

The District’s regulation concerning toxic air contaminant emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants (TAC). All TAC emissions from new and modified sources are subject to risk assessment review, if the resulting emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1.

The TAC emissions from the proposed C&D stockpile operation will depend on the composition of the material accepted. Estimated emissions for a stockpile at a recycling operation at another landfill operation recently has shown that TAC emissions could potentially exceed the risk screening trigger levels in Regulation 2, Rule 5 (for crystalline silica and trace metals, arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, selenium) if concrete and asphalt are a significant portion of the accepted material.

The Applicant has indicated that the stockpile and recycling operation at this site will not contain significant levels of concrete or asphalt. The Applicant has estimated that approximately 200 tons per year of concrete/asphalt may end up in the stockpile, and even at a level of 10,000 tons per year of concrete/asphalt, the TAC emissions would not exceed the risk screening trigger levels in Regulation 2, Rule 5.

Since the Applicant has stated that TAC emissions from this operation will not exceed the defined trigger levels in Table 2-5-1, a permit condition will be included that prohibits acceptance of materials containing TACs which may cause emissions to exceed the screening levels in Regulation 2, Rule 5 will be included and no risk screen is required at this time.

### **Major Facility Review, Regulation 2, Rule 6**

#### **40 CFR Part 70, State Operating Permit Programs (Title V):**

This facility is a designated facility, as it is currently subject to the requirements of 40 CFR Part 60.

The requirements of this program have been codified in District Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on October 1, 2001 and underwent two minor revisions and was renewed on October 11, 2007. The addition of the proposed stockpile operation to the Title V permit is considered a minor revision, which will be processed under Application #24535 or with the renewal of the Title V permit under Application #24359.

#### **Regulation 6, Rule 1, “Particulate Matter – General Requirements”**

The construction and demolition stockpiles are subject to the particulate emission and opacity standards in Regulation 6, Rule 1. Section 6-1-301 limits visible emissions, which may not be as dark or darker than No. 1 on the Ringelmann Chart, for more than 3 minutes in any hour. Section 6-1-305 prohibits emissions of visible particles from causing a public nuisance. The emissions from the proposed handling and storage of construction and demolition materials are not expected exceed the opacity standard or violate the public nuisance prohibition.

Section 6-1-311 limits particulate emissions based on processing rates. Since the processing of the construction and demolition materials will be performed by portable equipment, which is not being permitted under this application, this section does not apply.

#### **40 CFR Part 60 - Standards of Performance**

#### **40 CFR Part 63 - National Emission Standards for Hazardous Air Pollutants**

There are a number of federal regulations that apply to manufacturing or processing of various products (portland cement, asphalt, non-metallic mineral products) but these regulations do not apply to the recycling of these products, so do not apply to the proposed stockpile and recycling operation.

#### **Permit Condition #25537**

The following conditions will limit the construction and demolition debris stockpile to the parameters represented in the application, which were used to estimate emissions from the proposed operation:

1. The owner/operator shall ensure that no more than 200,000 tons of construction and demolition debris is accepted at S-24 in any consecutive 12-month period.  
(basis: Cumulative Increase)
2. The owner/operator ensure that the combined amount of construction and demolition debris processed at S-24 does not exceed 2,500 tons in any day.  
(basis: Regulation 2-1-403, limiting daily emissions to avoid BACT)

3. The owner/operator shall minimize disturbance of the stockpiles at S-24, and use water spray additionally, as necessary, on the stockpiles and stockpile area to maintain compliance with Regulation 6.  
(basis: District Regulation 6, Rule 1, Section 301)
  
4. The owner/operator shall ensure that the construction and demolition debris accepted at S-24 does not contain hazardous waste, regulated asbestos containing materials, or any other materials that will result in emissions of toxic air contaminants in excess of an acute or chronic trigger level identified in Regulation 2, rule 5, Table 2-5-1, during handling or recycling of these materials.  
(basis: District Regulation 2, Rule 5, Section 110)
  
5. The owner/operator shall maintain the following records:
  - a. Amount of construction and demolition debris accepted at S-24 on a daily basis.
  - b. Amount construction and demolition debris processed at S-24 and used as alternate daily cover on a daily basis.
  - c. Amount of construction and demolition debris accepted, processed, and used as alternate daily cover shall be totaled at the end of each month for each day and for the previous 12-month period.

