Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
MINOR REVISION

Republic Services Vasco Road, LLC
Facility #A5095

Facility Address:
4001 North Vasco Road
Livermore, CA 94551

Mailing Address:
4001 North Vasco Road
Livermore, CA 94551

Application Engineer: Carol Allen
Site Engineer: Flora Chan

Application: 25908

October 2014

TABLE OF CONTENTS

A. BACKGROUND 1

B. EMISSIONS 3

C. PROPOSED MFR PERMIT MODIFICATIONS 4

Section I: 4

Section II: 4

Section III: 5

Section IV: 5

Section V: 5

Section VI: 6

Section VII: 6

Section VIII: 7

Section IX: 7

Section X: 7

Section XI-XII: 7

D. SUMMARY OF PROPOSED ACTIONS 9

APPENDIX A ENGINEERING EVALUATION APPLICATION # 23493 10

APPENDIX B ENGINEERING EVALUATION APPLICATION # 24242 14

APPENDIX C ENGINEERING EVALUATION APPLICATION # 25904 16

APPENDIX D ENGINEERING EVALUATION APPLICATION # 26049 31

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

STATEMENT OF BASIS

for

MFR Permit: Minor Revision

Republic Services Vasco Road, LLC; PLANT # 5095

APPLICATION # 25908

A. BACKGROUND

Republic Services Vasco Road, LLC 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 (MFR) because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit" (as defined by BAAQMD Regulation 2-6-218) more than 100 tons per year of a regulated air pollutant (in this case, carbon monoxide). Therefore, this facility is required to have an MFR permit pursuant to BAAQMD Regulation 2-6-301.

In addition, it is a designated facility as defined by 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). Therefore, this facility is also required to have an MFR permit pursuant to BAAQMD Regulation 2-6-304.

The District issued the initial MFR Permit for this facility on February 5, 2004 and subsequently revised this MFR Permit on: March 12, 2004; June 17, 2004; August 17, 2007; and September 29, 2011. The District renewed the MFR Permit for this facility on June 4, 2012 and this is the current MFR Permit.

Site Description

Republic Services Vasco Road, LLC (Facility #A5095) is located at 4001 North Vasco Road in Livermore, CA on a 323-acre site. The Vasco Road Landfill is an active Class III MSW landfill that accepts household, commercial, industrial, construction, and demolition waste but does not accept any hazardous waste or contaminated soil. The maximum design capacity of the landfill is 31.65 million cubic yards (24.2 million m^3). The landfill and waste filling activities are permitted as the following sources:

- S-1 Vasco Road Landfill – Waste Decomposition Process
- S-12 Vasco Road Landfill – Waste and Cover Material Dumping
- S-13 Vasco Road Landfill – Excavating, Bulldozing, and Compacting Activities

The waste decomposition process at S-1 generates landfill gas, which contains primarily methane and carbon dioxide (which are greenhouse gases: GHG) and also contains small amounts of non-methane organic compounds (NMOC) and sulfur compounds (mainly hydrogen sulfide). Many of the non-methane compounds (NMOCs) found in landfill gas are precursor organic compounds (POC), and some NMOCs are hazardous air pollutants (HAP) or Toxic Air Contaminants (TAC). The landfill is equipped with a continuously operated landfill gas collection system that collects landfill gas and vents it to an enclosed Landfill Gas Flare (A-4, 120 MM BTU/hour capacity). This flare burns the landfill gas to control methane, NMOC, and TAC emissions. The flare generates secondary emissions including: carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), particulate matter (PM_{10}), formaldehyde (a TAC), and acid gas such as hydrogen chloride and hydrogen fluoride (which are also TACs).

In addition to the landfill, this facility includes: a Non-Retail Gasoline Dispensing Facility (S-7) and a Portable Diesel Engine that powers a waste truck tipper (S-9).

Current Project

Application # 25908 is for a Minor Revision of the MFR Permit that will incorporate a number of permit condition changes for the S-1 Vasco Road Landfill – Waste Decomposition Process equipped with landfill gas collection system and abated by A-4 Landfill Gas Flare. The District approved these permit condition changes pursuant to New Source Review (NSR) Applications #23493, #24242, #25904, and #26049. These condition revisions concern the description and operating requirements for the landfill gas collection system, the A-4 Landfill Gas Flare, and a new energy plant at this location, which will be owned and operated by a separate independent company: Ameresco Vasco Road LLC (Site # E0432).

The District Engineering Evaluation Reports NSR Applications #23493, #24242, #25904, and #26049 are included as Appendices A, B, C, and D, respectively. Each project is briefly discussed below.

Under Application # 23493, the District approved a number of gas collection system alterations that are intended to ensure that the landfill gas generated by S-1 is adequately collected and controlled and that the landfill has no surface leaks above the 500 ppmv limit. These gas collection system alterations include expanding the gas collection system into recently filled areas and replacing wells and collectors as necessary to repair or balance the gas collection system for optimum performance. The gas collection system description proposed in this minor revision of the Title V permit will include all well and collector changes completed through September 16, 2014.

BAAQMD Regulation 8, Rule 34, Section 305 establishes various operating limits for landfill gas collection system wells, but it allows the District to establish alternative wellhead standard for specific wells when necessary. In accordance with this section, the District approved an alternative wellhead oxygen content limit for a number of wells in Vasco Road Landfill's gas collection system. This alternative wellhead limit and the list of wells subject to this limit are contained in Condition # 818, Part 3(b). Under Application # 24242, the District is adding a number of horizontal collectors to the list of wells that are subject to the alternative wellhead oxygen limit. The District is also removing any wells that have been decommissioned from the list of wells subject to the alternative wellhead oxygen limit.

As mentioned in the Site Description above, the landfill gas collected from the Vasco Road Landfill is currently required to all be controlled continuously by the on-site enclosed flare (A-4). In 2011, the District approved an Authority to Construct for an energy plant that would be located at the Vasco Road Landfill facility but that would be owned and operated by an independent company: Ameresco Vasco Road LLC.[1] This energy plant will include two lean-burn IC engines fired on treated landfill gas collected from Vasco Road Landfill. Under Application # 25904, the District approved permit condition changes for S-1 that would allow the landfill gas collected from the Vasco Road Landfill to be vented to this offsite energy plant. During the first few years of operation of the energy plant, Vasco Road Landfill may not be generating enough landfill gas to sustain continuous operation of both the energy plant (at full capacity) and the on-site A-4 flare. Therefore, the District also included permit condition revisions that would allow less than continuous operation of the A-4 Flare under certain circumstances. These circumstances and the new operating criteria for A-4 are described in Condition # 818, Part 1.

Under Application # 26049, the District approved the connection of various leachate components to the landfill gas collection system to prevent inadvertent component leaks from occurring at these leachate wells. Since the District expects very small amounts of gas to be present in these leachate wells, the District also approved intermittent operating criteria for these wells. These operating criteria are in Condition # 818, Parts 2 and 3(c).

This Statement of Basis and the attached reports (Appendices A-D) identify and explain all proposed changes to the gas collection system descriptions and the operating requirements for both the gas collection systems and the flare.

The attached proposed MFR permit shows all changes to the current permit in strikeout/underline format. The proposed permit condition revisions will be reflected in Tables II-A, IV-A, and VII-A and in Section VI of the proposed permit. The District is also making administrative changes to several other sections of this MFR permit. All revisions will be summarized in Section X of the MFR permit. These proposed Title V permit modifications require a minor revision of the MFR permit. The permit will be formally re-issued after EPA's 45-day review period is complete.

B. EMISSIONS

As discussed in the attached reports (Appendices A-D), the proposed condition changes for S-1 and A-4 will not result in any emission increases for this site, because the District is not making any changes to the throughput limits, emission limits, or calculation assumptions that impact the maximum permitted emission levels for either the Vasco Road Landfill or the A-4 Flare. The permit revisions are intended to allow gas to be vented to the new off-site energy plant and to update the description of the gas collection system and to identify specific gas collection system and control system operating criteria. All of these condition changes are intended to ensure that

[1] Ameresco Vasco Road LLC began initial operation of this energy plant in February 2014. Ameresco Vasco Road LLC (Site # E0432) has applied for a Title V permit for this energy plant under Title V permit application # 22637. The District is currently reviewing this application and is preparing the preliminary draft of the initial Title V permit for this new facility.

the landfill will comply with applicable rules, regulations, and emission limits during the circumstances described in these conditions.

C. PROPOSED MFR PERMIT MODIFICATIONS

Since a Statement of Basis was prepared for the most recent version of the MFR Permit for Site # A5095 (the June 4, 2012 renewal permit) that fully describes and explains the legal and factual basis for the current permit, this report will only address the proposed revisions to this current MFR Permit.

The definition of significant revision is discussed below to further explain why the current application does not constitute a significant MFR revision.

- Regulation 2-6-226.1 and 226.2: This action does not involve the incorporation of a change considered to be a major modification, or a modification under NSPS, NESHAPs, or Section 112 of the CAA.
- Regulation 2-6-226.3: This action does not involve the relaxation of any monitoring, record keeping or reporting requirements.
- Regulation 2-6-226.4: This action does not involve limits imposed to avoid an applicable requirement.
- Regulation 2-6-226.5 and 226.6: This action does not involve the establishment of or change to any case-by-case emission limits or standards or any facility-specific determinations.
- Regulation 2-6-226.7: This action does not involve the incorporation of any requirements promulgated by the EPA.

Since this action does not involve any of the above actions, it does not require a significant revision. This action will involve some MFR permit revisions other than those allowed under the definition of administrative amendment in Regulation 2-6-201. Therefore, this modification will be handled as a minor revision of the MFR Permit.

Changes to the permit sections are described below in the order that they are presented in the permit. All proposed changes to the permit are identified by strikeout and underline formatting in the attached proposed MFR Permit for Site # A5095.

Section I:

This section contains administrative requirements and conditions that apply to all facilities.

Changes to Section I:

- The District is updating regulatory amendment dates for Regulation 2, Rules 1 and 4 in Section I-A of the MFR permit.

Section II:

This section of the permit lists all permitted or significant sources and all abatement or control devices for these sources. Each source is identified by an S and a number (e.g., S-24). Each abatement device is identified by an A and a number (e.g., A-25).

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

Changes to Section II:

- In Table II-A, the District is updating the current landfill gas collection system description for: S-1 Vasco Road Landfill – Waste Decomposition Process.

Section III:

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.

Changes to Section III:

- The District is updating the amendment date for BAAQMD Regulation 2, Rule 1 and BAAQMD Regulation 5 in Table III of the MFR permit.

Section IV:

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit.

Changes to Section IV:

- The District is adding the less than continuous operating provisions and associated record keeping requirements (BAAQMD Regulation 8-34-404 and 501.5) to Table IV-A, since the permit conditions will allow intermittent operation of the A-4 Flare and specific landfill gas collection system components under certain circumstances.

Section V:

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

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

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

Changes to Section V:

- The District is not making any changes to Section V.

Section VI:

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 which 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.

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.

Changes to Section VI:

- The District is revising Condition # 818, Part 1 to allow landfill gas to be vented to the off-site energy plant and to describe the circumstances and operating criteria under which the A-4 Flare may be operated on an intermittent basis.
- The District is updating the landfill gas collection system description and allowable gas collection system alterations in Condition #818, Parts 2a and 2b, respectively.
- The District is correcting the list of components that are subject to alternative wellhead standards in Condition # 818, Part 3b.
- The District is adding Condition # 818, Part 3c to describe the less than continuous operating provisions for leachate wells, which were connected to the gas system to prevent potential component leaks.

