

Bay Area Air Quality Management District

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

**Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
ADMINISTRATIVE AMENDMENT
AND MINOR REVISION**

**for
Keller Canyon Landfill Company
Facility #A4618**

Facility Address:
901 Bailey Road
Pittsburg, CA 94565

Mailing Address:
901 Bailey Road
Pittsburg, CA 94565

Application Engineer: Carol Allen
Site Engineer: Carol Allen

Applications: 20205 and 23461

Major Facility Review Permit: Administrative Amendment and Minor Revision

TABLE OF CONTENTS

A.	BACKGROUND	3
	Site Description:	3
	Administrative Amendments:	3
B.	EMISSIONS	4
C.	PROPOSED MFR PERMIT MODIFICATIONS	4
	Title Page:	5
	Section I:	6
	Section II:	6
	Section III:	6
	Section IV:	6
	Section V:	7
	Section VI:	7
	Section VII:	8
	Section VIII:	8
	Section IX:	8
	Section X:	8
	Section XI:	8
D.	SUMMARY OF PROPOSED ACTIONS.....	9
APPENDIX A	ENGINEERING EVALUATION FOR APPLICATION # 20204	
APPENDIX B	REPORT FOR ADMINISTRATIVE CONDITION CHANGE FOR APPLICATION # 15304	
APPENDIX C	ENGINEERING EVALUATION FOR APPLICATION # 23460	

STATEMENT of BASIS

Keller Canyon Landfill Company; SITE # A4618

APPLICATIONS #20205 and #23461

Major Facility Review Permit:

Administrative Amendment and Minor Revision

A. BACKGROUND

Site Description:

Keller Canyon Landfill Company (KCLC), a subsidiary of Allied Waste Industries, Inc., owns and operates the Keller Canyon Landfill Facility (Facility # A4618) in Pittsburg, CA. This facility includes: an active Class II MSW landfill (S-1), yard and green waste stockpiles (S-3), and two enclosed flares (A-1 and A-2).

As required by District and federal regulations, the S-1 Keller Canyon Landfill is equipped with landfill gas collection and control systems that are designed to reduce the emissions of methane, precursor organic compounds, and toxic air contaminants from the landfill. All areas of the landfill that contain decomposable waste include vertical wells or horizontal collectors (perforated piping systems) that are buried in the waste and connected to blowers. The blowers operate continuously to maintain a vacuum within the piping systems, which draws the landfill gas into the piping systems, and then vent this collected landfill gas to the control systems.

Until recently, all collected landfill gas was vented to one of the two on-site enclosed flares (A-1 or A-2). However, an independently owned and operated company, Ameresco Keller Canyon LLC (Site # B7667), recently installed a landfill gas fired energy plant on KCLC property that provides new landfill gas control system options for the Keller Canyon Landfill.

The Ameresco Keller Canyon LLC Facility includes two landfill gas fired lean-burn internal combustion engines, a landfill gas pre-treatment system, and a small enclosed flare that abates waste gas from the gas pre-treatment system. A separate Title V permit application has been submitted for this new energy plant (Application # 17615).

Administrative Amendments:

Application # 20205 involves Administrative Amendments to the Title V Permit for Site # A4618. The District is proposing to change the responsible official and facility contact information, to incorporate regulatory amendments, and to correct citations and descriptions. The specific permit revisions are discussed in detail in Section C.

Minor Revisions:

Application # 23461 involves Minor Revisions to the Title V Permit for Site # A4618. The District is proposing to make a number of non-substantive revisions to the permit conditions for

the landfill (S-1). These revisions will identify the new off-site control options for the landfill, clarify on-site control requirements when gas is being diverted to off-site control equipment, update landfill gas collection system descriptions, and clarify gas collection system operating requirements. The specific permit revisions are discussed in detail in Section C.

B. EMISSIONS

As explained below, these permit revisions do not result in any emission increases. The proposed permit condition revisions will not allow the increase of any emission limits and will not change any data (such as throughput rate limits, emission factors, concentrations, or control efficiency standards) that was used to establish maximum permitted emission levels for a source or abatement device at this site. The regulatory updates will not affect any of the currently applicable limits either.