The owner/operator shall maintain all records in a District-approved log. The owner/operator shall retain the records for five years from the date of entry and make them available for inspection by District staff upon request. These record-keeping requirements shall not replace the record-keeping requirements contained in any applicable District Regulations.  
(basis: Cumulative Increase)

**G. Recommendations**

I recommend waiving an Authority to Construct and issuing a Permit to Operate for the following operation:

S-24, Construction & Demolition Debris Stockpile, 200,000 ton per year maximum,  
2,500 ton per day maximum

\_\_\_\_\_  
 Tamiko Endow  
 Air Quality Engineer

\_\_\_\_\_  
 Date

**Engineering Evaluation Report**  
Guadalupe Recycling and Disposal Facility, P#3294  
15999 Guadalupe Mines Road, San Jose  
Application #25381

**Background**

Waste Management (“Applicant”) operates the Guadalupe Recycling and Disposal Facility, located at 15999 Guadalupe Mines Road, in San Jose (Plant #3294). The Applicant has requested a Change of Conditions to allow extension of Less than Continuous Operation and approval of alternate operating standards for the landfill gas collection system horizontal leachate collectors H11L and H12L, as well as extension of the terms of these conditions to an additional horizontal leachate collector H13L.

The leachate collectors are part of the leachate collection and removal system and are intended to collect and remove liquid (“leachate”) that accumulates in the landfill. They are composed of a perforated pipe, surrounded by gravel, installed at the bottom of the landfill to collect liquid that accumulates in the landfill by gravity. The horizontal collectors are also connected to the landfill gas collection and control system in order to periodically vent the landfill gas that collects in the pipes to the flare for destruction.

Due to the design of the leachate collection system, excess oxygen filtration is common in these collectors, even under minimum vacuum. The Applicant has therefore requested extension of the approval to operate the collectors on an intermittent basis and pressure of up to 0.5 inches of water column and oxygen concentrations of up to 15%, as well as adding of H13L to the list of affected components.

**Emission Calculations**

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are uncombusted at the landfill gas abatement device.

All of these emissions are attributed to the landfill source, S-9, and are a function of the permitted capacity of the landfill. . Under this application, the Applicant has not proposed any modification to the landfill waste capacity. The proposed intermittent connection of the leachate collectors to the gas collection system and alternate operating standards will not result in additional gas generation or any change in the landfill gas production rate. Therefore, there is no emission increase at the landfill associated with the addition of collection wells. This type of change is therefore not a “modification” of the landfill source as defined in Regulation 1-217:

*“Any physical change in existing plant or change in the method of operation which results or may result in either an increase in emission of any air pollutant subject to District control, or the emission of any such air pollutant not previously emitted. ....”*

The monitoring records for the horizontal collector H13L shows oxygen infiltration at even very low vacuum. Monitoring of the temperature, pressure, and oxygen levels at this collector has demonstrated compliance with the alternate operating standard that currently applies to H11L and H12L.

### **Cumulative Increase**

There is no change in emissions associated with the request to alter the landfill gas collection system, therefore there will be no change to the cumulative emission increases for this facility as a result of this application.