Section VII:

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.

The District has reviewed all monitoring and has determined the existing monitoring is adequate.

Changes to Section VII:

- The District is adding the restrictions on operating the A-4 Flare on an intermittent basis to Table VII-A.

Section VIII:

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

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

Changes to Section VIII:

- The District is not making any changes to Section VIII.

Section IX:

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

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

This facility has no permit shields.

Changes to Section IX:

- The District is not making any changes to Section IX.

Section X:

This section contains the details of issuance and revisions for each permit.

Changes to Section X:

- The District is adding the details of this minor revision to the end of Section X.

Section XI-XII:

This section contains terms that may be unfamiliar to the general public or EPA.

Changes to Section XI:

- The District is adding a term to the Section XI Glossary.

ALTERNATIVE OPERATING SCENARIOS
No alternate operating scenarios have been requested.

COMPLIANCE STATUS

The responsible official for Republic Service Vasco Road LLC indicated on the Stationary Source Summary form submitted with Application # 25908 (dated December 5, 2013), that the equipment covered by this minor revision application was not operating under a compliance schedule.

DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT

The application materials for the minor MFR revision to incorporate permit condition changes for the S-1 Vasco Road Landfill – Waste Decomposition Process and Landfill Gas Collection and for the A-4 Landfill Gas Flare are contained in Application # 25908. The Applicant did not submit forms to identify any specific applicable requirements or emissions information, but the Applicant did indicate in the cover letter that this minor revision would not result in any emission increases. As indicated in the District's Statement of Basis report, this minor revision will not change any emission limits or monitoring requirements. The District's proposed permit includes additional requirements related to less than continuous operation of the A-4 and of individual gas collection wells. The specific permit condition revisions are identified in the District's proposed permit.

D. SUMMARY OF PROPOSED ACTIONS

The District is proposing a minor revision of the MFR Permit for Site # A5095 that will:

- Update regulatory amendment dates for District rules that have been revised since the permit was last renewed.
- Allow landfill gas to be vented to an off-site facility for combustion in engines to produce electricity.
- Allow the A-4 Flare to operate less than continuously when landfill gas has been diverted to the energy plant and insufficient gas remains to sustain continuous operation of A-4.
- Update the gas collection system description and the remaining authorized collection system alterations.
- Update the lists of wells that are subject to alternative wellhead standards.
- Add less than continuous operating provisions for leachate wells and other components that are expected to have low amounts of landfill gas present.

H:\Pub_Data\TitleV Permit Appls\1 All T5 Application Files Here\A5095\MR-25908\2.0 Proposed Docs\ A5095-App25908_SOB-draft-10-2-14.doc

APPENDIX A

ENGINEERING EVALUATION

APPLICATION # 23493

Engineering Evaluation
Republic Services Vasco Road; Plant No. 5095
Application No. 23493

BACKGROUND

Republic Services operates the Vasco Road Landfill Facility in Livermore, CA. This facility includes an active landfill (S-1 Landfill – Waste Decomposition Process), landfill gas flare (A-4).

Republic Services submitted this permit application to obtain and Authority to Construct and Permit to Operate for landfill gas collection system modifications that are necessary to ensure that the active landfill (S-1) continues to comply with Regulation 8, Rule 34. Republic Services requested to install up to 100 new verticals wells and install up to 20 horizontal well. Well decommissioning notifications were submitted to the District on A total of 65 wells were decommissioned in 2011.

Republic Services has requested to use the accelerated permit application procedures for this application. This application was deemed complete and an accelerated Permit to Operate was issued on July 26, 2011.

S-1, Landfill with Gas Collection System (78 vertical and 9 horizontal wells) – Installation of up to (100) additional Vertical and (20) Horizontal Gas Extraction Wells

Below are the Active Collectors at Vasco Road Landfill Facility in Livermore:

Total 78 Vertical Wells							
10-01	06-06	09-10	EW-7	EW-31	EW-63	EW-76	EW-86
10-02	06-07	09-11	EW-9	EW-34	EW-64	EW-77	EW-87
10-03	09-01	09-12	EW-14	EW-35	EW-65	EW-78	EW-88
10-04	09-02	EW-31-A	EW-17	EW-36	EW-66	EW-79	EW-89
10-05	09-03	EW-32-A	EW-19	EW-38	EW-68	EW-80	06-01R
10-09	09-04	EW-33-A	EW-20	EW-39	EW-69	EW-81	06-02R
10-10	09-06	EW-36-A	EW-23	EW-40	EW-70	EW-82	06-03R
10-11	09-07	EW-71R	EW-25	EW-41R	EW-73	EW-83	06-04R
10-12	09-08	EW-72R	EW-27	EW-42	EW-74	EW-84	
06-05	09-09	EW-3	EW-30	EW-44	EW-75	EW-85	

Total 9 Horizontal Wells								
EWH-D	EWH-E	HZ-09-02	HZ-09-03	HZ-09-04	HZ-09-05	HZ-09-06	HZ-09-07	HZ-09-08

EMISSIONS

The landfill gas generation and emission rate are attributed to the landfill source, S-1, and are a function of the amount of waste in the landfill. The applicant has not proposed any modification to the landfill waste capacity in this application. The changes to the collection system, including

addition of new wells, will not result in additional gas generation or any change in the landfill gas production rate; it will merely allow for better collection of the generated gas. Vasco Road Landfill currently vents all of their collected landfill gas to the A-4 Landfill Gas Flare.

There is no emission increase at the landfill associated with the addition of collection wells. There will be no change to total cumulative emission for this site.

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public School Notifications)

This application involves permit condition changes for an existing permitted source that do not result in any emission increases. In addition, the gas collection system is part of the required abatement system for the landfill, and the requested collection system alterations are necessary to ensure that landfill gas emissions are properly controlled. Consequently, this request is categorically exempt from CEQA review in accordance with Regulations 2-1-312.1 and 2-1-312.2. This project has no potential for causing a significant adverse environmental impact. No further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (New Source Review) and Rule 5 (NSR of Toxic Air Contaminants)

Since there are no emission increases expected from this project, new source review (NSR) is not required. BACT, Offsets, PSD, TBACT and Project Risk limits do not apply.

There is no new District or federal regulations triggered by this proposed landfill gas collection system modifications. However, changing the number of landfill gas collection wells will require the Title V permit for the facility to be modified. This change qualifies as a minor revision to the Title V permit and will be processed under Application 23494.

PERMIT CONDITIONS

The S-1 Vasco Road Landfill is subject to Condition # 818. These conditions will be revised as indicated below in order to allow the necessary alterations of the landfill gas collection system. These collection system alterations are expected to (a) collect landfill gas in new fill areas, (b) replace aging gas collection components, and (c) optimize landfill gas collection.

Condition # 818
FOR: S-1 VASCO ROAD LANDFILL – WASTE DECOMPOSITION PROCESS; A-4 LANDFILL GAS FLARE

No changes to Parts 1

2. The Permit Holder shall apply for and receive an Authority to Construct before altering the landfill gas collection system described in Parts 2a-b 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 are subject to the Authority to Construct requirement.

   a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below.

	Required Components
Total Number of Vertical Wells:	~~83~~ 78
Total Number of Horizontal Collectors:	~~5~~ 9

   b. The Permit Holder has been issued a Change of Conditions (Application Number: ~~21690~~ 23493) for the additional landfill gas collection system components listed below.

Total Number of Vertical Wells:	~~81~~ 100
Total Number of Horizontal Wells:	20

   Wells installed pursuant to subpart b shall be added to subpart a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the initial operation date for each new well.

(basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305)

No changes to Parts 3-23.

RECOMMENDATION

Issue a Change of Conditions for the following source subject to the revised conditions above (Condition # 818):

S-1, Landfill with Gas Collection System (78 vertical and 9 horizontal wells) – Installation of up to (100) additional Vertical/ (20) Horizontal Gas Extraction Wells

Signed by Flora Chan — May 22, 2012
By: Flora Chan — Date
Air Quality Engineer II

APPENDIX B

ENGINEERING EVALUATION

APPLICATION # 24242

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

Engineering Evaluation
Republic Services Vasco Road; Plant No. 5095
Application No. 24242

Background

On behalf of Republic Services Vasco Road Landfill, Cornerstone has applied for a change of conditions for their existing permit for S-1 Landfill – Waste Decomposition Process. Republic Services is requesting to revise Permit Condition #818, Part 3 (b) (ii) for oxygen High Operating Value (HOV) at seven horizontal wells. This operation met the criteria for accelerated permitting per Regulation 2-1-106. A temporary permit was issued on March 7, 2012.

EMISSION CALCULATIONS

There is no emissions increase associated with this change of conditions.

STATEMENT OF COMPLIANCE

The total emissions of landfill gas will not change as a result of the proposed revision to the permit condition. There is no change to the landfill gas collection system or the abatement system. Therefore, there are no new District or Federal regulations triggered by the proposed permit condition revisions

There are no schools within 1000 feet of the landfill.

RECOMMENDATION

Recommend that a change of conditions be issued for sources:

Application 24242; Plant 5095: Source S-1, Landfill – Waste Decomposition Process

Condition #818, Part 3(b)

ii. The Regulation 8-34-305.3 nitrogen concentration limit and the Regulation 8-34-305.4 oxygen concentration limit shall not apply to the wells listed below, provided that the oxygen concentration in the landfill gas at the main header does not exceed 5% O2 by volume (dry basis) and the methane concentration in the landfill gas at the main header is not less than 35% CH4 by volume (dry basis). The permit holder shall monitor the landfill gas from the main header for oxygen and methane on a monthly basis to demonstrate compliance with this part.

OEW-6, OEW-10, OEW-11, OEW-13, OEW-14, OEW-HA, OEW-HB, EW-9, EW-15, EW-16, EW-26, EW-27, EW-29, EW-29A, EW-31, EW-32, EW-32A, EW-33, EW-33A, EW-35, EW-36, EW-36A, EW-38, EW-40, EW-41, EW-42A, EW-43, EW-51, ~~and~~ EW-58~~.~~, HZ-09-02, HZ-09-03, HZ-09-04, HZ-09-05, HZ-09-06, HZ-09-07 and HZ-09-08.

All the other parts of this permit condition (PC#818) remain unchanged.

Signed by Flora Chan date: April 12, 2012
Flora Chan
Air Quality Engineer II

APPENDIX C

ENGINEERING EVALUATION

APPLICATION # 25904

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

Engineering Evaluation

for

Landfill Gas Control System Changes for the S-1 Vasco Road Landfill

Republic Services Vasco Road, LLC; PLANT # 5095

APPLICATION # 25904

BACKGROUND

Site Description:

Republic Services Vasco Road, LLC (RSVR) operates the Vasco Road Landfill Facility located in Livermore, CA. This facility includes an active landfill (S-1, S-12, and S-13), a landfill gas flare (A-4), a diesel fired waste tipper engine (S-9), a non-retail gasoline dispensing facility (S-7), and green waste and wood waste processing operations (S-14, S-15, A-14, and A-15). As required by District, state, and federal regulations, the active landfill is equipped with landfill gas collection and control systems to reduce the organic compound, toxic air contaminant, and greenhouse gas emissions from the landfill. All collected landfill gas is currently controlled by the on-site enclosed flare (A-4).