As discussed in the Engineering Evaluation for the Application #20204 (see Appendix A), adding an off-site landfill gas control option for the landfill will not result in any changes to the current maximum permitted emission levels for the landfill or any other devices on the KCLC site. All emission increases for the off-site landfill gas fired engines, the gas pretreatment system, and the waste gas flare have been attributed to Site #B7667. In fact, since the new energy plant will receive most of the landfill gas collected from S-1, KCLC's actual combustion related emissions are expected to decrease substantially compared to the emissions during the last few years.

As explained in the Report for Administrative Condition Changes for Application # 15304 (see Appendix B) and in the Engineering Evaluation for Application #23460 (see Appendix C), the flares have sufficient excess capacity to handle all of the additional landfill gas that may be collected from the additional vertical wells that are authorized to be installed as part of the landfill gas collection system. The removal of gas collection system components is subject to permit conditions that will limit the amount and duration of well shut downs and that will require monitoring to verify that well shut downs do not result in surface or component emission leaks. Therefore, the gas collection system alterations described in the permit conditions will not require any changes to the existing permitted emission limits for the landfill or the flares.

For the S-3 Yard and Green Waste Stockpiles, the only permit changes involve the correction of a regulatory citation.

C. PROPOSED MFR PERMIT MODIFICATIONS

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review, because it is a major facility as defined by BAAQMD Regulation 2-6-212.1. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of 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 Regulation 2-6-301.

Major Facility Review Permit: Administrative Amendment and Minor Revision

In addition, it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. This facility is subject to this NSPS because it commenced construction after May 30, 1991 and has design capacities that are larger than 2.5 million Mg and larger than 2.5 million m³. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-304.

The initial MFR Permit for this facility was issued on September 20, 2001, was renewed on January 3, 2008, and was last revised on October 9, 2008. 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 application are described below. Brief descriptions of the regulatory amendments that are being included in this Title V permit revision are provided below followed by a discussion of the specific changes to each section of the Title V permit.

Summary of Regulatory Amendments:

- The District amended BAAQMD Regulation 1 on May 4, 2011. This amendment date will be updated in Section I-A, Table III, and Table IV-A of the Title V permit.
- The District amended BAAQMD Regulation 2, Rule 1 on March 4, 2009. This amendment date will be updated in Section I-A and Table III of the Title V permit.
- The District adopted BAAQMD Regulation 2, Rule 5 on June 15, 2005 and amended it on January 6, 2010. This rule was missing from Section I-A, and it will be added to Section I-A with the most recent amendment date. The amendment date for this rule will be updated in Table III.
- The District amended BAAQMD Regulation 5 on July 9, 2008. This amendment date will be updated in Table III.
- In December 2007, the District renumbered Regulation 6 as Regulation 6, Rule 1. The requirements did not change – only the citation number changed. The District is proposing to correct the regulatory citations for these particulate matter requirements throughout this Title V permit - in Tables III, IV-A, IV-B, VII-A, VII-B, and VIII and in the bases of Condition #16462 (Parts 2 and 6).
- On July 1, 2009, the District amended Regulation 8, Rule 3. This new BAAQMD rule is being added to Table III of the permit.
- CARB revised two diesel engine related ATCMs. The amendments to the ATCM for stationary compression ignition engines became effective on May 19, 2011. The amendments to the ATCM for portable engines became effective on February 19, 2011. These dates were updated in Table III.
- EPA revised the following subparts on September 13, 2010: 40 CFR Part 61, Subpart A; 40 CFR Part 60, Subpart A; and 40 CFR Part 63, Subpart A. The amendment dates for these subparts were updated in Tables III and IV-A.

Title Page:

- The District is changing the Responsible Official and Facility Contact for this site to: Rick King, General Manager.

Major Facility Review Permit: Administrative Amendment and Minor Revision

Section I:

- The District is updating the regulatory amendment dates for BAAQMD Regulation 1 and BAAQMD Regulation 2, Rule 1 in Section I.A.
- The District is adding BAAQMD Regulation 2, Rule 5 and SIP Regulation 2, Rule 6 to Section I.A
- The District is correcting the basis of Section I.B.7.

