

Bay Area Air Quality Management District

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

MAJOR FACILITY REVIEW PERMIT

for

**Potrero Hills Landfill, Inc.
Facility #A2039**

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Application Number: 17480

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**Title V Statement of Basis for:
Renewal of Major Facility Review Permit for
Potrero Hills Landfill, Site #A2039
Application #17480**

A. Background

The Potrero Hills Landfill is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined in BAAQMD Regulation 2-6-204. The Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) require the owner or operator of a landfill subject to this part and having a design capacity of 2.5 million megagrams and 2.5 million cubic meters or more to obtain a federal operating permit pursuant to Part 70. This facility is a designated facility because it meets the criteria listed in 40 CFR, Section 60.32c(c).

Since issuance of the initial Title V permit for this site, the facility has applied for an expansion of the landfill. No action has been taken on this application to date, as the proposed expansion has been held up in court. However, review of the CEQA documents for the proposed expansion revealed that a number of operational changes have been approved for the landfill operation through the Solid Waste Facility Permits, which were not updated in the District permit for the landfill. The District informed the facility that revision of Permit to Operate for the landfill to bring the permit up to date with the current operation of the site would be required, prior to review of the proposed expansion. The operational changes approved under the Solid Waste Facility Permits may constitute modification of the landfill under Subpart WWW of 40 CFR Part 60, however since the facility had not provided the requested documentation of the landfill changes at the time of publication of this document, this analysis could not be completed.

Major Facility Operating Permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR). 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 A2039.

This facility received its initial Title V permit on August 15, 2003. An administrative amendment was issued on January 5, 2004. A minor revision was later issued on May 18, 2006,

and two administrative amendments were issued on October 23, 2006 and September 29, 2011. Per the terms of the Title V permit, an application for renewal of the Title V permit was required by February 29, 2008. This permit renewal Application #17480 was received on January 28, 2008. Therefore, although the current permit expired on July 31, 2008, the permit 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 Potrero Hills Landfill is an active Class III municipal solid waste (MSW) landfill owned and operated by Waste Connections (previously owned and operated by Republic Services). The site is located in Solano County, approximately 2 miles southeast of Suisun City and south of Travis Air Force Base, within the secondary management area of the Suisun Marsh. The Suisun Marsh, which consists of approximately 85,000 acres of tidal marsh, managed wetlands, and waterways, is the largest contiguous brackish wetland remaining on the west coast. The marsh is a wildlife habitat of nationwide importance, protected under the Suisun Marsh Preservation Act enacted into state law in 1977. The secondary management area is defined as the adjacent uplands to the Marsh and is also protected under the Suisun Marsh Preservation Act.

The landfill accepts non-hazardous residential, commercial, industrial, and inert wastes, including wastewater treatment plant sludge (dewatered biosolids) for use as alternative daily cover. This landfill began accepting waste in July/August 1986 within a 320-acre site. In 1987, and adjacent 210 acre parcel was purchased for future site operations and buffer area. Additional adjacent properties have been acquired, totaling 1,400 acres, but the currently permitted landfill is located entirely within the original 320-acre parcel. The landfill has a design capacity of 21.8 million cubic yards (13.1 million tons).

This landfill was developed to receive wastes from the local central Solano County area and was expected to have a disposal life of over 70 years. With the closure of other Bay Area landfills, the landfill began accepting wastes from the counties of Alameda, Contra Costa, Marin, Mendocino, Napa, Sacramento, Santa Clara, San Mateo, and Yolo County, in addition to Solano County. Due to the larger volume of wastes being accepted, almost the entire original landfill capacity has been filled in the 25 years since the site opened.

The landfill is equipped with an active gas collection system (a system of pipes and blowers). The wells and collectors are perforated sections of pipes that are buried in the refuse at various locations. The perforated pipes are connected to blowers by solid pipes (referred to as laterals)

and headers). The blowers collect landfill gas by creating a vacuum in the buried refuse that draws landfill gas into the perforated pipes. The blowers vent the collected landfill gas to the Landfill Gas Flare (A-2).

For a number of years, the landfill owner has been seeking permits for a landfill expansion to incorporate an additional 260 acres directly east of the current landfill, to allow an additional 61.6 million cubic yards of fill. The expansion has been held up in court, first over adequacy of the CEQA review and currently over enforcement of a local county measure that prohibits disposal of out of county waste. Resolution of this lawsuit is expected this year. The facility submitted an application to the District for this proposed landfill expansion in December of 2004, prior to finalization of the original CEQA Initial Study, however the District cannot act on the application until all of the legal issues have been resolved.

In addition to the landfill, there are several other permitted sources of emissions at this site. Two prime diesel internal combustion engine-generators provide power to the site, one which is permitted and one which was installed without a District Authority to Construct or Permit to Operate. This new engine replaced a previous existing prime diesel engine-generator and must be retrofitted to comply with applicable emission standards. Since the Authority to Construct requiring this retrofit was recently issued, and since a Permit to Operate has not been issued for this non-compliant source, this source is not listed in the permitted source tables, but is included in the Schedule of Compliance. A Permit to Operate will not be issued for this source until the abatement devices are installed and operating as required. When the source demonstrates compliance with the applicable emission standards, the District will issue a Permit to Operate, and the source will be added to the Title V permit under the permit revision procedures.

The site also operates a non-retail gasoline dispensing facility onsite. In addition, a number of other unpermitted sources and activities have been identified. Permitting of these other existing sources is currently in process. These non-compliant sources and activities have been included in the Schedule of Compliance.

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, Potrero Hills 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 54 vertical gas collection wells and 44 horizontal collectors. During 2010, an estimated average of 1,374 cfm of landfill gas was collected from the landfill.

Currently, the control system at this site is a 45 MM BTU/hour Landfill Gas Flare, A-2, that is capable of burning about 1500 cfm of landfill gas. 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_x), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), formaldehyde, and acid gases such as hydrogen chloride (HCl) and hydrogen fluoride (HF).

Note that the facility has applied to install a second larger flare, since the landfill gas production rate is approaching the maximum capacity of A-2. This second flare has not yet been permitted, pending completion of the engineering review for this flare and the upstream landfill source. Also, the District is currently reviewing a permit application for several landfill gas-fired engines that would provide additional control capacity for the landfill if the project is built. The engines would be located on the landfill and would burn the landfill gas produced by the Potrero Hills Landfill, but will be owned and operated by a separate company. The proposed engine facility is a major source, and due to separate ownership, will be issued a separate Title V permit if constructed. After construction and start-up of the engine facility, any landfill gas that cannot be burned at the engines would be directed to the landfill gas flare.