Ameresco Vasco Road, LLC (Plant # 20432) constructed a landfill gas to energy plant at this Livermore, CA facility that will use landfill gas collected from the Vasco Road Landfill as fuel for two IC engines (S-1 and S-2). Siloxanes, organic compounds and sulfur compounds that are present in the collected landfill gas will be removed from the fuel gas (prior to combustion in the engines) by the S-3 Gas Treatment System. Organic and sulfur compound emissions from the adsorption media desorption process (part of S-3) will be abated by a small enclosed flare (A-1). To achieve proper destruction of the waste gases, the A-1 Waste Gas Flare will require supplemental fuel, which will be a small slip stream of treated landfill gas from S-3. Ameresco's construction of this energy plant is nearly complete.

Current Project:

The permit conditions for the S-1 Vasco Road Landfill – Waste Decomposition Process currently require that all collected landfill gas be vented to the A-4 Landfill Gas Flare for control. RSVR is requesting that these permit conditions be revised to allow venting of gas to the Ameresco energy plant as an approved control option for the Vasco Road Landfill.

EMISSIONS

All emission increases associated with processing and burning landfill gas at the Ameresco facility were discussed in detail in the engineering evaluation report for Application # 22636. Since RSVR is not requesting any changes to the emission limits for the Vasco Road Landfill or Flare (S-1 or A-4 at Plant # 5095), this application will not result in any emission increases at the RSVR facility.

Landfill Gas Control System Adequacy

The Vasco Road Landfill opened in 1963 and is currently active. It has a maximum capacity of 23.8 million cumulative tons of decomposable material, and it contains about 14.5 million tons of decomposable waste as of 10/31/2012 (about 61% of capacity). The maximum waste acceptance rate is 2518 tons/day (or about 755,000 tons/year), but RSCR has not approached this maximum annual waste acceptance rate in many years. RSVR reported that the actual waste acceptance rate was 534,715 tons for the year ending 10/31/2012. For future years, the District estimated the waste acceptance rate would not exceed 600,000 tons/year.

The District used the landfill data above with EPA's LandGEM program to estimate current and projected landfill gas generation rates for this landfill. The District used the default potential methane generation capacity (L_0 = 100 m^3/Mg) and the methane generation rate for arid areas (k = 0.02 $year^{-1}$). For 2012, the projected landfill gas generation rate is 2653 scfm of landfill gas (at 50% methane). RSVR reported that the actual average gas collection rate was 2170 scfm for 2012. Based on 2012 source test data (OS-4189), the landfill gas' methane content was about 46% in 2012. Thus, the actual methane collection rate was about 998 scfm in 2012 compared to a projected methane generation rate of 1327 scfm for 2012 (about 75% actual gas collected versus projected gas generated).

Using an average waste acceptance rate of 600,000 tons/year for all future years will result in an active landfill through the year 2027. During 2027, the landfill will have a maximum projected landfill gas generation rate of 3867 scfm. If the ratio of gas collected versus projected gas generation rate remains the same, RSVR should be collecting at least 2900 scfm of landfill gas in 2027.

If the landfill increases its annual waste acceptance rate up close to the maximum rate (about 740,000 tons/year of decomposable materials for the remainder of its active life), the landfill will reach full capacity in 2024, and the maximum projected landfill gas generation rate will increase to 4005 scfm for the year 2025. Assuming the ratio of gas collected versus projected gas generation rate remains the same, RSVR should be collecting at least 3038 scfm of landfill gas when the landfill reaches full capacity, if RSVR accepts 740,000 tons/year of waste for all future years.

RSVR's A-4 Landfill Gas Flare has a maximum capacity of 120 MM BTU/hour. For landfill gas containing 50% methane with a heat content of about 500 BTU/scf, this capacity is equal to 4000 scfm of landfill gas. The A-4 Landfill Gas Flare has sufficient capacity to handle the maximum expected gas generation rate, provided the waste acceptance rate for future years does not exceed 740,000 tons/year. As discussed above, the District does not expect the annual waste acceptance rate at this site to exceed 600,000 tons/year. Therefore, A-4 should have adequate capacity for all future years.

Ameresco's proposed IC engines can burn up to 700 scfm of landfill gas per engine, and Ameresco's Waste Gas Flare can burn an additional 188 scfm of landfill gas, for a total energy plant capacity of 1590 scfm of landfill gas at a heat content of 500 BTU/scf (48 MM BTU/hour of heat input) or about 795 scfm of methane. As discussed above, the 2012 gas collection rate was about 998 scfm of methane (2170 scfm of landfill gas at 46% methane, or about 60 MM BTU/hour), which exceeds the capacity of the Ameresco energy plant by about 203 scfm of methane (or about 12 MM BTU/hour).

Since the average gas collection rate in 2012 exceeds the energy plant capacity, the District would normally expect the A-4 Landfill Gas Flare to operate continuously even when landfill gas is being diverted to the energy plant. However, the A-4 Flare only has a 5:1 turn down ratio and requires a minimum heat input rate of 24 MM BTU/hour for proper operation. When the energy plant is operating at full capacity, the excess collected landfill gas (12 MM BTU/hour) is not currently sufficient to sustain continuous operation of A-4. If only one energy plant engine is operating (24 MM BTU/hour to energy plant and 36 MM BTU/hour available for flaring as of 2012), A-4 should be able to sustain continuous operation. However, if the gas diversion rate to the energy plant exceeds 36 MM BTU/hour (1200 scfm of LFG at 50% methane), then the amount of gas available for flaring will be less than 24 MM BTU/hour and A-4 could not operate continuously.

When the energy plant is consuming more than 36 MM BTU/hour of landfill gas, the A-4 flare will be permitted to be shut down. However, the landfill operator should operate A-4 on a less than continuous basis for as long as possible during this circumstance to ensure that landfill surface leaks do not develop due to collection of an insufficient amount of landfill gas. The Applicant has indicated that the flare will typically run for several hours up to a full day approximately every two weeks when the engines are undergoing oil changes and other routine maintenance. This intermittent flare operation is expected to be sufficient to prevent landfill gas build-up in the landfill. In addition, the applicant has agreed to monitor the landfill gas methane content at the main header on a monthly basis and to attempt to start the flare once per

week if the methane content exceeds 50%. These operating requirements will be added to the permit conditions.

By 2019, the landfill is projected to have a landfill gas generation rate of 3265 scfm and a landfill gas collection rate of at least 2449 scfm. This gas collection rate is equivalent to 73 MM BTU/hour of heat input, which is sufficient to sustain continuous operation of the energy plant at full capacity (48 MM BTU/hour) and A-4 at minimum capacity (24 MM BTU/hour). Therefore, as of 2019, less than continuous operation of A-4 should no longer be necessary under any possible energy plant operating scenarios.

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-1 Vasco Road Landfill that involves no physical alterations of the landfill. The condition changes will allow for and coordinate the use of new control devices that were approved through other permit applications. The proposed condition change does not result in any emission increases at this site. Therefore, this application is categorically exempt from CEQA review pursuant to Regulation 2-1-312.2. In addition, the Engineering Evaluation for this application uses fixed standards and objective measurements and does not involve any element of discretion. Consequently, no further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from the landfill (S-1) or flare (A-4), this project is not subject to New Source Review or the requirements of Regulation 2, Rule 2. No new BACT, Offset or PSD requirements will apply.

New Source Review for Toxic Air Contaminants:

This application does not result in any increases of Toxic Air Contaminants (TACs). Therefore, NSR for TACs is not triggered, and no new T-BACT requirements will apply.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility for CO emissions and also because it is a designated facility (since it is subject to the EG for MSW Landfills). Therefore, this facility is required to have an MFR permit pursuant to Regulations 2-6-301 and 2-6-304.

The initial MFR Permit for this facility was issued on February 5, 2004. The MFR Permit underwent four revisions during 2004 through 2011, and it was renewed on June 4, 2012. This application will require a minor revision of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to this project and also related to NSR Applications #23493 and #24242 will be discussed in the Statement of Basis for the minor revision under Title V Application # 25908.

Regulation 8, Rule 34:

RSVR's Vasco Road Landfill (S-1) is subject to Regulation 8, Rule 34. Regulation 8-34-301 requires that landfill gas be collected and processed through emission control systems that comply with 8-34-301.1 (continuous operation) and 8-34-301.2 (component leak limit) and either 8-34-301.3 (NMOC emission limits for flares) or 8-34-301.4 (NMOC emission limits for other control devices). The proposed permit condition revisions will not affect compliance with 8-34-301.2. However, it is possible that the A-4 Flare may not be able to operate continuously (in compliance with 8-34-301.1), because (during 2014-2018) the amount of landfill gas available for flaring (when the energy plant is operating at > 36 MM BTU/hour) is not expected to be sufficient to keep the flare lit or to maintain the minimum temperature necessary for

proper destruction of TACs. Under these circumstances, the A-4 flare would be allowed to operate less than continuously. However, this does not constitute less than continuous operation pursuant to Regulation 8-34-404, because the gas collection system and a gas control device (either the off-site energy plant or the on-site flare) will be operated continuously during all possible operating scenarios. The proposed condition revisions will allow the use of an off-site flare and off-site engines. Since the Ameresco flare will comply with 8-34-301.3, and the Ameresco engines will comply with 8-34-301.4, venting collected landfill gas to the Ameresco facility should continue to ensure compliance with Regulation 8-34-301.3 or 301.4.

The S-1 Vasco Road Landfill is also subject to Regulation 8-34-303, which limits leaks on the surface of the landfill to less than 500 ppmv as methane. This site has generally been complying with the surface leak requirements. The gas quality requirements for the Ameresco facility engines are not expected to require any significant changes to the gas collection procedures for the landfill. As discussed in Section C, venting to the energy plant alone may not assure an adequate landfill gas collection rate for the Vasco Road Landfill under all possible operating scenarios. Thus, Vasco Road Landfill's A-4 Flare must operate intermittently in conjunction with the energy plant. Since continuous operation of A-4 is not possible if the energy plant gas diversion rate exceeds 1200 scfm, the District will allow A-4 to operate less than continuously under this circumstance. A-4 is expected to operate every two weeks. Less than continuous operation of A-4 will be allowed until approximately 2019 when the landfill should then be generating sufficient gas to maintain continuous operation of both the energy plant and A-4. With the proposed operating restrictions and monitoring requirements in place, the District will ensure that venting gas to the off-site engines does not adversely impact the landfill's ability to comply with the 8-34-303 surface leak limit.

Federal Requirements:

Emission Guidelines for MSW Landfills: The S-1 Vasco Road Landfill is subject to the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, 40 CFR, Part 60, Subpart Cc. This regulation requires the facility to meet the EG requirements approved in the state plan for that District. For the Bay Area, Regulation 8, Rule 34 was adopted as the state plan for implementing these federal EG requirements. Thus, compliance with Regulation 8, Rule 34 constitutes compliance with the EG requirements.