Section II:

- The District is updating the description of the landfill gas collection system pursuant to landfill gas collection well start-up notifications received since 2008. These changes are also reflected in revisions to Condition # 17309, Parts 18 and 19. See Appendices B and C for additional details.

Section III:

- In Table III Generally Applicable Requirements, the District is updating regulatory amendment dates for: BAAQMD Regulation 1; BAAQMD Regulation 2, Rules 1 and 5; BAAQMD Regulation 5; California Health and Safety Code Title 17, Section 93115; California Health and Safety Code Title 17, Section 93116; and 40 CFR Part 61, Subpart A.
- In Table III, the District is correcting the description of BAAQMD, Regulation 2, Rule 1; SIP Regulation 2, Rule 1; and BAAQMD Regulation 2, Rule 5.
- The District is adding a missing provision (SIP 2-1-429) to Table III.
- The District is adding the renumbered particulate rule (BAAQMD Regulation 6, Rule 1) to Table III and is separately identifying the SIP version of this rule (SIP Regulation 6) in Table III. Likewise, the District is adding a new non-federally enforceable rule (BAAQMD Regulation 8, Rule 3) to Table III and is correcting the reference to the current federally enforceable version of this rule (SIP Regulation 8, Rule 3) in Table III.

Section IV:

- In Table IV-A, the District is updating regulatory amendment dates for BAAQMD Regulation 1; 40 CFR Part 60, Subpart A; and 40 CFR Part 63, Subpart A.
- In Table IV-A and IV-B, the District is adding BAAQMD Regulation 6, Rule 1, correcting the description of SIP Regulation 6, and correcting associated citations in permit condition bases.
- In Table IV-A, the District is correcting the descriptions of BAAQMD Regulations 8-34-305.1-4 and 8-34-507.
- In Table IV-A, the District is adding 40 CFR Part 60.752(b)(2)(iii)(C) and is correcting citations in the basis of Condition # 17309, Part 20. These provisions relate to the diversion of gas to an off-site treatment facility. In particular, 40 CFR Part 60.752(b)(2)(iii), which is included in the current Title V permit, states: "Route all the collected gas to a control system that complies with the requirements in either paragraph (b)(2)(iii) (A), (B) or (C) of this section." The District only included sub-paragraph (B) in the current Title V permit, because this site was previously sending all of its collected landfill gas to on-site enclosed flares. Sub-paragraph (C) will specifically allow the landfill to route collected landfill gas to a treatment system that processes the collected

Major Facility Review Permit: Administrative Amendment and Minor Revision

gas for subsequent sale or use, and it requires that any atmospheric vent from the gas treatment system meet either the requirements for open flares contained in paragraph (A) or the requirements for enclosed combustion devices contained in paragraph (B). The existing landfill gas filtering and de-watering processes constitute “treatment” pursuant to 40 CFR Part 60.752(b)(2)(iii)(C). Since this existing treatment system has no atmospheric vents, there are no new applicable requirements associated with the use of sub-paragraph (C) as a control option for this landfill.

- The District is adding 40 CFR Part 63.1955(a) to Table IV-A, which indicates that the landfill must meet either subpart (a)(1) or (a)(2). Subpart (a)(1) applies to landfills subject to the NSPS provisions and is already listed in Table IV-A. The District is removing 40 CFR Part 63.1955(a)(2), which only applies to landfills subject to the EG provisions.

Section V:

- The District is not making any changes to this section.

Section VI:

The District is making a number of non-substantive revisions to the permit conditions for the landfill (S-1) and the yard and green waste stockpiles (S-3). The reasons for the specific permit condition changes for each source are discussed below in the order that the conditions appear in the Title V permit.

Conditions # 16462 for S-3 Yard and Green Waste Stockpiles:

Parts 2 and 6: The District is correcting the particulate regulation citations in the bases of these parts.