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. During the 2011 annual renewal of the BAAQMD permits to operate for this facility, the District split the existing landfill source (S-1) into three source numbers (S-1, S-202, and S-203) 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 are undergoing similar source description changes.

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

- S-1 Potrero Hills MSW Landfill – Waste Decomposition Process; equipped with landfill gas collection system and abated by A-2 Enclosed Landfill Gas Flare
 - S-202 Potrero Hills MSW Landfill – Waste and Cover Material Dumping
 - S-203 Potrero Hills MSW Landfill – Excavating, Bulldozing, and Compacting Activities
- S-202 and S-203 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-A and by adding the new source descriptions to the titles of the applicable tables (Tables IV-A and VII-A). All of the above sources are subject to the permit conditions in Condition #1948 and regulatory requirements that applied to the original S-1.

At the time of initial Title V permit issuance, Potrero Hills Landfill was operating two diesel-fired prime IC Engines for onsite power. Since then, one of the original prime diesel engines (S-12) was replaced with a new prime diesel engine, without District permits. Several small onsite-portable diesel tipper engines have also been operating onsite without District permits. All of the diesel engines emit combustion products including: GHG, NO_x, CO, SO₂, POC, PM, and diesel PM (a TAC). The non-retail gasoline dispensing facility operated onsite is a source of POC emissions. There are other unpermitted operations at the site – a composting operation, crushing and grinding operations, stockpiles, a sand and aggregate quarrying operation, and leachate and condensate storage tanks - that are sources of POC, combustion products, and particulate emissions. These sources will be added to this Title V permit using the appropriate Title V permit revision procedures after the District has completed the engineering evaluation and issued a permit to operate for each new or modified source.

The current emissions from the District’s emission inventory for the permitted sources at this facility have been summarized in Table 1. Since review and permitting of the known unpermitted sources at this site has not been completed, the emissions from these sources have not been not included in Table 1.

Table 1
Facility Emissions from Permitted Sources, Year Ending July 2011
Site #A2039, Potrero Hills Landfill

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NO _x	SO ₂	CO
S-1, Landfill – Waste Decomposition	--	40.15	0.13	--	--
S-13, Diesel IC Engine	0.07	0.24	3.67	0.00	0.22
S-14, Gasoline Dispensing Facility	--	1.46	--	--	--
S-202, Landfill - Waste & Cover Material Dumping	57.03	--	--	--	--
S-203, Landfill – Excavating, Bulldozing, Compacting	16.57	--	--	--	--
A-2, Enclosed LFG Flare	1.08	0.80	14.44	3.05	36.10
Total Facility Emissions	74.75	42.65	18.24	3.05	36.32

The emissions in Table 1 were based on the operating data reported by the facility in 2012 for the year ending July, 2011. Actual emissions from the facility are likely higher than shown in Table 1, since emissions from a number of unpermitted sources have not yet been entered in the District’s emission inventory.

For general comparison purposes, Table 2 below summarizes the estimated facility emissions at the time of initial issuance of the Title V permit from this site in 2003. A precise inventory is not available since the oldest accessible data in the District’s database is from 2004. Also since flare emissions are not stored in historical inventories, the emissions from A-2 have been estimated based on the oldest reported landfill gas collection rate, which is from 2007. Note that the

particulate emissions from waste and soil handling at the landfill were being calculated under the original source number, S-1, in 2004.

Table 2
Estimated Facility Emissions from Permitted Sources at Initial Title V Permit
Site #A2039, Potrero Hills Landfill

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill – Waste Decomposition	15.31	21.67	--	--	--
S-10, Wood Grinder	0	--	--	--	--
S-11, Portable Diesel Engine	0	0	0	0	0
S-12, Diesel IC Engine	0.055	0.15	2.15	0.055	0.13
S-13, Diesel IC Engine	0.055	0.15	2.35	0.055	0.15
S-14, Gasoline Dispensing Facility	--	1.46	--	--	--
A-2, Enclosed LFG Flare	0.64	0.48	8.58	1.81	21.44
Total Facility Emissions	16.06	23.91	13.08	1.92	21.72

Changes since the last amendment of the permit:

Three NSR applications have been processed since the last amendment of this permit. Applications #15717, 17021, 23084 allowed for alterations of the gas collection system for additions, removals, and replacements of vertical gas wells and horizontal collectors. The final changes to the permit condition resulting from these three applications have been shown in the proposed permit in strikeout/underline format. The permit evaluations for these NSR applications have been included in Appendix C for reference.

The facility has applied for a second flare, which has not yet been installed, as well as expansion of the landfill. Initial review of the CEQA documents for the landfill expansion application identified that the landfill had undergone operational changes that were permitted with the local enforcement agency, but not permitted by the District. Prior to permitting any expansion of the landfill, the existing landfill permit needs to be updated. The facility was informed of this requirement and has also submitted an application for that update, however that application is currently incomplete. The changes, if any, permitted under these applications will be updated to the Title V permit after the NSR applications have been processed.

- Application 11378: Landfill expansion
- Application 21018: Additional Flare
- Application 24634: Update existing landfill permit

Identification of several unpermitted sources and operations also resulted from review of the CEQA documents for the proposed landfill expansion. Violation notices and notices to comply have been issued for the unpermitted sources and operations. The facility submitted 3 NSR applications for the identified unpermitted sources. The District has not yet processed these applications, so these sources have not been included in this permit renewal. Permits issued under these applications will be updated to the Title V permit for this facility, separately, under

the Title V permit revision procedures after the NSR applications have been reviewed. For the purposes of this permit renewal, the unpermitted sources have been listed in Section V, Schedule of Compliance, in the proposed permit.

Application 16322: Composting operation, quarry, crushing/grinding operations, leachate and condensate storage tanks

Application 20057: Prime Diesel Engine: An Authority to Construct was issued October 2012 requiring installation of abatement equipment to bring the source into compliance with state and District emission standards.

Application 21165: Diesel Tipper Engines

C. Permit Content

The legal and factual basis for the permit follows. The permit sections are described in the order 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.

No changes are proposed to the Permit, Title Page.

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 the 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, I.B.11, I.E, and I.F were corrected.
- The following language was added to Standard Condition I.B.1: “If the permit renewal has not been issued by [the permit expiration date], but a complete application for

renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application.” This is standard language implements the “application shield” pursuant to BAAQMD Regulation 2-6-407.

- Standard Condition I.B.12 was added to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.
- Editorial corrections were made to Standard Conditions I.F and I.G.