NESHAPs for MSW Landfills: This landfill is also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). This NESHAP requires that subject facilities implement startup, shutdown, malfunction plans (SSM Plans) and comply additional reporting requirements. All applicable requirements are contained in the existing MFR permit. This facility is expected to continue to comply with these requirements.

Permit Condition Revisions

The District is proposing to revise Condition # 818, Part 1, as shown below in strike through and underline formatting. The proposed revisions to Part 1 also describe the specific control device operating scenarios that the District is allowing for this landfill. Complying with these operating restrictions is expected to ensure compliance with the surface leak limits.

Condition # 818

FOR: S-1 VASCO ROAD LANDFILL – WASTE DECOMPOSITION PROCESS WITH GAS COLLECTION SYSTEM; ABATED BY A-4 LANDFILL GAS FLARE;
S-12 VASCO ROAD LANDFILL – WASTE AND COVER MATERIAL DUMPLING;
S-13 VASCO ROAD LANDFILL – EXCAVATING, BULLDOZING, AND COMPACTING ACTIVITIES

1. All collected landfill gas shall either be ~~vented to the properly operating~~ abated by the on-site Landfill Gas Flare (A-4) or shall be vented to both A-4 and to the off-site Ameresco Vasco Road, LLC Facility (Plant # 20432) for processing and use as fuel in this off-site energy plant.

a. During any time that the landfill gas flow rate to the off-site energy plant is less than or equal to 1200 scfm, the A-4 Flare shall operate concurrently with the off-site energy plant on a continuous basis and in compliance with all applicable limits for this flare.

b. During any time that landfill gas is diverted to the off-site energy plant, the owner/operator may operate the A-4 Flare on a less than continuous basis, provided that the owner/operator demonstrates that all of the following criteria have been satisfied:

(i) the landfill gas flow rate to the off-site energy plant is greater than 1200 scfm;

(ii) the remaining amount of landfill gas available for flaring is less than 800 scfm or the equivalent heat input rate for this excess landfill gas is less than 24 MM BTU/hour;

(iii) a sufficient amount of landfill gas is collected and controlled at all times to prevent violation of any applicable landfill surface leak limits;

(iv) the owner/operator shall measure the methane concentration in the landfill gas at the main header at least once per month (during routine wellfield monitoring) and shall calculate the average methane content for each rolling 3-month period. If this average landfill gas methane content exceeds 50%, the owner/operator shall attempt to restart the A-4 flare within one week of discovery of this excess. If the restart is successful, A-4 shall operate continuously until the criteria in Part 1(b)(ii) occur. The owner/operator shall attempt to restart the A-4 flare once per week until the rolling average methane content calculated above is below 50% methane.

(v) the owner/operator shall maintain records of landfill gas flow rate data, landfill gas methane concentration measurements, equivalent heat input rates and calculation procedures, flare restart attempts, and flare operating times to demonstrate compliance with Parts 1b(i-iv).

c. Raw landfill gas shall not be vented to the atmosphere except for unavoidable landfill gas emissions, which occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and inadvertent component or surface leaks that do not violate 8-34-301.2 or 8-34-303.

(basis: Regulations 8-34-301 and 8-34-303)

2. The Permit Holder shall apply for and receive a Change of Conditions before altering the landfill gas collection system described in Part 2a 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 are subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 2b as evidenced by start-up/shut-down notification letters submitted to the District.

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below.

	Required Components
Total Number of Vertical Wells:	78
Total Number of Horizontal Collectors:	9

b. The Permit Holder has been issued a Change of Conditions (Application Number: 23493) for the additional landfill gas collection system components listed below.

Total Number of Vertical Wells:	100
Total Number of Horizontal Collectors:	20

Wells installed or permanently shut down pursuant to subpart b shall be added to or removed from subpart a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The Permit Holder shall notify the District of the expected installation or shut-down date prior to commencing any component alterations pursuant to subpart b and shall maintain records of the initial operation date for each new well and the permanent decommissioning date for each shut-down well.
(basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305)

3. The permit holder shall comply with the following landfill gas collection system operating requirements.
   a. The landfill gas collection system described in Part 2a shall be operated continuously, as defined in Regulation 8-34-219 and Part 3b below. Wells shall not be shut off, disconnected or removed from operation without written authorization from the APCO, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (basis: Regulation 8-34-301.1)
   b. For the specified wells and collectors listed below, the gas collection system operating requirements listed in Parts 3b(i-ii) shall replace the wellhead requirements identified in Regulation 8-34-305.2 through 8-34-305.4. All wells and collectors remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum on each wellhead and to the Regulation 8-34-505 monthly monitoring requirements. The specified wells and collectors shall be deemed to be operating continuously, if the components are complying with Regulation 8-34-305.1 and any applicable limits in Part 3b(i-ii). In addition, Part 3b(iii) clarifies the applicable limits for vaults containing gas collection system components. If the Permit Holder discovers an excess of a Part 3b(i-iii) limit and corrects the excess in accordance with the Regulation 8-34-414 repair schedule, the excess shall not be deemed a violation of this part. (basis: Regulations 8-34-301.1, 8-34-301.2, 8-34-303, and 8-34-305)
      i. The Regulation 8-34-305.2 temperature limit shall not apply to the wells or collectors listed below. The landfill gas temperature in each of the components listed below shall not exceed 140 degrees F.
      OEW-HA, OEW-HB, OEW-14, EW-9, EW-33A, EW-43, EW-44, EW-45, EW-52, EW-53, EW-54, EW-57, and EW-58.
      ii. The Regulation 8-34-305.3 nitrogen concentration limit and the Regulation 8-34-305.4 oxygen concentration limit shall not apply to the wells listed below, provided that the oxygen concentration in the landfill gas at the main header does not exceed 5% O_2 by volume (dry basis) and the methane concentration in the landfill gas at the main header is not less than 35% CH_4 by volume (dry basis). The permit holder shall monitor the landfill gas from the main header for oxygen and methane on a monthly basis to demonstrate compliance with this part.
      OEW-6, OEW-10, OEW-11, OEW-13, OEW-14, OEW-HA, OEW-HB, EW-9, EW-15, EW-16, EW-26, EW-27, EW-29, EW-29A, EW-31, EW-32, EW-32A, EW-33, EW-33A, EW-35, EW-36, EW-36A, EW-38, EW-

40, EW-41, EW-42A, EW-43, EW-51, EW-58, HZ-09-02, HZ-09-03, HZ-09-04, HZ-09-05, HZ-09-06, HZ-09-07 and HZ-09-08.

iii. This subpart applies to vaults containing gas collection system equipment, where the top of the vault is located at or near the surface of the landfill. The vault shall be monitored at both 1 cm from the vault (for comparison to the component leak limit of Regulation 8-34-301.2) and 2 inches above the vault (for comparison to the surface leak limit of Regulation 8-34-303).

(a) If during an inspection the District's monitored readings show compliance with both the component leak limit and the surface leak limit, the vault and components within shall be deemed to be in compliance with Regulations 8-34-301.2 and 8-34-303. No further testing is necessary.

(b) If the District's monitored readings show an excess of either the component leak limit or the surface leak limit, the operator shall comply with the Regulation 8-34-415 Repair Schedule for Landfill Surface Leak Excesses, until the source of the leak can be identified. The vault shall be opened and allowed to air out for at least 10 minutes. The collection system components within the vault shall be re-monitored at 1 cm from the components and the landfill surface surrounding the vault shall be re-monitored at 2 inches above the surface.

(c) If the re-monitoring (after airing the vault for 10 minutes) shows no component leaks and no surface leaks, the vault and components within shall be deemed to be in compliance with Regulations 8-34-301.2 and 8-34-303.

(d) If the re-monitoring shows a component leak, or the operator's further evaluation determines that the source of the emissions excess was a collection system component, then a violation of 8-34-301.2 shall be deemed to have occurred; and the operator shall take all necessary corrective action and shall comply with all applicable reporting requirements.

(e) If the re-monitoring shows a surface leak but not a component leak, the operator shall continue to comply with all applicable provisions of the Regulation 8-34-415 Repair Schedule for Landfill Surface Leak Excesses.

4. A temperature monitor with readout display and continuous recorder shall be installed and maintained on the Flare (A-4). One or more thermocouples shall be placed in the primary combustion zone of the flare and shall accurately indicate flare combustion temperature at all times. Temperature charts showing continuous combustion zone temperature shall be retained for at least five years and made readily available to District staff upon request.
(basis: Regulations 8-34-501.3 and 8-34-507)

5. The combustion temperature of the Flare (A-4) shall be maintained at a minimum of 1402 degrees F, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise the minimum combustion zone temperature limit, in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415, based on the following criteria.

The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature measured during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature shall not be less than 1400 degrees F. (basis: RACT for CO and Regulations 2-5-301 and 8-34-301.3)

6. The Flare (A-4) shall be equipped with auto restart capability, a local alarm system, and automatic temperature controlled louvers.
(basis: Regulation 8-34-301 and RACT for CO)

7. The A-4 Flare shall be fired on landfill gas. No landfill gas condensate or leachate may be burned in the A-4 Flare. Propane or other similar clean burning fuels may be used during flare start-up. (basis: Cumulative Increase)

8. The concentration of nitrogen oxides (NOx) in the flue gas from the Landfill Gas Flare (A-4) shall not exceed 11 ppmv of NOx, corrected to 15% oxygen, dry basis. This is equivalent to 0.049 pounds of NOx (calculated as NO2) per million BTU. (basis: RACT)

9. DELETED

10. The concentration of carbon monoxide (CO) in the flue gas from the Landfill Gas Flare (A-4) shall not exceed 73 ppmv of CO, corrected to 15% oxygen, dry basis. This is equivalent to 0.19 pounds of CO per million BTU. (basis: RACT)

11. DELETED

12. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in the exhaust from the flare. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed an annual average of 320 ppmv, reported as H2S, dry basis. (basis: RACT for SO2 and Regulation 9-1-302)
    a. To demonstrate compliance with this limit, the Permit Holder shall monitor the collected landfill gas for sulfur content on a quarterly basis using a combination of field testing and laboratory analytical results.
    b. When using the field testing procedure, the Permit Holder shall measure the hydrogen sulfide (H2S) content in the landfill gas using a Draeger tube. The total reduced sulfur concentration shall be calculated based on the field test results by multiplying the measured H2S concentration by 1.2.
    c. For laboratory analyses, the sample shall be a composite s ample collected over a period of no less than 30 minutes and analyzed for the sulfur compounds identified in Part 21.
    d. The Permit Holder shall record the date and results of all field tests, the calculated TRS concentration based on these field tests, and the date and results of the annual laboratory analyses in a District approved log. The annual average TRS concentration shall be calculated and recorded for each rolling 4-quarter period based on the TRS data recorded above.

13. The Heat Input to the A-4 Landfill Gas Flare shall not exceed 2880 million BTU per day and shall not exceed 1,051,200 million BTU during any consecutive 12-month period. In order to demonstrate compliance with this part, the Permit Holder shall calculate and

record on a monthly basis the maximum daily and total monthly heat input to the flare based on the landfill gas flow rate recorded pursuant to Part 22g, the monthly methane concentration measurements conducted pursuant to Part 3b(ii), and a high heating value for methane of 1013 BTU/ft^3 at 60 degrees F. (basis: Offsets, Cumulative Increase, and Regulation 2-1-301)

14. The Permit Holder shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
    a. Total amount of solid waste (as defined in Regulation 8-34-202) accepted at the landfill shall not exceed 2,518 tons in any day (except during temporary emergency situations approved by the Local Enforcement Agency). Vehicle traffic that is transporting incoming or outgoing solid waste or other materials shall not exceed 625 vehicles per day. (Basis: Regulation 2-1-301)
    b. The total cumulative amount of all decomposable materials placed in the landfill shall not exceed 23.8 million tons. Exceedance of this cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.3, that the limit should be higher. (Basis: Regulation 2-1-234.3)
    c. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill, excluding final cover) shall not exceed 31.65 million cubic yards.