Condition # 17309 for S-1 Keller Canyon Landfill; A-1 Landfill Gas Flare; and A-2 Landfill Gas Flare:

Part 18: The District is updating the description of the landfill gas collection system in Part 18 to include previously authorized alterations that have been completed since the Title V renewal permit was issued and to include additional alterations that have been recently approved by the District. The District is also identifying components that are part of the main landfill gas collection system and components that may be connected to the vacuum system for other reasons. The reports for this project are attached in Appendices B and C. The collection system description in Table II-A is also being updated to incorporate the alterations to the main landfill gas collection system that have been completed to date.

Part 19: The District is clarifying operating requirements for the main landfill gas collection system and for the two components that are not part of the main landfill gas collection system. These other components are intermittently connected to the vacuum system to control landfill gas that may migrate into the HC-1 and LCRS-1 piping systems. These condition revisions are explained in more detail in Appendix B. The District is also removing components that have

Major Facility Review Permit: Administrative Amendment and Minor Revision

been shut down from the Part 19b(i) list of components that are subject to alternative wellhead standards.

Part 20: KCLC requested Title V permit revisions that would enable KCLC to use the new off-site energy facility (Site # B7667) as a control option for landfill gas collected from the Keller Canyon Landfill. On March 20, 2009, the District approved revisions to Condition #17309 (Part 20) pursuant to Application #20204 that allowed KCLC to vent collected gas to Site #B7667. The Engineering Evaluation for this application is attached in Appendix A. The District is making additional revisions to this text to further clarify the operating requirements for the on-site flares when gas is being controlled by the off-site engines. The off-site facility operates a small waste gas flare that uses landfill gas as supplemental fuel. The additional Part 20 text changes are necessary to clarify that the operation (or non-operation) of this off-site waste gas flare does not affect the operating criteria for the two on-site flares. This flare operates intermittently and the flow rates to this off-site flare are very low compared to the total gas collection rate. Thus, the off-site flare provides little control capacity compared to the off-site engines and on-site flares and will not be specifically identified as part of the off-site control options. Initially, the two off-site engines have sufficient landfill gas capacity to handle all of the gas expected to be collected from the landfill. Therefore, it is not necessary to operate an on-site flare when gas is diverted to the energy plant and both off-site engines are operating. However, a single off-site engine operating alone would not provide sufficient control for the landfill. Thus the District is requiring concurrent operation of an on-site flare whenever only one off-site engine is operating. By 1/1/13 and 1/1/21, the gas generation rates at the landfill will have increased to such an extent that different control options become necessary. These additional gas control system operating criteria are specified in Part 20.

Section VII:

- In Tables VII-A and VII-B, the District is correcting the particulate regulation citations.

Section VIII:

- In Table VIII, the District is correcting the particulate regulation citations.

Section IX:

- The District is not making any changes to this section.

Section X:

- A summary of these permit amendments is being added to the Section X Revision History: Minor Revision for Applications #20205 and #23461.

Section XI:

- Text is being added to the Glossary term TRMP to explain that this policy was replaced by BAAQMD Regulation 2, Rule 5.

D. SUMMARY OF PROPOSED ACTIONS

The District recommends approval of the following minor revisions of the MFR Permit for Site # A4618:

- Change the Responsible Official and Facility Contact.
- Correct amendment dates, add missing rules, and correct typographical errors in Section I.A.
- Correct the gas collection system description in Table II-A.
- Correct or clarify citations and amendment dates in Tables III, IV-A, IV-B, VII-A, VII-B, and VIII.
- Make non-substantive revisions to Conditions # 16462 and # 17309.
- Update Section X Revision History.
- Amend a term in Section XI Glossary.

H:\Pub_Data\TitleV Permit Appls\1 All T5 Application Files Here\A4618\AA-20205_and_MR-23461 / A4618-20205-23461-SOB.doc

APPENDIX A

ENGINEERING EVALUATION

for

APPLICATION # 20204

Engineering Evaluation
for
Landfill Gas Control System Changes
for the S-1 Keller Canyon Landfill
Keller Canyon Landfill Company; PLANT # 4618
APPLICATION # 20204

A. BACKGROUND

Site Description:

Keller Canyon Landfill Company (KCLC) operates the Keller Canyon Landfill Facility located in Pittsburg, CA. This facility includes an active landfill, two landfill gas flares, and stockpiles for green waste. As required by District and federal regulations, the active landfill is equipped with landfill gas collection and control systems to reduce the organic compound and toxic air contaminant emissions from the landfill. All collected landfill gas is currently controlled by the two on-site enclosed flares (A-1 and A-2).