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-1) into three source numbers (S-1, S-202, S-203). Source S-1 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-1 will continue to include the landfill gas collection system equipment, which is vented to the A-2 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-202. Source S-203 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-1, S-202, and S-203 were used throughout this proposed permit renewal.

Significant sources are those sources that have a potential to emit of more than 2 tons per year of a “regulated air pollutant” (as defined in BAAQMD Rule 2-6-222) or 400 pounds per year of a “hazardous air pollutant” (as defined in BAAQMD Rule 2-6-210). 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-2). 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-1 was modified and the new source numbers (S-202 and S-203) were added to Table II-A.
- The landfill gas collection system component count has been updated for S-1.
- S-12 was removed from service, so has been deleted from Table II-A.
- Descriptors for the gasoline dispensing facility in Table II-A have been revised.
- The description of the landfill gas flare has been revised in Table II-B, and an obsolete temperature limit was deleted.

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. They may, however, be specifically described in a Title V permit if they are considered “significant sources” as defined in BAAQMD Rule 2-6-239. This facility does not have any significant sources that do not have District permits except for the sources identified earlier that are still undergoing District permitting.

Changes to the 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 2, Rule 5, New Source Review of Toxic Air Contaminants
 - BAAQMD and SIP Regulations 4
 - 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
 - SIP Regulation 8, Rule 2, Organic Compounds - Miscellaneous Operations

- BAAQMD and SIP Regulation 8, Rule 5, Organic Compounds – Storage of Organic Liquids
- BAAQMD Regulation 8, Rule 15, Organic Compounds – Emulsified and Liquid Asphalts
- BAAQMD and SIP Regulation 8, Rule 40, Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- BAAQMD and SIP Regulation 8, Rule 47, Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
- BAAQMD and SIP Regulation 9, Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
- BAAQMD Regulation 9, Rule 2
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Code of Regulations, Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations
- California Code of Regulations, Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Asbestos Containing Serpentine
- California Health and Safety Code Section 93116, Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- 40 CFR Part 61, Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions

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 or EPA 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-1, Potrero Hills MSW Landfill – Waste Decomposition Process Equipped with Gas Collection System; abated by Landfill Gas Flare, A-2:

At this facility, the landfill waste decomposition process and its related emission control device (S-1 and A-2) 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 EG and NESHAPS requirements for MSW Landfills (40 CFR Part 60, Subpart Cc 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-1 does not meet all three CAM applicability criteria, CAM does not apply to S-1 and A-2.

S-202, Potrero Hills MSW Landfill – Waste and Cover Material Dumping; and
S-203, Potrero Hills MSW 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 PM₁₀, primarily due to on-site vehicle travel. Although some PM₁₀ 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 PM₁₀ 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 PM₁₀ emissions from these operations are fugitive in nature. Therefore, the second CAM applicability criteria does not apply.

Since S-202 and S-203 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.

S-13, Prime Diesel Engine:

The diesel engine (S-13) is subject to federally enforceable emission limits for PM₁₀. However, this source is not currently abated by a control device to achieve compliance with these limits. The source is not complying with the non-federally enforceable state emission limit for diesel PM and installation of an abatement device will be required. However, the uncontrolled PM₁₀ emissions from this engine are less than the major facility emissions threshold (100 tons/year) for this pollutant. Since S-13 does not meet currently meet the second CAM applicability criteria and even after installation of abatement equipment, it will not meet the third CAM applicability criteria - 40 CFR Part 64.2(a)(2 and 3), this source is not subject to CAM.

S-14, Non-Retail Gasoline Dispensing Facility:

The gasoline dispensing facility (S-14) is subject to federally enforceable emission limits for volatile organic compounds. However, the uncontrolled VOC emissions from this source are controlled by Phase I and Phase II vapor recovery systems, which do not meet the definition of a “control device” 40 CFR Part 64.1, since these systems are passive control measures that act to prevent pollutants from being emitted, rather than equipment that is used to destroy or remove air pollutants prior to discharge. Since S-14 does not meet the second CAM applicability criteria - 40 CFR Part 64.2(a)(2), this source is not subject to CAM.

S-13, Prime Diesel IC Engine - Applicability of NSPS, NESHAP, and California Air Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines

The NSPS for Compression Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart III, and the NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR, Part 63, Subpart ZZZZ, are potentially applicable to any stationary internal combustion engines at a site.

S-13 is a stationary diesel fueled compression-ignition (CI) reciprocating internal combustion engine (RICE) with a maximum output rating of 225 hp. Pursuant to Part 60.4200, 40 CFR, Part 60, Subpart III applies to stationary CI engines constructed, modified, or reconstructed after July 11, 2005. S-13 was placed in service on April, 3, 2000, therefore is not subject to this regulation.

Pursuant to Parts 63.6675 (definition of stationary RICE), 63.6585, and 63.6590(a)(1)(iii), S-13 is an existing RICE subject to this regulation, since it is rated less than 500 bhp and construction was commenced before June 12, 2006. The deadline for compliance with the emission limits and operating standards of this rule for S-13 is May 3, 2013 (Part 63.6595(a)(1)). This regulation has been added to the permit, with the emission and operating limitations shown with this future effective date. All other applicable sections of this regulation have also been included in Table IV-B.

The California Air Resources Board ATCM for Stationary Compression Ignition Engines (Title 17 of the California Code of Regulations, Section 93115) was adopted and became effective on October 18, 2007, after initial issuance of the Title V permit for this facility. The regulation was most recently amended on May 19, 2011. It is a non-federally enforceable requirement that was adopted to reduce diesel particulate and other criteria pollutant emissions from stationary diesel-fueled engines in California.

As specified in Section 93115.2(b), this ATCM applies to stationary CI engines with a rated output great than 50 brake horsepower. A “new” CI engine is defined as an engine installed after January 1, 2005 (Section 93115.4(a)(50)). Since S-13 is a stationary (CI) internal combustion engine with a maximum output rating of 225 hp that was placed in service on April, 3, 2000, it is an “in use” engine (Section 93115.4(a)(41)) subject to this regulation.

Section 93115.5(a) specifies fuel requirements for in-use prime stationary CI engines. Section 93115.7(b) specifies the applicable emission standards. Recordkeeping, reporting, and monitoring requirements are specified in Sections 93115.10(a) and 93115.10(e). The deadline for S-13 to comply with the emission limits of this rule was January 1, 2008 (Section 93115.11(b)). Section 93115.13 specifies the compliance demonstration requirements. S-13 does not comply with the applicable emission limit and is in violation of other requirements in this rule. The applicable sections of this regulation have been added to the permit and a Schedule of Compliance has been added to the permit for this source and regulation.