    (Basis: Regulation 2-1-301)

15. This facility is not subject to Regulation 8, Rule 40 because the landfill does not accept contaminated soil (soil containing more than 50 ppmw of volatile organic compounds, VOCs). The following types of materials may be accepted:
    a. Metal-laden soil (soil containing metals above naturally occurring background concentrations), VOC-laden soil (soil containing VOCs that is not "contaminated" soil), or other materials for which the Permit Holder has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211).
    b. Materials for which the Permit Holder has no documentation to prove that soil is not contaminated, but the source of the soil is known and there is no reason to suspect that the soil might contain organic compounds or metal compounds at other than naturally occurring background concentrations.
    c. Materials which the Permit Holder plans to test in order to determine the VOC contamination level in the soil, provided that the material is sampled within 24 hours of receipt by this site and is handled as if the soil were contaminated until the Permit Holder receives the test results. The Permit Holder shall collect soil samples in accordance with Regulation 8-40-601. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.
        i. If these test results indicate that the soil is contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the Permit Holder must continue to handle the soil in accordance with Regulation 8, Rule 40, until the soil has been removed from this site. For the purposes

of Regulations 8-40-306.3-306.5, storing soil in a temporary stockpile or pit and co-mingling, blending, or mixing of soil lots are not considered treatment.

ii. If these test results indicate that the soil, as received at this site, has an organic content of 50 ppmw or less, then the soil may be considered to be not contaminated and need not be handled in accordance with Regulation 8, Rule 40 any longer.

(basis: Regulation 8-40-301)

16. The total amount of metal-laden and VOC-laden soil used as cover material shall not exceed 180,000 tons during any consecutive 12 month period. The metal concentrations of any metal-laden soil shall not exceed the following limits:

Metals	Maximum Concentration (ppmw)
Arsenic	130
Beryllium	75
Cadmium	100
Chromium VI	7
Copper	2500
Lead	1000
Mercury	20
Nickel	2000
Selenium	100
Zinc	5000

Parts a. and b. below identify the maximum usage rates and maximum allowed concentrations of toxic compounds that may be present in the two types of VOC-laden soil used that may be used as cover material at this site.

a. For soil containing high concentrations of certain chlorinated compounds, the amount used as cover material shall not exceed 10,000 tons during any consecutive 12 month period. Soil shall be subject to this throughput limit if the soil contains chlorinated compounds in amounts exceeding any of the following concentrations:

0.05 ppmw of carbon tetrachloride,
0.05 ppmw of chloroform,
0.40 ppmw of 1,4 dichlorobenzene,
0.05 ppmw of 1,2 dichloroethane,
0.40 ppmw of tetrachloroethylene, or
0.05 ppmw of vinyl chloride.

Under no circumstances shall the Permit Holder use soil for cover, which contains organic compounds in excess of the following concentrations:

0.50 ppmw of benzene,
0.50 ppmw of carbon tetrachloride,
6.00 ppmw of chloroform,
7.50 ppmw of 1,4 dichlorobenzene,
0.50 ppmw of 1,2 dichloroethane,
0.70 ppmw of tetrachloroethylene,
0.50 ppmw of trichloroethylene, or
0.20 ppmw of vinyl chloride.

b. For soil containing low concentrations of certain chlorinated compounds, the amount used as cover material shall not exceed 170,000 tons during any

consecutive 12 month period. Soil shall be subject to this throughput limit if the soil contains organic compounds in amounts less than or equal to all of the following concentrations:

0.50 ppmw of benzene,
0.05 ppmw of carbon tetrachloride,
0.05 ppmw of chloroform,
0.40 ppmw of 1,4 dichlorobenzene,
0.05 ppmw of 1,2 dichloroethane,
0.40 ppmw of tetrachloroethylene,
0.50 ppmw of trichloroethylene, and
0.05 ppmw of vinyl chloride.

(basis: Offsets and Regulations 2-5-302 and 8-2-301)

17. DELETED

18. In order to demonstrate compliance with Parts 15 and 16, the Permit Holder shall maintain the following records in an APCO approved log book.

a. For any metal-laden or VOC-laden soil that will be used as daily or intermediate cover material, the Permit Holder shall record the following:
   (i) soil lot number (or other means of tracking the soil on-site),
   (ii) date and time the soil was received,
   (iii) amount of soil received,
   (iv) total VOC content measured by the waste generator, and
   (v) concentrations in the soil of benzene, carbon tetrachloride, chloroform, 1,4 dichlorobenzene, 1,2 dichloroethane, tetrachloroethylene, trichloroethylene and vinyl chloride,

b. For any material subject to Part 15c:-
   (i) soil lot number,
   (ii) date and time that the soil was resampled on-site,
   (iii) total VOC concentration in the resampled soil.

c. For each soil lot number of metal-laden or VOC-laden soil received at the landfill, the owner/operator of S-1 shall record the following.
   (i) date and time that any of the soil in the lot was used for cover material,
   (ii) describe the location where the soil was placed,
   (iii) specify whether the soil was used for daily or intermediate cover,
   (iv) record, on a daily basis, the amount of soil placed as cover material,
   (v) summarize, on a daily basis, the total amount of metal-laden and VOC-laden soil used for cover (if multiple soil lots where placed during any one day), and
   (vi) summarize, on a monthly basis, the total amount of metal-laden and VOC-laden soil used for daily or intermediate cover.

All logs, sampling records, analytical results, and notification records shall be made available to District staff upon request and shall be kept on site for a minimum of 5 years from the date of entry. (basis: Offsets and Regulations 2-5-302 and 8-2-301)

19. Water and/or dust suppressants shall be applied to all unpaved roadways and active soil removal and fill areas associated with this landfill as necessary to prevent visible particulate emissions. Paved roadways at the facility shall be kept sufficiently clear of dirt and debris as necessary to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-1-301, and 6-1-305)

20. In order, to demonstrate compliance with Parts 5 and 8-13 and Regulation 8, Rule 34, Sections 301.3 and 412, the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-4). The annual source test shall determine the following:
    a. landfill gas flow rate to the flare (dry basis);
    b. concentrations (dry basis) of carbon dioxide (CO_2), nitrogen (N_2), oxygen (O_2), methane (CH_4), and total non-methane organic compounds (NMOC) in the landfill gas;
    c. stack gas flow rate from the flare (dry basis);
    d. concentrations (dry basis) of NO_x, CO, CH_4, NMOC, and O_2 in the flare stack gas;
    e. the NMOC destruction efficiency achieved by the flare; and
    f. the average combustion temperature in the flare during the test period.

    Each annual source test shall be conducted no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. (basis: RACT, Offsets, Cumulative Increase and Regulations 2-5-301, 2-5-302, 8-34-301.3 and 8-34-412)

21. To demonstrate compliance with Part 12 above and Regulations 8-34-412 and 9-1-302, the Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by Part 20 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 20b, the landfill gas shall be analyzed for all the organic and sulfur compounds listed below. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date.
    (basis: AB-2588 Air Toxic Hot Spots Act, RACT for $S0_2$, and Regulations 2-5-302, 8-34-412, and 9-1-302)

Organic Compounds
acrylonitrile
benzene
benzyl chloride
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
1,1 dichloroethane
1,1 dichlorethene
1,2 dichloroethane
1,4 dichlorobenzene
ethylbenzene
ethylene dibromide
hexane
isopropyl alcohol
methyl ethyl ketone
methylene chloride
perchloroethylene
toluene
1,1,1 trichloroethane
1,1,2,2 tetrachloroethane
trichloroethylene
vinyl chloride
xylenes

Sulfur Compounds
carbon disulfide
carbonyl sulfide
dimethyl sulfide
ethyl mercaptan
hydrogen sulfide
methyl mercaptan

22. The Permit Holder shall maintain the following records in an APCO approved log book.
    a. Record the total amount of solid waste received at S-1 and the total number of vehicles transporting solid waste or other materials to and from the site on a daily basis. Summarize these daily waste acceptance and vehicle traffic records for each calendar month.
    b. For each area or cell that is not controlled by a landfill gas collection system, maintain a record of the date that waste was initially placed in the area or cell. Record the cumulative amount of waste placed in each uncontrolled area or cell on a monthly basis.
    c. If the Permit Holder plans to exclude an uncontrolled area or cell from the collection system requirement, the Permit Holder shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
    d. Record of the dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. Record the dates, locations, and type of any dust suppressant applications. Record the dates and description of all

paved roadway cleaning activities. Written documentation of standard watering procedures combined with completion of daily check lists may satisfy these daily record keeping requirements. All records shall be summarized on monthly basis.

e. Record the initial operation date for each new landfill gas well and collector.

f. Maintain an accurate map of the landfill, which indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 2a. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.

g. Record the operating times and the landfill gas flow rate to the A-4 Landfill Gas Flare on a daily basis. Summarize these records on a monthly basis. Calculate and record the heat input to A-4, pursuant to Part 13. Summarize the heat input rate to the A-4 Landfill Gas Flare for each consecutive rolling 12-month period.

h. Maintain records of all test dates and test results performed to maintain compliance Parts 3, 8-13, 15-16, or 20-21 or to maintain compliance with any applicable rule or regulation.

All records shall be maintained on site or shall be made readily available to District staff upon request for a period of at least 5 years from the date of entry. These record keeping requirements do not replace the record keeping requirements contained in any applicable rules or regulations. (basis: RACT, Offsets, Cumulative Increase, Regulations 2-1-301, 2-5-301, 2-5-302, 2-6-501, 6-1-301, 6-1-305, 8-2-301, 8-34-301, 8-34-304, and 8-34-501)

23. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting period for the first increment of the Regulation 8-34-411 annual report that is submitted subsequent to the issuance of the MFR Permit for this site shall be from December 1, 2003 through June 30, 2004. This first increment report shall be submitted by July 31, 2003. The reporting periods and report submittal due dates for all subsequent increments of the Regulation 8-34-411 report and for all semi-annual increments of MSW Landfill NESHAP report (required pursuant to 40 CFR Part 63.1980(a)) shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. A single report may be submitted to satisfy the requirements of Section I.F, Regulation 8-34-411, and 40 CFR Part 63.1980(a), provided that all items required by each applicable reporting requirement are included in the single report.
(basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))

RECOMMENDATION

Issue a Change of Conditions (Condition # 818) for the following equipment.

S-1 Vasco Road Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System and abated by A-4 and off-site energy plant.