Ameresco Keller Canyon LLC (Plant # 17667, Site # B7667) is constructing a landfill gas to energy facility in Pittsburg that will use landfill gas collected from the Keller Canyon Landfill as fuel for two IC engines. Siloxanes and many of the organic compounds in the collected landfill gas will be removed from the gas (prior to combustion in the engines) by the TSA gas clean-up process. Organic compound emissions from the TSA process will be abated by a small enclosed flare that requires supplemental fuel to achieve proper destruction of waste gases. The fuel for this TSA Flare will also be landfill gas collected from Keller Canyon Landfill. Construction of the Ameresco facility is nearly complete.

Current Project:

The permit conditions for the S-1 Keller Canyon Landfill currently identify the two on-site flares (A-1 and A-2) as the only approved landfill gas control devices for S-1. Keller Canyon Landfill Company is requesting that these permit conditions be revised to allow venting of gas to the Ameresco facility (the TSA gas processing system and the TSA waste gas flare and the two landfill gas fired IC engines) as an approved control option for the S-1 Keller Canyon Landfill.

E. EMISSIONS

All emission increases associated with processing and burning landfill gas at the Ameresco facility were discussed in detail in the engineering reports for Applications # 14265 and # 16830. Since KCLC is not requesting any changes to the emission limits for the KCLC flares (A-1 and A-2), this application will not result in any emission increases at the KCLC facility (Plant # 4618).

F. LANDFILL GAS CONTROL SYSTEM ADEQUACY

At the currently permitted maximum fill rate of 3500 tons/day of waste and a maximum decomposable cover placement rate of 300 tons/day, the Keller Canyon Landfill will reach full capacity in 2031. The District used these decomposable material placement rates and the LANDGEM model to develop landfill gas generation rate projections for this landfill. The projected landfill gas generation rate for 2009 is 2536 scfm of landfill gas (at 50% methane). The maximum projected landfill gas generation rate will be 6808 scfm of landfill gas in 2032.

Landfill Gas Control System Changes

The combined capacity of the two landfill gas flares is 4987 scfm of landfill gas. These flares have sufficient capacity to control all of the landfill gas that is expected to be generated through the year 2020, and the flares can control up to 73.3% of the maximum projected gas generation rate for the landfill. The Ameresco internal combustion engines and waste gas flare can burn up to 1600 scfm of landfill gas. The combined control capacity for the two KCLC flares and the Ameresco facility will be 6597 scfm of landfill gas, which is 96.8% of the maximum projected gas generation rate for this site. The combined operation of the KCLC flares and the Ameresco engines and flare provides sufficient capacity to control all of the landfill gas expected to be generated through the year 2029.

Although the landfill gas generation rate projections produced by the LANDGEM program are useful for sizing the maximum capacity of the landfill gas control system for a site, this program has been known to over-predict the gas generation for landfills in dryer climates. For the Bay Area, the District has found that more realistic estimates of a landfill’s projected gas collection rates are necessary for establishing the minimum control device operating requirements for landfills that have multiple control device options. To determine which combination of landfill gas control devices will provide adequate control capacity for the Keller Canyon Landfill, the District needs to determine the minimum necessary landfill gas collection rates for this landfill. Since the Keller Canyon Landfill has not had surface leak violations at the current gas collection rate, the current actual gas capture efficiency is assumed to be adequate. The actual gas collection rate for July 2007 through June 2008 was 1166 scfm of landfill gas. The projected gas generation for 2008 was 2311 scfm of landfill gas. Therefore, the actual capture efficiency achieved in 2008 by KCLC’s gas collection system was: $(1166/2311) = 50.5\%$. The District used this site-specific gas capture rate (rounded to 50%) and the LANDGEM landfill gas generation rate projections to determine realistic estimates of the minimum necessary landfill gas collection rates for this site from 2009-2032. These minimum collection rates are presented in Table 1.