Changes to the Permit, Section IV:

- Editorial corrections were made to the text of Section IV.
- In Tables IV-A and IV-B, the dates of adoption or approval of the rules and their “federal enforceability” status have been updated.
- In Tables IV-A and IV-B, 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-A, the descriptions for S-1 and A-2 were revised and the new descriptions for S-202 and S-203 were added.
- In Table IV-A, the description of certain regulation sections have been expanded and corrected.
- Corrections have been made to the citations of the basis of various permit conditions.
- In the title of Table IV-B, reference to S-12 was deleted, since this source was removed from service.
- The BAAQMD Regulation 9, Rule 8 requirements were added to Table IV-B since the rule exemption that applied to liquid fueled engines expired on January 1, 2012. The SIP version of Regulation 9, Rule 8 is a previous version, which still contains this exemption with no expiration date. The SIP Regulation 9-8 exemption has been added to Table IV-B, and the BAAQMD Regulation 9-8 requirements are listed as non-federally enforceable. S-13 is not complying with emission standards in BAAQMD Regulation 9-8, so a Schedule of Compliance has been added to the permit.

- 40 CFR Part 63, Subpart ZZZZ was adopted since initial issuance of the permit for this site. This regulation was added to Table IV-B with future effective date for the emission limit and operating requirements.
- A non-federally enforceable state ATCM for stationary compression ignition engines was adopted by CARB after the initial Title V permit was issued. The applicable requirements from this regulation were added to Table IV-B. S-13 is not complying with emission standards in the state ATCM, so a Schedule of Compliance has been added to the permit.
- In Table IV-C, the District removed BAAQMD Regulation 8, Rule 5 citations and replaced them with the exemption in the BAAQMD version of this regulation (Section 8-5-116, which exempts tanks associated with gasoline dispensing facilities) and the SIP requirements from Regulation 8, Rule 5. Also SIP Regulation 8-7 was deleted, since the SIP and current District version are now the same. One of the standard conditions for this source was updated, so the condition reference has been revised.
- In Table IV-C, the NESHAP for gasoline dispensing facilities, 40 CFR Part 63, Subpart CCCCCC has been added, along with with the applicable sections of Subpart A. The state order for the Phase II vapor balance system has also been added.

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 determined that the facility is out of compliance with applicable requirements, the schedule of compliance for this permit has been modified to include all known unpermitted sources and operations and all permitted sources known to be out of compliance with applicable requirements. The section includes compliance milestones for each source and the reporting requirements of Regulation 2-6-409.10.3.

Changes to the Permit, Section V:

- S-33 Prime Diesel Engine Generator: This source was installed without District permits and does not meet the following requirements: BACT for NOx emissions (BAAQMD Regulation 2-2-301) and the diesel PM limit in CARB's ATCM for stationary diesel engines (CCR Title 17, Section 93115.7(a)(1)). On October 2, 2012, the District issued an Authority to Construct for the required abatement devices: a selective catalytic reduction system for NOx control and a diesel particulate filter for PM control. Compliance milestones were added to ensure that these abatement devices are ordered, installed, and operating in a timely fashion.
- S-13 Prime Diesel Engine Generator: This existing engine does not meet the NOx emission limit in Regulation 9, Rule 8 and does not meet the PM emission limits in the CARB's ATCM for stationary diesel engines. As with S-33, the source requires abatement equipment such as selective catalytic reduction and diesel particulate filter to achieve compliance with these requirements. The owner/operator has not submitted an application for the necessary abatement equipment. The District is adding compliance milestones for this source to ensure that the required permit application is submitted and that the required emission controls are installed and begin operating on a timely basis once the Authority to Construct is approved.
- Existing unpermitted equipment and unpermitted modifications/alterations: The District has identified a number of sources located at this site that are operating without permits. The owner/operator has submitted the required permit applications (Applications # 21165 and # 16322) but has not provided all of the information and fees needed to complete these applications. In addition, the District has identified operational changes to the Potrero Hills Landfill, which the owner/operator has undertaken without an Authority to Construct, that constitute either an alteration or a modification of this existing permitted source. The owner/operator submitted the required application (# 24634) but this application is also not complete. The District is adding compliance milestones to ensure that the required information and fees are submitted in a timely fashion so that the District can complete the review of this equipment and issue the necessary permits.
- The District added the necessary record keeping and reporting requirements for this Schedule of Compliance as required pursuant to Regulation 2-6-409.10.3.

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 initial Title V permit development, the District 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 requirements have been added to the permit.

Many unpermitted sources have been identified at the facility since issuance of the initial Title V permit. The identified operations have been included in Section V under a schedule of compliance, but since the permit review for these sources has not yet been completed, no permits or permit conditions have yet been issued for these operations.

Since the last minor revision of the Title V permit, the conditions for the landfill gas collection system have changed, and one of the standard conditions applying to the gasoline dispensing facility has changed. These changes have been identified in the proposed permit. The permit conditions have been reviewed again for this permit renewal and proposed changes to the permit conditions are summarized below.

Changes to the Permit, Section VI:

- **Condition #1948:** The descriptions of S-1 were updated and the new descriptions for S-202 and S-203 were added. Standard language for emergency situations and clarification of "waste" to "decomposable materials" has been added, as well as standard language regarding the analysis of landfill gas composition.
- **Condition #1948, Part 6:** The description of the landfill gas collection system components, resulting from 3 consecutive NSR permit applications, has been updated.
- **Editorial corrections** were made to Parts 8, 10, 12, and 13.
- **Condition #1948, Part 11:** Total hydrocarbon testing has been removed from the annual landfill gas analysis. SO₂ testing has been added for the annual source test on the flare.
- **Condition #1948, Parts 11 and 12:** The District is allowing additional time after source testing is completed (60 days) for the operator to submit the required test reports.

- Condition #1948, Part 14(c): Additional language regarding alternative daily cover was noted in the District NSR permit, but was missing from the Title V permit. This language has been added and verification of odor complaints has been added to replace the public nuisance language in part 14c.
- Condition #1948, Part 15: Reference to passed reporting deadlines have been removed.
- Condition #1948, Part 16: A non-federally enforceable monitoring requirement has been added for Regulation 9-2.
- Condition #18996: Reference to S-12 has been removed since this source has been removed from service. The fuel sulfur limit has been corrected.
- Condition #25107: This new standard condition has been added to the permit, replacing the old standard condition #16516, which is being removed.