Signed by Carol S. Allen — January 28, 2014

By: Carol S. Allen — Date

Supervising Air Quality Engineer

APPENDIX D

ENGINEERING EVALUATION

APPLICATION # 26049

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

Engineering Evaluation

for

Permit Condition Changes
for the S-1 Vasco Road Landfill's Landfill Gas Collection System

Republic Services Vasco Road, LLC; PLANT # 5095

APPLICATION # 26049

BACKGROUND

Site Description:

Republic Services Vasco Road, LLC (RSVR) operates the Vasco Road Landfill Facility located in Livermore, CA. This facility includes an active landfill (S-1, S-12, and S-13), a landfill gas flare (A-4), a diesel fired waste tipper engine (S-9), a non-retail gasoline dispensing facility (S-7), and green waste and wood waste processing operations (S-14, S-15, A-14, and A-15). As required by District, state, and federal regulations, the active landfill is equipped with landfill gas collection and control systems to reduce the organic compound, toxic air contaminant, and greenhouse gas emissions from the landfill. Until recently, all collected landfill gas has been controlled by the on-site enclosed flare (A-4).

Ameresco Vasco Road, LLC (Plant # 20432) constructed a landfill gas to energy plant at this Livermore, CA facility that will use landfill gas collected from the Vasco Road Landfill as fuel for two IC engines (S-1 and S-2). This energy plant also includes a Landfill Gas Treatment System (S-3), which removes siloxanes and other organic and sulfur contaminants from the landfill gas before it is burned in the engines, and a Waste Gas Flare (A-1), which controls waste gas emissions from a desorption cycle included in S-3. This new energy plant began operation of all equipment in January 2014.

At full capacity, this energy plant can burn up to 1590 scfm of landfill gas at a heat content of 500 BTU/scf or about 48 MM BTU/hour of heat input. This maximum capacity is about 90% of the current landfill gas collection rate (1755 scfm in 2013). As discussed in the Engineering Evaluation Report for Application # 25904, the District added permit conditions to ensure that venting gas to this energy plant would not result in an overall decrease in the landfill gas collection rate for this landfill that might lead to excess landfill surface emissions.

Current Project:

As indicated in Condition # 818, Part 2b, Republic Services is authorized to make a number of alterations to the landfill gas collection, as needed, to ensure that sufficient landfill gas is collected to prevent leaks from the landfill surface or collection system components above the limits in Regulations 8-34-303 and 8-34-301.2. Republic Services recently connected 4 leachate recirculation wells and 2 horizontal leachate recirculation wells to the landfill gas vacuum collection system to prevent violations of these regulatory leak limits. However, the primary purpose of these leachate recirculation wells is to collect leachate and distribute it back into the landfill.

These leachate recirculation wells were not intended to be part of the landfill gas collection system, but they do need to have vacuum applied occasionally, because landfill gas could inadvertently seep into the piping through openings intended for leachate. Continuous operation of vacuum on these wells is also problematic, because it can result in oxygen concentrations in excess of the Regulation 8-34-305 limit.

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

To resolve these competing compliance issues, Republic Services has requested to operate the six recirculation leachate wells and collectors on a less than continuous basis (as needed to ensure compliance with the Regulation 8, Rule 34 leak limits) and has also requested to have a higher oxygen concentration limit (15% O_2) for these 6 components.

In addition to these permit condition changes related to the leachate recirculation components, Republic Services has requested that the District update the description of the primary gas collection system components based start-up and decommissioning notices submitted to date.

EMISSIONS

The maximum permitted emission rates for a landfill are established based on the maximum amount of decomposable materials that may be placed in the landfill, the historical placement rates, and the maximum annual placement rates for future years. This information is used in conjunction with EPA's Landfill Gas Emissions model, standardized fugitive emission assumptions, and site-specific landfill gas characterization data to calculate maximum permitted POC, NPOC, GHG, HAP, and TAC emission rates for the landfill, gas collection system, and gas control systems. Secondary criteria pollutant, GHG, HAP, and TAC emissions from the landfill gas control equipment are determined based on the maximum permitted capacity of the emission control system.

The proposal to connect 6 leachate components to the gas collection system, to operate these components on a less than continuous basis, and to allow these components to have a higher oxygen concentration limit will not change any of the parameters discussed above that could possibly impact the maximum permitted emission levels for the landfill or gas control system. This proposal is expected to have no measurable impact on the total amount of gas that is collected from the landfill or the quality of the gas that is delivered to the control systems. Therefore, the proposed permit condition changes will not result in any changes to the maximum permitted emission levels for the landfill or control systems.

Updating the landfill gas collection system description is simply an administrative change to incorporate gas collection system changes that have already been reviewed and approved by the District. As discussed in the Engineering Evaluation Report for Application # 23493, the authorized gas collection system changes are needed to ensure that adequate amounts of gas are collected from the landfill to maintain compliance with Regulation 8, Rule 34 and the CARB Landfill Methane Control Rule. The current gas collection rate is 1755 scfm of landfill gas. Gas collection rates are expected to increase as the cumulative amount of decomposable material in the landfill increases (at a rate of about 170 scfm more per year). The A-4 Landfill Gas Flare can handle up to 4000 scfm of landfill gas, which should be adequate control capacity for the landfill as long as the decomposable material placement rate does not exceed an average of 740,000 tons/year during the remaining life of the landfill (11-13 years).

In summary, the proposed permit condition changes will not result in any increases in the current maximum permitted emission rates for the S-1 Vasco Road Landfill or the A-4 Landfill Gas Flare.

STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-1 Vasco Road Landfill that involves no physical alterations of the landfill. The condition changes will allow for allow minor alterations of the gas collection system that will have no impact on the overall gas collection and control rates for the landfill. Furthermore, these alterations and permit condition changes are necessary to ensure compliance with District and State regulatory requirements. The proposed condition changes will not result in any emission increases at this site. Therefore, this application is categorically exempt from CEQA review pursuant to

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

Regulation 2-1-312.2. In addition, the Engineering Evaluation for this application uses fixed standards and objective measurements and does not involve any element of discretion. Consequently, no further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from the landfill (S-1) or flare (A-4), this project is not subject to New Source Review or the requirements of Regulation 2, Rule 2. No new BACT, Offset or PSD requirements will apply.

New Source Review for Toxic Air Contaminants:

This application does not result in any increases of Toxic Air Contaminants (TACs). Therefore, NSR for TACs is not triggered, and no new T-BACT requirements will apply.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility for CO emissions and also because it is a designated facility (since it is subject to the EG for MSW Landfills). Therefore, this facility is required to have an MFR permit pursuant to Regulations 2-6-301 and 2-6-304.

The initial MFR Permit for this facility was issued on February 5, 2004. The MFR Permit underwent four revisions during 2004 through 2011, and it was renewed on June 4, 2012. This application will require a minor revision of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to this project and also related to NSR Applications #23493, #24242, and #25904 will be discussed in the Statement of Basis for the minor revision under Title V Application # 25908.

Regulation 8, Rule 34:

RSVR's Vasco Road Landfill (S-1) is subject to Regulation 8, Rule 34. Regulation 8-34-301 requires that landfill gas be collected and processed through emission control systems that comply with 8-34-301.1 (continuous operation) and 8-34-301.2 (component leak limit) and either 8-34-301.3 (NMOC emission limits for flares) or 8-34-301.4 (NMOC emission limits for other control devices). The S-1 Vasco Road Landfill is also subject to Regulation 8-34-303, which limits leaks on the surface of the landfill to less than 500 ppmv as methane. Regulation 8-34-305 requires that landfill gas collection system components meet wellhead standards: negative pressure (8-34-305.1), temperature < 55 ^{o}C (8-34-305.2), and either N_2 < 20% or O_2 < 5% (8-34-305.3 or 305.4).

This site has generally been complying with the component and surface leak requirements. As discussed in the Background Section, Republic Services has connected 6 leachate recirculation components to the vacuum system to ensure compliance with Sections 8-34-301.2 and 8-34-303. However, continuous operation of these individual components could result in violations of 8-34-305.4. As allowed under sections 8-34-404 and 8-34-305, Republic Services is requesting permission to operate the leachate recirculation components less than continuously and is seeking an alternative wellhead standard of 15% O_2 instead of 5% O_2 for these leachate recirculation components. These alternative operating standards should enable Republic Services to operate the leachate recirculation components in a compliance manner.

Federal Requirements:

Emission Guidelines for MSW Landfills: The S-1 Vasco Road Landfill is subject to the Emission Guidelines (EG) for Municipal Solid Waste (MSW) Landfills, 40 CFR, Part 60, Subpart Cc. This regulation requires the facility to meet the EG requirements approved in the state plan for that District. For the Bay Area, Regulation 8, Rule 34 was adopted as the state plan for implementing these federal EG

requirements. Thus, compliance with Regulation 8, Rule 34 constitutes compliance with the EG requirements.

NESHAPs for MSW Landfills: This landfill is also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). This NESHAP requires that subject facilities implement startup, shutdown, malfunction plans (SSM Plans) and comply additional reporting requirements. All applicable requirements are contained in the existing MFR permit. This facility is expected to continue to comply with these requirements.

State Requirements:

The Vasco Road Landfill is subject to CARB's Landfill Methane Capture Rule (CCR, Tile 17, Sections 95460-95476), which requires landfills to collect and control landfill gas and establishes surface leak limits and methane control efficiency requirements for control devices. Section 95464(c) requires each wellhead to be operated under vacuum (negative pressure). Although the leachate recirculation wells were never intended to be part of the primary gas collection system for the landfill, connecting them to the vacuum could result in these leachate recirculation components being considered "wellheads" that are subject to Section 95464(c). When these leachate recirculation components are disconnected from the vacuum system, the pressure could potentially go positive and violate Section 95464(c). Section 95468 allows the operator to request Alternative Compliance Options for activities such as semi-continuous operation of gas collection system due to insufficient gas flows (Section 95468(a)(1), which is applicable in this case, because the components will only be disconnected from vacuum when insufficient gas is available to justify the need to collect gas from this component). This appears to be a case where an alternative compliance operation should be pursued to ensure that there is no violation of this rule. Engineering has notified the Applicant and Enforcement of the potential need for an Alternative Compliance Option for this site.

PERMIT CONDITION REVISIONS

The District is proposing to revise Condition # 818, Parts 2 and 3, as shown below in strike through and underline formatting. The proposed revisions to Part 3 describe the specific operating scenarios that the District is allowing for the leachate recirculation components. Complying with these operating restrictions and alternative wellhead standards is expected to ensure compliance with all surface and component leak limits.