Table 1. Minimum Necessary LFG Collection Rates for the Keller Canyon Landfill

Year	Projected LFG Generation Rate scfm	Site-Specific Gas Capture Rate	Minimum Necessary LFG Collection Rate scfm
2009	2536	50%	1268
2010	2765	50%	1382
2011	2997	50%	1498
2012	3225	50%	1612
2013	3448	50%	1724
2014	3667	50%	1833
2015	3881	50%	1940
2016	4092	50%	2046
2017	4298	50%	2149
2018	4500	50%	2250
2019	4698	50%	2349
2020	4892	50%	2446
2021	5082	50%	2541
2022	5268	50%	2634
2023	5451	50%	2725
2024	5630	50%	2815
2025	5806	50%	2903
2026	5978	50%	2989
2027	6147	50%	3073
2028	6312	50%	3156
2029	6474	50%	3237
2030	6633	50%	3316
2031	6789	50%	3394
2032	6808	50%	3404

Landfill Gas Control System Changes

After construction of the Ameresco facility is complete, the Keller Canyon Landfill will have multiple landfill control device options. The landfill gas control capacities for the KCLC and Ameresco equipment are presented in Table 2.

Table 2. Landfill Gas Control Capacities for Approved Control Devices

Control Devices	Heat Input Capacity MM BTU/hour	LFG Flow Rate Capacity Scfm
KCLC A-1 Flare	72.70	2438
KCLC A-2 Flare	76.00	2549
Ameresco S-1 IC Engine	19.73	662
Ameresco S-2 IC Engine	19.73	662
Ameresco A-1 Flare	8.25	277

Comparing the minimum necessary landfill gas collection rates in Table 1 to the landfill gas control capacities for each device in Table 2 reveals that it is not necessary for both of the KCLC flares and the Ameresco equipment to be operated simultaneously, in order for the Keller Canyon Landfill to have adequate landfill gas control capacity. A single KCLC flare operating alone will provide adequate control capacity through the year 2020. From 2021-2027, the Keller Canyon Landfill must be controlled by either one KCLC flare and one Ameresco engine or by both KCLC flares operating simultaneously. From 2028-2032, the Keller Canyon Landfill must be controlled by either one KCLC flare and both Ameresco engines or by two KCLC flares.

Comparing the landfill gas flow rates in Tables 1 and 2 also reveals that a single Ameresco engine (operating alone or in combination with the Ameresco flare) cannot provide adequate control capacity for the landfill. Typically, both Ameresco engines and the Ameresco flare will be operating concurrently. In this case, the Ameresco facility operating alone (without either KCLC flare) will provide adequate control capacity for the landfill only through the year 2012. From 2013-2020, a combination of control devices (at least one Ameresco engine and one KCLC flare) or one KCLC flare must be operating to provide the minimum necessary control capacity for the landfill.

These various combinations of approved control device operating scenarios will be described in Part 20 of Condition # 17309 to ensure that the landfill has adequate control capacity at all times. Compliance with these operating restrictions should ensure that an adequate amount of landfill gas is collected to prevent violation of the landfill surface leak limits.

G. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for a change of permit conditions at the S-1 Keller Canyon Landfill with Gas Collection System that involves no physical alterations of the gas collection system or the landfill. The condition changes will simply allow 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.

Landfill Gas Control System Changes

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from the landfill (S-1) or flares (A-1 or A-2), 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 NSPS 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 September 20, 2001. The MFR Permit underwent five revisions during 2002 through 2007, and it was renewed on January 3, 2008. This application will require an administrative amendment of the current MFR permit to incorporate the proposed permit condition revisions. The proposed MFR permit revisions related to Application # 20204 will be discussed in the Statement of Basis for the administrative permit amendment under Application # 20205.

Regulation 8, Rule 34:

KCLC's Keller Canyon 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 8-34-301.1 or 8-34-301.2. 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 will continue to ensure compliance with Regulation 8-34-301.

The S-1 Keller Canyon 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. Thus, venting gas to the off-site engines is not expected to adversely impact the landfill's ability to comply with the 8-34-303 surface leak limit.