### **Statement of Compliance**

#### **Regulation 1, "General Provisions and Definitions"**

#### **Regulation 2, Rule 1, "Permits – General Requirements" - Public Notice Requirements**

#### **Regulation 2, Rule 2, "Permits – New Source Review" - Best Available Control Technology (BACT) Requirements, Emission Offsets and Prevention of Significant Deterioration (PSD)**

#### **Regulation 2, Rule 5, "Permits – New Source Review of Toxic Air Contaminants" - Health Risk Assessment Requirements**

#### **Regulation 6, Rule 1, "Particulate Matter – General Requirements"**

#### **Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"**

As there is no change in emissions associated with the proposed less than continuous operation of the horizontal leachate collectors or the alternate operating standards, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6, Rule 1 (particulate and visible emissions), and Regulation 9, Rule 2 (hydrogen sulfide) is expected. In addition, since the public notification requirements of Regulation 2, Rule 1, Section 412, the BACT, PSD, and emission offset requirements in Regulation 2, Rule 2, as well as the health risk assessment requirements in Regulation 2, Rule 5 are requirements triggered by emission increases, these regulations do not apply to the proposed change of condition.

#### **California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1**

The proposed alterations to the collection systems will require a change to the permit conditions for the permitted source, S-9, but will not involve an increase emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

#### **Major Facility Review, Regulation 2, Rule 6**

#### **40 CFR Part 70, State Operating Permit Programs (Title V)**

The Title V federal permitting requirements of 40 CFR Part 70 have been codified and are enforced through District Regulation 2, Rule 6. This facility is a designated facility and is therefore subject to Title V and Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit.

The facility was issued the initial Title V permit on October 1, 2001 and was most recently renewed on October 11, 2007. The permit is due for renewal again. As required by Regulation 2, Rule 6, the Applicant submitted an application for renewal of the permit. The proposed change of conditions are considered a minor revision to the Title V permit and will be processed with the renewal of the Title V permit under Application #24359.

#### **Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"**

#### **40 CFR Part 60, Subpart Cc, Standards of Performance for New Stationary Sources (NSPS)– Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills**

40 CFR Part 60, Subpart Cc, Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills applies to MSW landfills that have not undergone a design capacity modification since May 30, 1991, but that have accepted waste since November 8, 1987. The District's Regulation 8, Rule 34 has been approved in the state plan for implementation of the EG requirements. This facility is currently subject

to the EG, which is enforced through compliance with District Regulation 8, Rule 34. Continued compliance with these regulations is expected.

**Permit Condition #6188**

Part 3 of the permit condition #6188 will be modified as indicated below to address the leachate collection system standards proposed under this application:

- i. For each of the components identified in Part 3(j), the continuous operation requirement in Regulation 8-34-301.1, the negative pressure requirement in Regulation 8-34-305.1, and the oxygen concentration limit in Regulation 8-34-305.4 shall not apply. approval of less than continuous operation for the components in Part 3(j) must be renewed every 3 years. Renewal is required by June ~~2013~~2016 or the alternate operating mode specified in Part 3(j) will no longer apply.
- j. The components that are subject to this alternate operating mode are the horizontal collectors H11L, ~~and~~ H12L, and H13L. Horizontal collectors H11L, ~~and~~ H12L, and H13L shall be subject to the following operating limitations:
  - i. Under no circumstances shall the measured oxygen level exceed 15% by volume.
  - ii. If compliance with Part 3(j)(i) requires turning off the vacuum to a horizontal collector, the horizontal collector may be operated with a maximum pressure of up to 0.5 inches water column.
  - iii. The landfill gas temperature at each collector shall be less than 55 degreesC (131 degreesF).
  - iv. In order to demonstrate compliance with subparts 3(j)(i - iii), the Permit Holder shall install and maintain a District-approved vacuum/pressure gauge on each collector and shall monitor and record the oxygen content, pressure, and landfill gas temperature at each collector at least once every calendar month.

**Recommendations**

I recommend issuing a Change of Conditions to Condition #6188, Parts 3(i) and 3(j) to allow extension of the less than continuous operation and alternate operating standards for the:

Horizontal Leachate Collectors H11L, H12L, and H13L.

\_\_\_\_\_  
Tamiko Endow  
Air Quality Engineer

\_\_\_\_\_  
Date