All changes to existing permit conditions are clearly shown in “strike-out/underline” format in the proposed permit. When the permit is issued, all “strike-out” language will be deleted 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 3
SO2 Emission Limits with No Associated Monitoring
Site #A2039, Potrero Hills Landfill

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, Potrero Hills MSW Landfill; A-2, Enclosed Landfill Gas Flare and S-13, Diesel IC Engine	BAAQMD 9-1-301	Ground Level Concentrations of SO2: ≤ 0.5 ppm for 3 consecutive minutes AND ≤ 0.25 ppm averaged over 60 consecutive minutes AND ≤ 0.05 ppm averaged over 24 hours	Not Recommended

SO2 Discussion:

Burning of fuel that contains sulfur compounds will result in emissions of sulfur dioxide (SO₂) 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 SO₂. Also combustion of diesel fuel at S-13, the prime diesel engine, will also contribute to ground level concentrations of SO₂.

BAAQMD Regulation 9-1-301

Area monitoring to demonstrate compliance with the ground level SO₂ 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 SO₂ emissions are low, resulting in a large expected margin of compliance with the emission limit.

Modeling analysis at this site at the time of initial permit issuance has shown that compliance with the fuel sulfur content of 1300 ppmv in the landfill gas to the flare, plus the expected emissions from the engine based on diesel fuel sulfur content, will not result in exceedance of the ground level SO₂ limit in Regulation 9-1-301. Since the original modeling analysis, the sulfur content limits have been reduced in California diesel, so SO₂ emissions from the prime diesel engine-generator S-13 has been reduced. The majority of the SO₂ emissions from the facility are generated by the flare, so an annual SO₂ source test requirement has also been added to verify that the flare complies with the 300 ppmv SO₂ limit in Regulation 9-1-302, acting as a surrogate

for demonstrating compliance with the ground level limit in Regulation 9-1-301. Therefore, area monitoring of SO₂ has not been required at this facility.

Table 4
PM Emission Limits with No Associated Monitoring
Site #A2039, Potrero Hills Landfill

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-2, Enclosed Landfill Gas Flare	BAAQMD Regulation 6-1-301, SIP Regulation 6-301	Ringelmann 1.0 for 3 minutes in any hour	Not Recommended
A-2, Enclosed Landfill Gas Flare and S-13, Diesel IC Engine	BAAQMD Regulation 6-1-310, SIP Regulation 6-310	≤ 0.15 gr/dscf	Not Recommended

PM Discussion:

BAAQMD Regulation 6, Rule 1 “Particulate Matter – General Requirements”
SIP Regulation 6, “Particulate Matter and Visible Emissions”

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-2 burns only landfill gas, no monitoring is required to assure compliance with this limit.

BAAQMD Regulation 6-1-310 and SIP Regulation 6-301 limit filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. Using EPA’s standard AP-42 emission factor for landfill gas combustion in a flare (0.017 lbs/MMBtu) and the flare’s maximum combustion rate of 45 MMBtu/hr (i.e. 90,000 scf/hr) of landfill gas, the maximum expected FP emission rate from the flare is 0.77 lb/hour.

At 0% excess oxygen, typical landfill gas (50% methane and 50% non-combustibles with a higher heating value of 497 Btu/scf) produces 4.77 dscf exhaust per scf landfill gas. So, the maximum exhaust flow rate from the flare is 429,300 dscf/hr at 0% oxygen. This results in a maximum outlet grain loading in the flare exhaust of 0.013 grains/dscf at 0% oxygen ((0.77 lb/hr)*(7000 grains/lb)/429300 dscf/hr). As this is far less than the Regulation 6-1-310 limit, no monitoring is required for A-2 to demonstrate compliance with this limit.

The diesel engine is also subject to the grain loading standard of 0.15 grains/dscf in Regulation 6-1-310. John Deere, the manufacturer of S-13 stated that the PM emission factor for the Model 6081AF001 engine is 0.07 grams/bhp-hr. Assuming continuous operation at 277 bhp, the engine can emit up to 19.39 grams/hour of PM (0.19 tons/year).

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

$$9,190 \text{ dscf/MMBtu} * [(20.9\% - 0.0\%)/(20.9\% - 15\%)] = 32,554 \text{ dscf combustion products/MMBtu}$$

The maximum engine fuel consumption rate is 12.4 gallons per hour, which is equal to a heat input rate of 1.70 MMBtu/hour, giving a flue gas exhaust rate of:

$$(32,554 \text{ dscf flue gas/MMBtu}) * (1.70 \text{ MMBtu/hr}) = 55,342 \text{ dscf/hr flue gas at 15\% oxygen}$$

The grain loading under typical operating conditions will therefore be:

$$(19.39 \text{ grams/hr}) * (7000 \text{ grains/454 grams}) / (55,342 \text{ dscf/hr}) = 0.054 \text{ grains/dscf at 15\% oxygen}$$

Since the manufacturer's PM emission factor results in an outlet grain loading rate that is much lower than the Regulation 6-1-310 limit, compliance is assumed and addition monitoring has not been required for S-13.

Table 5
H₂S Emission Limits with No Associated Monitoring
Site #A2039, Potrero Hills Landfill

# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1, Potrero Hills MSW Landfill and A-2, Enclosed Landfill Gas Flare and S-13, Diesel IC Engine	BAAQMD 9-2-301	Property Line Ground Level Limits of H ₂ S ≤ 0.06 ppm Averaged over 3 minutes AND ≤ 0.03 ppm Averaged over 60 minutes	Implementation of New H ₂ S and Odor Monitoring Protocols and Responses to Verified Odor Complaints

H₂S Discussion:

BAAQMD Regulation 9-2-301

Area monitoring to demonstrate compliance with the ground level H₂S 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 H₂S 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 issuance of the initial Title V permit for this facility, the District has received numerous odor complaints from the nearest resident. The District's responds to all complaints; however the ability to verify a potential odor problem is dependent upon the duration of the activities that

may be causing an off-site odor, meteorological conditions, and the availability of District inspectors. In many cases, the District is not able to verify an odor complaint due to these circumstances. In the case of this site, the relatively remote location of the landfill and the few nearby residents contributes to the difficulties with verifying odor complaints and documenting odor nuisances.

Due to the large number of odor complaints at this site and the difficulties in verifying and tracking the source of these odors under current procedures and regulations, the District is proposing a new permit condition to address potential odor issues from operation of the landfill. The new condition will require the landfill operator to submit and implement a hydrogen sulfide monitoring plan and to identify of all feasible hydrogen sulfide emission reduction measures that can be implemented at the site if the measured hydrogen sulfide concentrations are found to exceed the limit in Regulation 9-2. In addition, since hydrogen sulfide can be detected by smell, the District is also adding a provision to require implementation of these emission reduction measures if an odor problem is verified by a District inspector, as well as to cease use of alternative cover materials based on verification of an odor problem.