Federal Requirements:

NSPS for MSW Landfills: The S-1 Keller Canyon Landfill is subject to the New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills, 40 CFR, Part 60, Subpart WWW. This regulation limits surface leaks to 500 ppmv as methane (40 CFR 60.753(d)). It requires that a gas collection system be installed and operated in each area or cell, where MSW has been in place for two years or longer. The gas collection system must be designed with a sufficient density of collectors to prevent surface leaks. Gas wells and other collectors must be installed and operated in accordance with an approved collection system design plan. Collected gases must be routed to an approved control system meeting the requirements of 40 CFR 60.752(b)(2)(iii)(A, B, or C). The current control systems (two on-site enclosed flares) meet the requirements of 40 CFR 60.752(b)(2)(iii)(B). The proposed condition changes will allow the use of off-site control systems. When the collected landfill gas is routed off-site, KCLC will comply with 40 CFR 60.752(b)(2)(iii)(C) by routing the gases to a treatment system that processes the gas for subsequent sale or use. This additional control option will be added to the MFR permit.

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,

Landfill Gas Control System Changes

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.

H. PERMIT CONDITION REVISIONS

The District is proposing to revise Condition # 17309, Part 20, as shown below in strike through and underline formatting. The District is identifying the new control options for this site and clarifying that the gas collection rate must be sufficient to ensure compliance with the applicable Regulation 8-34 and NSPS Subpart WWW surface leak limits (500 ppmv of THC expressed as methane) at all times. The proposed revisions to Part 20 will 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 # 17309

For S-1 KELLER CANYON LANDFILL, A-1 LANDFILL GAS FLARE, AND A-2 LANDFILL GAS FLARE:

No Changes to Parts 1-19

20. All landfill gas collected by the gas collection system for S-1 shall be abated at all times by the on-site enclosed flares, A-1 or A-2 ~~or shall be vented off-site to the Ameresco Keller Canyon LLC facility (Site # B7667) for gas processing and control. A sufficient amount of landfill gas shall be collected at all times to prevent violation of the applicable landfill surface leak limits. If only one Ameresco engine is operating, at least one on-site flare (A-1 or A-2) must also be operating. If both Ameresco engines and the Ameresco waste gas flare are operating, collected landfill gas may be vented to the Ameresco facility alone - without the concurrent operation of either on-site flare - until January 1, 2013. Effective January 1, 2013 through December 31, 2020, collected landfill gas shall be vented either to one on-site flare operating alone or to the Ameresco facility and one on-site flare operating concurrently. Effective January 1, 2021, collected landfill gas shall be vented either to two on-site flares operating concurrently or to the Ameresco facility and one on-site flare operating concurrently.~~ Under no circumstances shall raw landfill gas be vented to the atmosphere. This limitation does not apply to unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair performed in compliance with Regulation 8, Rule 34 Sections 113, 116, 117, or 118 or to inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (Basis: Regulations 8-34-301, 8-34-303, 40 CFR 60.752(b)(2)(~~ii-iii~~), 60.753(~~ed-f~~), and 60.755(e))

No Changes to Parts 21-37

I. RECOMMENDATION

Issue a Change of Conditions (Condition # 17309) for the following equipment.

S-1 Keller Canyon Landfill with Landfill Gas Collection System:

By: signed by Carol S. Allen
Carol S. Allen
Senior Air Quality Engineer

March 18, 2009
Date

APPENDIX B

REPORT

for

ADMINISTRATIVE CONDITION CHANGE

for

APPLICATION # 15304

REPORT for ADMINISTRATIVE CONDITION CHANGE

Keller Canyon Landfill Company; Site # A4618

APPLICATION # 15304

A. BACKGROUND

On April 16, 2007, the District issued a Change of Conditions for the S-1 Keller Canyon Landfill that authorized a number of revisions to the operating requirements and monitoring procedures for the landfill gas collection system at this landfill. The condition changes also authorized the facility to install up to 46 new wells, to decommission up to 18 existing wells, and to replace an additional 23 wells. Since 2007, Keller Canyon Landfill has completed a number of well alteration projects and has submitted revised maps of the currently installed landfill gas collection system. The District is proposing administrative condition changes that will incorporate all of the well alterations completed to date.