Condition # 818

FOR: S-1 VASCO ROAD LANDFILL – WASTE DECOMPOSITION PROCESS WITH GAS COLLECTION SYSTEM; ABATED BY A-4 LANDFILL GAS FLARE;
S-12 VASCO ROAD LANDFILL – WASTE AND COVER MATERIAL DUMPLING;
S-13 VASCO ROAD LANDFILL – EXCAVATING, BULLDOZING, AND COMPACTING ACTIVITIES

1. All collected landfill gas shall either be abated by the on-site Landfill Gas Flare (A-4) or shall be vented to both A-4 and to the off-site Ameresco Vasco Road, LLC Facility (Plant # 20432) for processing and use as fuel in this off-site energy plant.
   a. During any time that the landfill gas flow rate to the off-site energy plant is less than or equal to 1200 scfm, the A-4 Flare shall operate concurrently with the off-site energy plant on a continuous basis and in compliance with all applicable limits for this flare.
   b. During any time that landfill gas is diverted to the off-site energy plant, the owner/operator may operate the A-4 Flare on a less than continuous basis, provided that the owner/operator demonstrates that all of the following criteria have been satisfied:

(i) the landfill gas flow rate to the off-site energy plant is greater than 1200 scfm;

(ii) the remaining amount of landfill gas available for flaring is less than 800 scfm or the equivalent heat input rate for this excess landfill gas is less than 24 MM BTU/hour;

(iii) a sufficient amount of landfill gas is collected and controlled at all times to prevent violation of any applicable landfill surface leak limits;

(iv) the owner/operator shall measure the methane concentration in the landfill gas at the main header at least once per month (during routine wellfield monitoring) and shall calculate the average methane content for each rolling 3-month period. If this average landfill gas methane content exceeds 50%, the owner/operator shall attempt to restart the A-4 flare within one week of discovery of this excess. If the restart is successful, A-4 shall operate continuously until the criteria in Part 1(b)(ii) occur. The owner/operator shall attempt to restart the A-4 flare once per week until the rolling average methane content calculated above is below 50% methane.

(v) the owner/operator shall maintain records of landfill gas flow rate data, landfill gas methane concentration measurements, equivalent heat input rates and calculation procedures, flare restart attempts, and flare operating times to demonstrate compliance with Parts 1b(i-iv).

c. Raw landfill gas shall not be vented to the atmosphere except for unavoidable landfill gas emissions, which occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and inadvertent component or surface leaks that do not violate 8-34-301.2 or 8-34-303.

(basis: Regulations 8-34-301 and 8-34-303)

2. The Permit Holder shall apply for and receive a Change of Conditions before altering the landfill gas collection system described in Part 2a 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 are subject to this requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 2b as evidenced by start-up/shut-down notification letters submitted to the District.

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below.

(i) Primary Gas Collection System

	Required Components
Total Number of Vertical Wells:	~~78~~89
Total Number of Horizontal Collectors:	~~9~~0

(ii) Other Components

Leachate Recirculation Wells:	4
Leachate Recirculation Horizontal Collectors:	2

b. The Permit Holder has been issued a Change of Conditions (Application Number: 23493) for the additional landfill gas collection system components listed below.

Installation~~Total Number~~ of Vertical Wells:	~~100~~51
Installation~~Total Number~~ of Horizontal Collectors:	~~20~~18
Decommissioning of Vertical Wells:	69
Decommissioning of Horizontal Collectors:	3

Wells installed or permanently shut down pursuant to subpart b shall be added to or removed from subpart a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The Permit Holder shall notify the District of the expected installation or shut-down date prior to commencing any component alterations pursuant to subpart b and shall maintain records of the initial operation date for each new well and the permanent decommissioning date for each shut-down well.
(basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305)

3. The permit holder shall comply with the following landfill gas collection system operating requirements.

   a. The landfill gas collection system described in Part 2a(i) shall be operated continuously, as defined in Regulation 8-34-219 and Part 3b below. Wells shall not be shut off, disconnected or removed from operation without written authorization from the APCO, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (basis: Regulation 8-34-301.1)

   b. For the specified wells and collectors listed below, the gas collection system operating requirements listed in Parts 3b(i-ii) shall replace the wellhead requirements identified in Regulation 8-34-305.2 through 8-34-305.4. All wells and collectors remain subject to the Regulation 8-34-305.1 requirement to maintain vacuum on each wellhead and to the Regulation 8-34-505 monthly monitoring requirements. The specified wells and collectors shall be deemed to be operating continuously, if the components are complying with Regulation 8-34-305.1 and any applicable limits in Part 3b(i-ii). In addition, Part 3b(iii) clarifies the applicable limits for vaults containing gas collection system components. If the Permit Holder discovers an excess of a Part 3b(i-iii) limit and corrects the excess in accordance with the Regulation 8-34-414 repair schedule, the excess shall not be deemed a violation of this part. (basis: Regulations 8-34-301.1, 8-34-301.2, 8-34-303, and 8-34-305)

      i. The Regulation 8-34-305.2 temperature limit shall not apply to the wells or collectors listed below. The landfill gas temperature in each of the components listed below shall not exceed 140 degrees F.
      OEW-HA, OEW-HB, OEW-14, EW-9, EW-33A, ~~EW-43,~~ EW-44, ~~EW-45, EW-52, EW-53, EW-54, EW-57, and EW-58~~.

      ii. The Regulation 8-34-305.3 nitrogen concentration limit and the Regulation 8-34-305.4 oxygen concentration limit shall not apply to the wells listed below, provided that the oxygen concentration in the landfill gas at the main header does not exceed 5% O_2 by volume (dry basis) and the methane concentration in the landfill gas at the main header is not less than 35% CH_4 by volume (dry basis). The permit holder shall monitor the landfill gas from the main header for oxygen and methane on a monthly basis to demonstrate compliance with this part.
      OEW-6, OEW-10, OEW-11, OEW-13, OEW-14, OEW-HA, OEW-HB, EW-9, ~~EW-15, EW-16, EW-26,~~ EW-27, EW-29, ~~EW-29A,~~ EW-31, ~~EW-32, EW-32A,~~ EW-33, EW-33A, ~~EW-35, EW-36, EW-36A,~~ EW-38, ~~EW-~~

~~40,~~ EW-41, ~~EW-42A, EW-43, EW-51, EW-58, HZ-09-02, HZ-09-03, HZ-09-04, HZ-09-05, HZ-09-06, HZ-09-07 and HZ-09-08~~.

iii. This subpart applies to vaults containing gas collection system equipment, where the top of the vault is located at or near the surface of the landfill. The vault shall be monitored at both 1 cm from the vault (for comparison to the component leak limit of Regulation 8-34-301.2) and 2 inches above the vault (for comparison to the surface leak limit of Regulation 8-34-303).

(a) If during an inspection the District's monitored readings show compliance with both the component leak limit and the surface leak limit, the vault and components within shall be deemed to be in compliance with Regulations 8-34-301.2 and 8-34-303. No further testing is necessary.

(b) If the District's monitored readings show an excess of either the component leak limit or the surface leak limit, the operator shall comply with the Regulation 8-34-415 Repair Schedule for Landfill Surface Leak Excesses, until the source of the leak can be identified. The vault shall be opened and allowed to air out for at least 10 minutes. The collection system components within the vault shall be re-monitored at 1 cm from the components and the landfill surface surrounding the vault shall be re-monitored at 2 inches above the surface.

(c) If the re-monitoring (after airing the vault for 10 minutes) shows no component leaks and no surface leaks, the vault and components within shall be deemed to be in compliance with Regulations 8-34-301.2 and 8-34-303.

(d) If the re-monitoring shows a component leak, or the operator's further evaluation determines that the source of the emissions excess was a collection system component, then a violation of 8-34-301.2 shall be deemed to have occurred; and the operator shall take all necessary corrective action and shall comply with all applicable reporting requirements.

(e) If the re-monitoring shows a surface leak but not a component leak, the operator shall continue to comply with all applicable provisions of the Regulation 8-34-415 Repair Schedule for Landfill Surface Leak Excesses.

c. The landfill gas collection system described in Part 2a(ii) is not required to be operated continuously and is not subject to the Regulation 8-34-305 Wellhead Requirements or to the CCR, Title 17, Section 95464(c) Wellhead Gauge Pressure Requirements.

(i) These components shall be connected to the vacuum system as needed to prevent violation of applicable surface and component leak limits.

(ii) The owner/operator shall monitor each component on a monthly basis for gauge pressure, oxygen, methane, and temperature, regardless of whether the component is connected to vacuum or not.

(iii) The component may be disconnected from the vacuum system if any of the following are detected: methane < 1%, oxygen > 15%, temperature > 131 ^{o}F.

(iv) The component shall be connected to vacuum if any of the following are detected: methane > 5%, oxygen < 2, pressure > 0.5 inches of water.
(basis: Regulation 8-34-404 and CCR, Title 17, 95468(a)(1))

4. A temperature monitor with readout display and continuous recorder shall be installed and maintained on the Flare (A-4). One or more thermocouples shall be placed in the primary combustion zone of the flare and shall accurately indicate flare combustion temperature at all times. Temperature charts showing continuous combustion zone temperature shall be retained for at least five years and made readily available to District staff upon request.
(basis: Regulations 8-34-501.3 and 8-34-507)

5. The combustion temperature of the Flare (A-4) shall be maintained at a minimum of 1402 degrees F, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise the minimum combustion zone temperature limit, in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415, based on the following criteria. The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature measured during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature shall not be less than 1400 degrees F. (basis: RACT for CO and Regulations 2-5-301 and 8-34-301.3)

6. The Flare (A-4) shall be equipped with auto restart capability, a local alarm system, and automatic temperature controlled louvers.
(basis: Regulation 8-34-301 and RACT for CO)

7. The A-4 Flare shall be fired on landfill gas. No landfill gas condensate or leachate may be burned in the A-4 Flare. Propane or other similar clean burning fuels may be used during flare start-up. (basis: Cumulative Increase)

8. The concentration of nitrogen oxides (NOx) in the flue gas from the Landfill Gas Flare (A-4) shall not exceed 11 ppmv of NOx, corrected to 15% oxygen, dry basis. This is equivalent to 0.049 pounds of NOx (calculated as NO2) per million BTU. (basis: RACT)

9. DELETED

10. The concentration of carbon monoxide (CO) in the flue gas from the Landfill Gas Flare (A-4) shall not exceed 73 ppmv of CO, corrected to 15% oxygen, dry basis. This is equivalent to 0.19 pounds of CO per million BTU. (basis: RACT)

11. DELETED

12. Total reduced sulfur compounds in the collected landfill gas shall be monitored as a surrogate for monitoring sulfur dioxide in the exhaust from the flare. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed an annual average of 320 ppmv, reported as H2S, dry basis. (basis: RACT for SO2 and Regulation 9-1-302)

a. To demonstrate compliance with this limit, the Permit Holder shall monitor the collected landfill gas for sulfur content on a quarterly basis using a combination of field testing and laboratory analytical results.
b. When using the field testing procedure, the Permit Holder shall measure the hydrogen sulfide (H2S) content in the landfill gas using a Draeger tube. The total reduced sulfur concentration shall be calculated based on the field test results by multiplying the measured H2S concentration by 1.2.
c. For laboratory analyses, the sample shall be a composite s ample collected over a period of no less than 30 minutes and analyzed for the sulfur compounds identified in Part 21.
d. The Permit Holder shall record the date and results of all field tests, the calculated TRS concentration based on these field tests, and the date and results of the annual laboratory analyses in a District approved log. The annual average TRS concentration shall be calculated and recorded for each rolling 4-quarter period based on the TRS data recorded above.