Changes to the Permit, Section VII:

- Symbols (\leq or \geq , 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-1, S-202, and S-203 were incorporated into Table VII-A.
- Text was added to clarify limits.
- Several missing Regulation 8, Rule 34 limits were added to Table VII-A.
- An obsolete temperature limit for A-2 was removed from Table VII-A.
- Monitoring for hydrogen sulfide has been added to Table VII-A.
- S-12 was deleted from Table VII-B, since it has been removed from service.
- The BAAQMD Regulation 9, Rule 8 NO_x and CO limits were added to Table VII-B.
- The future effective limits from 40 CFR Part 63, Subpart ZZZZ were added to Table VII-B.
- The limits from a new CARB ATCM that applies to S-13 were added to Table VII-B.
- Several missing limits from SIP Regulation 8, Rule 5 and BAAQMD Regulation 8, Rule 7 were added to Table VII-C.
- The permit condition reference in Table VII-C has been updated.
- The CARB EO that applies to the S-14 GDF was updated and the applicable limits in Table VII-C were revised accordingly.
- The NESHAP for gasoline dispensing facilities 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” as defined by Regulation 2-6-202.

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

Changes to the 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.
- The test method for SIP 8-5-303.2 was added.
- The test methods for Regulation 8, Rule 7; Regulation 8, Rule 34; and Regulation 9, Rule 1 were clarified.
- The test methods for Regulation 9-8 were added.
- The methods that may be used for landfill gas sulfur testing, annual source testing and landfill gas characterization analyses were clarified.
- The applicable test methods for the NO_x and CO limits for S-13 were added.
- For S-14, the static pressure performance test method was identified for the new standard Condition #25107 and reference to the replaced condition was deleted.

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 does not have a permit shield.

X. Revision History

Changes to the permit, Section X:

- The revision history was updated to include this proposed permit renewal.
- The District added missing application numbers to this section.

XI. Glossary

Changes to the permit, Section XI:

- Some additional standard terms have been added to the glossary and the section for commonly used symbols.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

An October 9, 2012 office memorandum from the Director of Compliance and Enforcement to the Director of Engineering presented a summary of the compliance record for the Potrero Hills Landfill, (Site #A2039). The Compliance and Enforcement Division staff reviewed the records for the Potrero Hills Landfill as part of the District's evaluation of Potrero Hills Landfill's application for renewal of their Title V permit. During the time period from August 15, 2003 through October 9, 2012, the following compliance issues were noted:

- 7 notifications for reportable compliance activities, including mechanical breakdown causing shutdown of the flare, oxygen intrusion into the collection system, and excess emissions due to fire damage to the collection system. No Notices of Violation were issued as a result of these episodes.
- 229 air pollution complaints alleging this site as the source filed by the nearest resident or anonymously. The District was able to confirm 5 of these complaints as originating from the Potrero Hills Landfill.
- 16 Notices of Violation were issued for a number of compliance problems, including exceedances of emission standards, failure to perform required monitoring and testing, failure to keep records, failure to submit required deviation reports, and operating sources without District permits.

District's Compliance and Enforcement Division has determined that Potrero Hills Landfill, Inc. was in intermittent compliance from the initial permit period through the present, and noted ongoing non-compliance with two primary diesel engines, which the facility intends to retrofit or replace to come into compliance with the applicable emission standards.

On June 12, 2012, the responsible official for Potrero Hills Landfill certified that some equipment was operating in compliance and identified other sources and operations not operating in compliance. Since ongoing non-compliance issues have been identified, the District included a Schedule of Compliance in the proposed permit for this facility.

During development of the proposed Title V permit renewal, additional compliance issues were discovered. The District requested an updated Compliance Certification from the facility to address these additional issues, but the facility had not supplied an updated certification by the publication deadline for this proposed permit.

F. Differences Between the Application and the Proposed Permit:

The application for renewal of this Title V permit was originally submitted on February 28, 2008. The Applicant requested the updating of the gas collection system component counts. These changes have been made, and the following changes in addition:

- Removal of source S-12 since the source was removed from service.
- The District split S-1 into three source numbers: S-1, S-202, and S-203. These source description changes did not involve any modifications to these sources. The new source descriptions have been incorporated throughout the permit.


Also, the District has proposed numerous updates to the standard permit language, regulatory descriptions, and regulatory amendment dates throughout the permit to reflect regulatory changes, to clarify limits and other applicable requirements, to explain permit terminology, to remove obsolete requirements, and to correct permit errors.

APPENDIX A
BAAQMD COMPLIANCE REPORT

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

October 9, 2012

TO: JIM KARAS – DIRECTOR OF ENGINEERING 
FROM: WAYNE KINO – ACTING DIRECTOR OF COMPLIANCE & ENFORCEMENT
SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

POTRERO HILLS LANDFILL, INC.; SITE # A2039

Background

This review was initiated as part of the District evaluation of an application by Potrero Hills Landfill, Inc. 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. The purpose of this review is to ensure 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 8/15/2003 (the date of issuance of the initial Title V permit) through 10/9/2012. The results of this review are summarized as follows.

1. Violation History

Staff reviewed the Potrero Hills Landfill, Inc. Annual Compliance Certifications and found two instances of ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for the review period. During this period Potrero Hills Landfill, Inc. activities known to the District include:

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District-issued 16 Notice of Violation(s):

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A44496A	8-34-303	7/27/2004	1	Surface leaks>500 ppm	resolved
A44496B	8-34-504	7/27/2004	1	Failure to use EPA Method 21 device	resolved
A44496C	8-34-501	7/27/2004	1	Failure to keep operating records	resolved
A44497A	8-34-503	7/27/2004	1	Failure to follow EPA Method 21	resolved
A44497B	8-34-506	7/27/2004	1	Failure to keep surface monitoring records	resolved
A47778	8-34-301.2	9/23/2005	1	Collection system component leak > 1000 ppm	resolved
A48156A	8-34-305	11/24/2005	1	Wellhead Oxygen concentration > 5%	resolved
A48156B	2-6-307	11/24/2005	1	Failure to submit 10 day deviation report	resolved
A48158	2-6-307	12/31/2004	1	Failure to conduct annual source test	resolved
A49831A	2-1-301	10/30/2008	1	No A/C permit for primary engine	resolved
A49831B	2-1-302	10/30/2008	on-going	No P/O for primary Engine	on-going
A50426	CCR93115.7A1, Title 17	8/14/2008	on-going	Diesel primary engine failed to meet Title 17 PM emission requirements	on-going
A50431	2-2-301	8/22/2008	on-going	Operating primary engine in violation of BACT requirements	on-going
A50446	8-34-303	9/12/2012	1	Surface leaks>500 ppm	resolved
A50477A	9-8-304	1/1/2012	on-going	Diesel primary engine does not meet NOx emission limits	on-going
A504477B	CCR93115.7(b1 b2), Title 17	1/1/2012	on-going	Diesel primary engine failed to meet Title 17 PM emission requirements	on-going

2. Complaint History

The District received 229 air pollution complaints alleging Potrero Hills Landfill, Inc. as the source. All 229 complaints were filed by one household or anonymously and 5 complaints were confirmed to the facility.

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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, the District received 7 notifications for RCA’s. 0 NOV’s were issued as a result of these RCA’s.

The District received 7 notifications for Reportable Compliance Activities (RCA).

Episode	Date Occur	# of Days	Comments	Disposition
04W91	9/24/06	1	Breakdown for flare shutdown due to electrical trip	Granted
04Y86	1/13/07	1	Breakdown for Oxygen intrusion into collection system	Denied no violation documented
04Y87	1/14/07	1	Breakdown for Oxygen intrusion into collection system	Denied no violation documented
05D11	12/10/07	1	Breakdown for flare shutdown due to VFD over current	Granted
05H94	9/16/08	1	Breakdown for flare shutdown due to blower malfunction	Granted
05J09	9/30/08	1	Breakdown for flare shutdown due to VFD overcurrent	Denied NTC issued
06G54	8/18/12	3	Parametric Excess due to grassfire damaging collection system forcing shutdown	Pending

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for Potrero Hills Landfill, Inc. over the review period.

Conclusion

Following its review of all available facility and District compliance records from 8/15/2003 (the date of issuance of the initial Title V permit) through 10/9/2012, the District’s Compliance and Enforcement Division has determined that Potrero Hills Landfill, Inc. was in intermittent compliance from the initial permit period through the present. There is evidence of ongoing noncompliance with two primary engines. NOV #A49831 was issued on 10/30/08 for no Authority to Construct (A/C) and no Permit to

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Operate for one of the primary power diesel engines that began operation on 8/22/08. District staff issued an A/C for the installation of a NOx control device to the facility on 10/3/2012.

NOV # 50431 was issued to the same engine on 10/20/10 for violating Best Available Control Technology (BACT) emission standards for NOx. The facility has submitted an application for a permit to the District and an A/C has been issued so the facility can install the necessary control device that will bring the engine into compliance with BACT emission standards. This engine has been operated intermittently as a back-up to the other primary engine since 8/3/09 in order to minimize their hours of non-compliance. This ongoing violation does warrant consideration of a Title V permit compliance schedule for this facility to address the non-compliance of this primary engine.

NOV # 50477 was issued to source 13 on 10/5/2012 for the second primary engine that also does not meet CARB particulate and District NOx emission standards established for this equipment. The facility plans to install the necessary control equipment to comply with these standards by mid-November 2012.

APPENDIX B

GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

ATCM

Airborne Toxic Control Measure

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority that allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CARB

California Air Resources Board (same as ARB)

CCR

The California Code of Regulations

CEM

A “continuous emission monitor” is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NO_x concentration) in an exhaust stream.

CEQA

California Environmental Quality Act

CFR

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

CI
Compression Ignition

CO
Carbon Monoxide

CO₂
Carbon Dioxide

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

E6, E9, E12

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, 4.53E6 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.

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), 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

Grains
1/7000 of a pound

GRS
Gas Recovery Systems, Inc.

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.

H₂S
Hydrogen Sulfide

H&SC
Health and Safety Code

Hg
Mercury

LFG
Landfill gas

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
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.

Min
Minimum

MOP

The District's Manual of Procedures.

NA

Not Applicable

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons

NMOC

Non-methane Organic Compounds (same as NMHC)

NO₂

Nitrogen Dioxide

NO_x

Oxides of nitrogen.

NSPS

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

NSR

New Source Review is a federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O₂

Oxygen

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

SIP

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

SO2

Sulfur dioxide

TAC

Toxic Air Contaminant

TBACT

Best Available Control Technology for Toxics

THC

Total Hydrocarbons include all non-methane hydrocarbons plus methane and are the same as TOC.

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 include all non-methane organic compounds plus methane and are the same as THC.

TRMP

Toxic Risk Management Policy. The District's TRMP was replaced by Regulation 2, Rule 5 in 2005.

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 SO₂ that will be present in the combusted fuel gas, since sulfur compounds are converted to SO₂ by the combustion process.

TSP

Total Suspended Particulate

TVP

True Vapor Pressure

VOC

Volatile Organic Compounds

Symbols:

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

Units of Measure:

atm	=	atmospheres
bhp	=	brake-horsepower
btu or BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft ³	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains
hp	=	horsepower
hr	=	hour
in	=	inches
kW	=	kilowatt
lb	=	pound
max	=	maximum
m ²	=	square meter
m ³	=	cubic meter
min	=	minute
mm	=	millimeter
MM	=	million
MMBtu	=	million Btu
MW	=	megawatts
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 ³	=	cubic yards
yr	=	year

APPENDIX C

Engineering Evaluations for NSR Permit Applications # 17021 and # 23084

Engineering Evaluation Report

Potrero Hills Landfill, P#2039

3675 Potrero Hills Lane, Suisun City

Application #17021

Background

Potrero Hills Landfill (PHL) is an active Class III municipal solid waste landfill operated by Republic Services. Republic Services has applied for an Authority to Construct for the following modifications to the Landfill, S-1:

S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (27) Vertical Landfill Gas Extraction Wells and (24) Horizontal Collectors – Installation of up to (60) New Vertical Gas Extraction Wells, Installation of up to (12) New Horizontal Collectors, Decommissioning of up to (25) Existing Vertical Gas Extraction Wells, and Decommissioning of up to (14) Existing Horizontal Collectors.