13. The Heat Input to the A-4 Landfill Gas Flare shall not exceed 2880 million BTU per day and shall not exceed 1,051,200 million BTU during any consecutive 12-month period. In order to demonstrate compliance with this part, the Permit Holder shall calculate and record on a monthly basis the maximum daily and total monthly heat input to the flare based on the landfill gas flow rate recorded pursuant to Part 22g, the monthly methane concentration measurements conducted pursuant to Part 3b(ii), and a high heating value for methane of 1013 BTU/ft^3 at 60 degrees F. (basis: Offsets, Cumulative Increase, and Regulation 2-1-301)

14. The Permit Holder shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
a. Total amount of solid waste (as defined in Regulation 8-34-202) accepted at the landfill shall not exceed 2,518 tons in any day (except during temporary emergency situations approved by the Local Enforcement Agency). Vehicle traffic that is transporting incoming or outgoing solid waste or other materials shall not exceed 625 vehicles per day. (Basis: Regulation 2-1-301)
b. The total cumulative amount of all decomposable materials placed in the landfill shall not exceed 23.8 million tons. Exceedance of this cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.3, that the limit should be higher. (Basis: Regulation 2-1-234.3)
c. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill, excluding final cover) shall not exceed 31.65 million cubic yards.
(Basis: Regulation 2-1-301)

15. This facility is not subject to Regulation 8, Rule 40 because the landfill does not accept contaminated soil (soil containing more than 50 ppmw of volatile organic compounds, VOCs). The following types of materials may be accepted:
a. Metal-laden soil (soil containing metals above naturally occurring background

concentrations), VOC-laden soil (soil containing VOCs that is not "contaminated" soil), or other materials for which the Permit Holder has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211).

b. Materials for which the Permit Holder has no documentation to prove that soil is not contaminated, but the source of the soil is known and there is no reason to suspect that the soil might contain organic compounds or metal compounds at other than naturally occurring background concentrations.

c. Materials which the Permit Holder plans to test in order to determine the VOC contamination level in the soil, provided that the material is sampled within 24 hours of receipt by this site and is handled as if the soil were contaminated until the Permit Holder receives the test results. The Permit Holder shall collect soil samples in accordance with Regulation 8-40-601. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.

   i. If these test results indicate that the soil is contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the Permit Holder must continue to handle the soil in accordance with Regulation 8, Rule 40, until the soil has been removed from this site. For the purposes of Regulations 8-40-306.3-306.5, storing soil in a temporary stockpile or pit and co-mingling, blending, or mixing of soil lots are not considered treatment.

   ii. If these test results indicate that the soil, as received at this site, has an organic content of 50 ppmw or less, then the soil may be considered to be not contaminated and need not be handled in accordance with Regulation 8, Rule 40 any longer.

(basis: Regulation 8-40-301)

16. The total amount of metal-laden and VOC-laden soil used as cover material shall not exceed 180,000 tons during any consecutive 12 month period. The metal concentrations of any metal-laden soil shall not exceed the following limits:

Metals	Maximum Concentration (ppmw)
Arsenic	130
Beryllium	75
Cadmium	100
Chromium VI	7
Copper	2500
Lead	1000
Mercury	20
Nickel	2000
Selenium	100
Zinc	5000

Parts a. and b. below identify the maximum usage rates and maximum allowed concentrations of toxic compounds that may be present in the two types of VOC-laden soil used that may be used as cover material at this site.

a. For soil containing high concentrations of certain chlorinated compounds, the amount used as cover material shall not exceed 10,000 tons during any

consecutive 12 month period. Soil shall be subject to this throughput limit if the soil contains chlorinated compounds in amounts exceeding any of the following concentrations:

0.05 ppmw of carbon tetrachloride,
0.05 ppmw of chloroform,
0.40 ppmw of 1,4 dichlorobenzene,
0.05 ppmw of 1,2 dichloroethane,
0.40 ppmw of tetrachloroethylene, or
0.05 ppmw of vinyl chloride.

Under no circumstances shall the Permit Holder use soil for cover, which contains organic compounds in excess of the following concentrations:

0.50 ppmw of benzene,
0.50 ppmw of carbon tetrachloride,
6.00 ppmw of chloroform,
7.50 ppmw of 1,4 dichlorobenzene,
0.50 ppmw of 1,2 dichloroethane,
0.70 ppmw of tetrachloroethylene,
0.50 ppmw of trichloroethylene, or
0.20 ppmw of vinyl chloride.

b. For soil containing low concentrations of certain chlorinated compounds, the amount used as cover material shall not exceed 170,000 tons during any consecutive 12 month period. Soil shall be subject to this throughput limit if the soil contains organic compounds in amounts less than or equal to all of the following concentrations:

0.50 ppmw of benzene,
0.05 ppmw of carbon tetrachloride,
0.05 ppmw of chloroform,
0.40 ppmw of 1,4 dichlorobenzene,
0.05 ppmw of 1,2 dichloroethane,
0.40 ppmw of tetrachloroethylene,
0.50 ppmw of trichloroethylene, and
0.05 ppmw of vinyl chloride.

(basis: Offsets and Regulations 2-5-302 and 8-2-301)

17. DELETED

18. In order to demonstrate compliance with Parts 15 and 16, the Permit Holder shall maintain the following records in an APCO approved log book.

a. For any metal-laden or VOC-laden soil that will be used as daily or intermediate cover material, the Permit Holder shall record the following:

(i) soil lot number (or other means of tracking the soil on-site),
(ii) date and time the soil was received,
(iii) amount of soil received,
(iv) total VOC content measured by the waste generator, and
(v) concentrations in the soil of benzene, carbon tetrachloride, chloroform, 1,4 dichlorobenzene, 1,2 dichloroethane, tetrachloroethylene, trichloroethylene and vinyl chloride,

b. For any material subject to Part 15c:-

(i) soil lot number,

(ii) date and time that the soil was resampled on-site,
(iii) total VOC concentration in the resampled soil.

c. For each soil lot number of metal-laden or VOC-laden soil received at the landfill, the owner/operator of S-1 shall record the following.
(i) date and time that any of the soil in the lot was used for cover material,
(ii) describe the location where the soil was placed,
(iii) specify whether the soil was used for daily or intermediate cover,
(iv) record, on a daily basis, the amount of soil placed as cover material,
(v) summarize, on a daily basis, the total amount of metal-laden and VOC-laden soil used for cover (if multiple soil lots where placed during any one day), and
(vi) summarize, on a monthly basis, the total amount of metal-laden and VOC-laden soil used for daily or intermediate cover.

All logs, sampling records, analytical results, and notification records shall be made available to District staff upon request and shall be kept on site for a minimum of 5 years from the date of entry. (basis: Offsets and Regulations 2-5-302 and 8-2-301)

19. Water and/or dust suppressants shall be applied to all unpaved roadways and active soil removal and fill areas associated with this landfill as necessary to prevent visible particulate emissions. Paved roadways at the facility shall be kept sufficiently clear of dirt and debris as necessary to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-1-301, and 6-1-305)

20. In order, to demonstrate compliance with Parts 5 and 8-13 and Regulation 8, Rule 34, Sections 301.3 and 412, the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-4). The annual source test shall determine the following:
a. landfill gas flow rate to the flare (dry basis);
b. concentrations (dry basis) of carbon dioxide (CO_2), nitrogen (N_2), oxygen (O_2), methane (CH_4), and total non-methane organic compounds (NMOC) in the landfill gas;
c. stack gas flow rate from the flare (dry basis);
d. concentrations (dry basis) of NO_x, CO, CH_4, NMOC, and O_2 in the flare stack gas;
e. the NMOC destruction efficiency achieved by the flare; and
f. the average combustion temperature in the flare during the test period.

Each annual source test shall be conducted no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. (basis: RACT, Offsets, Cumulative Increase and Regulations 2-5-301, 2-5-302, 8-34-301.3 and 8-34-412)

21. To demonstrate compliance with Part 12 above and Regulations 8-34-412 and 9-1-302, the Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by Part 20 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 20b, the landfill gas shall be analyzed for all the organic and sulfur compounds listed below. All

concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date.
(basis: AB-2588 Air Toxic Hot Spots Act, RACT for $S0_2$, and Regulations 2-5-302, 8-34-412, and 9-1-302)

Organic Compounds
acrylonitrile
benzene
benzyl chloride
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
1,1 dichloroethane
1,1 dichlorethene
1,2 dichloroethane
1,4 dichlorobenzene
ethylbenzene
ethylene dibromide
hexane
isopropyl alcohol
methyl ethyl ketone
methylene chloride
perchloroethylene
toluene
1,1,1 trichloroethane
1,1,2,2 tetrachloroethane
trichloroethylene
vinyl chloride
xylenes

Sulfur Compounds
carbon disulfide
carbonyl sulfide
dimethyl sulfide
ethyl mercaptan
hydrogen sulfide
methyl mercaptan

22. The Permit Holder shall maintain the following records in an APCO approved log book.
    a. Record the total amount of solid waste received at S-1 and the total number of vehicles transporting solid waste or other materials to and from the site on a daily basis. Summarize these daily waste acceptance and vehicle traffic records for each calendar month.
    b. For each area or cell that is not controlled by a landfill gas collection system, maintain a record of the date that waste was initially placed in the area or cell. Record the cumulative amount of waste placed in each uncontrolled area or cell on a monthly basis.
    c. If the Permit Holder plans to exclude an uncontrolled area or cell from the collection system requirement, the Permit Holder shall also record the types and

amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.

d. Record of the dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. Record the dates, locations, and type of any dust suppressant applications. Record the dates and description of all paved roadway cleaning activities. Written documentation of standard watering procedures combined with completion of daily check lists may satisfy these daily record keeping requirements. All records shall be summarized on monthly basis.

e. Record the initial operation date for each new landfill gas well and collector.

f. Maintain an accurate map of the landfill, which indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 2a. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.

g. Record the operating times and the landfill gas flow rate to the A-4 Landfill Gas Flare on a daily basis. Summarize these records on a monthly basis. Calculate and record the heat input to A-4, pursuant to Part 13. Summarize the heat input rate to the A-4 Landfill Gas Flare for each consecutive rolling 12-month period.

h. Maintain records of all test dates and test results performed to maintain compliance Parts 3, 8-13, 15-16, or 20-21 or to maintain compliance with any applicable rule or regulation.

All records shall be maintained on site or shall be made readily available to District staff upon request for a period of at least 5 years from the date of entry. These record keeping requirements do not replace the record keeping requirements contained in any applicable rules or regulations. (basis: RACT, Offsets, Cumulative Increase, Regulations 2-1-301, 2-5-301, 2-5-302, 2-6-501, 6-1-301, 6-1-305, 8-2-301, 8-34-301, 8-34-304, and 8-34-501)

23. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting period for the first increment of the Regulation 8-34-411 annual report that is submitted subsequent to the issuance of the MFR Permit for this site shall be from December 1, 2003 through June 30, 2004. This first increment report shall be submitted by July 31, 2003. The reporting periods and report submittal due dates for all subsequent increments of the Regulation 8-34-411 report and for all semi-annual increments of MSW Landfill NESHAP report (required pursuant to 40 CFR Part 63.1980(a)) shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. A single report may be submitted to satisfy the requirements of Section I.F, Regulation 8-34-411, and 40 CFR Part 63.1980(a), provided that all items required by each applicable reporting requirement are included in the single report.
(basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))

Minor Revision: Revisions to and Intermittent Operation of Control Systems and Alterations of Collection Systems

RECOMMENDATION

Issue a Change of Conditions (Condition # 818) for the following equipment.

S-1 Vasco Road Landfill – Waste Decomposition Process; Equipped with Landfill Gas Collection System and abated by A-4 and off-site energy plant.

Signed by Carol S. Allen — June 2, 2014
By: Carol S. Allen — Date
Supervising Air Quality Engineer