Emission Calculations

The existing gas collection and control system collected landfill gas at an average rate of approximately 823 cubic feet per minute (scfm) in 2007. The collected landfill gas is currently being abated at the existing Landfill Gas Flare, A-2, which is limited to processing a maximum of 45 MMBtu/hr. This processing rate is equivalent to 1,500 scfm of landfill gas, therefore the current collection rates represent approximately 55% of the current flare capacity. The landfill gas recovery rate is expected to increase with the installation of new wells. The collection rate of each existing well is approximately 30 scfm, so if each new well collected 25-30 scfm of landfill gas, the proposed wells could increase the collection capacity by 1500-1800 scfm, exceeding the capacity of the current landfill gas flare.

Republic Services has proposed replacement of the existing flare with a larger capacity flare under Application 11378, which also includes a significant expansion of the landfill, referred to as the “Phase II Expansion.” Application 11378 is currently on hold, pending resolution of the legal challenges to the Environmental Impact Report (EIR) prepared for that proposal. The modified EIR is expected to be released for public comment in early 2008. Republic Services believes the modified EIR will be certified well before the end of 2009, prior to approaching the maximum capacity of the existing flare. However, if the EIR has not been re-certified by the end of 2008 and if the collection system is showing the possibility of exceeding the capacity of the existing flare, Republic Services has indicated that it will apply for the replacement flare under an application separate from the Phase II proposal.

Well installation and removals do not constitute a modification of the landfill capacity, therefore there is no emission increase associated with removal or installation of the horizontal trench collectors or vertical wells. Wells must occasionally be decommissioned if the gas generation rate in that vicinity has ceased or if there are other wells in the area that are adequately collecting the landfill gas. As the emissions from the flare were accounted for when the flare was permitted, there is no increase in emissions due to this application.

Statement of Compliance

There are no new District or federal regulations triggered by this proposed landfill gas collection system modification. 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 with issuance of the District Permit to Operate, when the well modifications have been completed.

Permit Condition Modifications

Part 6 of the permit condition #1948 will be modified as indicated below to address the gas collection system modifications proposed under this application:

- 6. The owner/operator shall apply for and receive an Authority to Construct before modifying the landfill gas collection system. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
 - a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below. 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 6b, as evidenced by start-up/shut-down notification letters submitted to the District.
 - Vertical Wells: 27
 - Horizontal Collectors: 24
 - b. The owner/operator has been issued an Authority to Construct (Application #17021) for the landfill gas collection system modifications described below:
 - Installation of up to 12 new horizontal trench collectors
 - Installation of up to 60 new vertical wells
 - Decommissioning of up to 14 horizontal trench collectors
 - Decommissioning of up to 25 vertical wells
- (basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

Recommendations

I recommend issuing an Authority to Construct to the following source:

S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (27) Vertical Landfill Gas Extraction Wells and (24) Horizontal Collectors – Installation of up to (60) New Vertical Gas Extraction Wells, Installation of up to (12) New Horizontal Collectors, Decommissioning of up to (25) Existing Vertical Gas Extraction Wells, and Decommissioning of up to (14) Existing Horizontal Collectors.

Tamiko Endow
Air Quality Engineer

Date

Engineering Evaluation Report

Potrero Hills Landfill, P#2039

3675 Potrero Hills Lane, Suisun City

Application #23084

Background

Potrero Hills Landfill (PHL) is an active Class III municipal solid waste landfill owned and operated by Waste Connections. Waste Connections has applied for a Change of Conditions for the following alterations to the gas collection system at the landfill:

S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (54) Vertical Landfill Gas Extraction Wells and (24) Horizontal Collectors – Installation of up to (33) New Vertical Gas Extraction Wells, Installation of up to (12) New Horizontal Collectors, Decommissioning of up to (25) Existing Vertical Gas Extraction Wells, and Decommissioning of up to (12) Existing Horizontal Collectors.

Emission Calculations

The collected landfill gas is currently being abated at the existing Landfill Gas Flare, A-2, which is limited to processing a maximum of 45 MMBtu/hr. This processing rate is equivalent to 1,500 scfm of landfill gas. The existing gas collection and control system is currently collecting landfill gas at an average rate of approximately 1,374 scfm, over 90% of the capacity of the existing flare.

The landfill gas recovery rate is expected to increase with the installation of new wells. The collection rate of each existing well is approximately 30 scfm, so if each new well collected 25-30 scfm of landfill gas, the proposed wells could exceed the capacity of the current landfill gas flare.

Waste Connections has proposed installation of an additional flare at this site to handle the future increases in collected landfill gas. Review of this proposed flare will occur under Application 21018.

Well installation and removals do not constitute a modification of the landfill capacity, therefore there is no emission increase associated with removal or installation of the horizontal trench collectors or vertical wells. Wells must occasionally be decommissioned if the gas generation rate in that vicinity has ceased or if there are other wells in the area that are adequately collecting the landfill gas. As the emissions from the landfill and flare were accounted for when the source and abatement devices were originally permitted, there is no increase in emissions due to this application.

Statement of Compliance

There are no new District or federal regulations triggered by this proposed landfill gas collection system modification. 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 with renewal of the Title V permit, which is currently underway.

Permit Condition Modifications

Part 6 of the permit condition #1948 will be modified as indicated below to address the gas collection system modifications proposed under this application:

6. The owner/operator shall ensure that the landfill gas collection system, described in subpart 6a 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 before altering the landfill gas collection system other than as described in subpart 6b below. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are all considered to be alterations that require a Change of Conditions. Adding or modifying risers, laterals, or header pipes are not subject to this requirement.
- a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below (well count as of 2-18-11) plus any any components added and minus any components decommissioned pursuant to subpart 6b, as evidenced by start-up/shut-down notification letters submitted to the District.
- Vertical Wells: 54
Horizontal Collectors: 24
- b. The owner/operator is authorized to make the landfill gas collection system component alterations described below:
Installation of up to 12 new horizontal trench collectors
Installation of up to 33 new vertical wells
Decommissioning of up to 12 horizontal trench collectors
Decommissioning of up to 25 vertical wells
Wells installed, relocated, replaced, or shutdown pursuant to subpart 6b shall be added to or removed from subpart 6a 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 component that is shutdown and the initial operation date for each new or relocated component.
(basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 8-34-305)

Recommendations

I recommend issuing an Authority to Construct to the following source:

S-1, Municipal Solid Waste Landfill with Gas Collection System, equipped with (54) Vertical Landfill Gas Extraction Wells and (24) Horizontal Collectors – Installation of up to (33) New Vertical Gas Extraction Wells, Installation of up to (12) New Horizontal Collectors, Decommissioning of up to (25) Existing Vertical Gas Extraction Wells, and Decommissioning of up to (12) Existing Horizontal Collectors.

Tamiko Endow
Air Quality Engineer

Date