B. EMISSIONS

Landfill gas collection system well alterations are intended to ensure that the landfill gas collection system is properly maintained and operated. These alterations optimize the performance of the landfill gas collection system and maintain or improve the overall capture efficiency of the gas collection system. Since these alterations will not result in gas collection rates that exceed the permitted capacity of the control systems for this site, these alterations will not result in any changes to the maximum permitted emissions from the landfill or the on-site flares.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This action concerns a change of permit conditions at the S-1 Keller Canyon Landfill that could involve minor alterations of the landfill gas collection system, which is part of the overall emission control system for the landfill. However, these alterations and permit condition revisions will not allow any expansion of any operations beyond the currently permitted maximum operating rates and will not result in any emission increases at this facility. There is no possibility that the proposed permit condition revisions or collection system alterations could have any significant impact on the environment. Therefore, this proposed change of permit conditions is categorically exempt from CEQA review pursuant to Regulations 2-1-312.1, 2-1-312.2, and 2-1-312.6. 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.

Updates to Landfill Gas collection System Description

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review or any requirements of Regulation 2, Rule 2.

Regulation 2, Rule 5:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review for Toxic Air Contaminants or any requirements of Regulation 2, Rule 5.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. In addition to being a designated facility, the maximum permitted CO emission rate for this site exceeds 100 tons/year of CO. Therefore, a Title V permit is required pursuant to Regulation 2-6-301 as well as Regulation 2-6-304.

This facility received its initial Title V permit on September 20, 2001. The Title V permit was renewed on January 3, 2008 and was last revised on October 9, 2008.

The well alterations completed to date were previously authorized pursuant to Application # 15304. The current proposed condition changes are considered administrative in nature because they will simply correct or expand on the description of the gas collection system based on previously authorized changes and do not allow any new changes. These proposed permit condition revisions will require an administrative amendment of the MFR permit and will be discussed in detail in the Statement of Basis for Application # 20205.

Regulation 8, Rule 34:

Regulation 8, Rule 34 requires that this facility be equipped with a landfill gas collection that is properly maintained and properly operated. The District previously authorized alterations to the collection system that were intended to fulfill these Regulation 8-34 requirements. Monitoring of wellhead parameters at the installed wells indicates that the new wells are functioning properly.

The currently installed landfill gas collection system wells and the revised well IDs are identified in Table 1 below. New components are highlighted in yellow. Twenty one new vertical wells were installed. Two wells (E017R and E022R) were renamed because these wells are actually connected to monitoring station E instead of K. No wells were decommissioned. In addition to these vertical well changes, Keller Canyon installed a small horizontal collector (HC-2) in waste on the eastern edge of the landfill.

Two components, an existing horizontal collector (HC-1) and a new vacuum connection point at the leachate collection and removal system piping (LCRS-1), were installed for landfill gas migration control purposes and are not part of the main landfill gas collection and control system. These components were installed to prevent the emission of landfill gas in the event that landfill gas escapes from the waste area and migrates into these piping systems. Since these components

Updates to Landfill Gas collection System Description

are not part of the main landfill gas collection system, they are not required to be operated continuously by Section 301.1 and are not subject to the Section 305 wellhead standards.

Table 1. Landfill Gas Collection System Components Installed as of June 1, 2010

A001	B001	D001	E007	K013	L037	M001	O001	Q001	R001P	S001	HC-1
A002	B002	D002	E008	K014	L038	M002R	O002	Q002	R002P	S002	HC-2
A003	B003	D003	E009R	K015R	L039	M003R	O003	Q003	R003P	S003	LCRS-1
A004	B004	D004	E010	K016R	L040	M004R	O004	Q004	R004P		
A005	B005	D005	E011	K018R	L041R	M005R	O005	Q005	R005P		
A006	B006	D006	E012	K028R	L042	M006R	O006	Q006	R006P		
A021	B007		E017R	K033R		M007R	O007R	Q007	R007P		
A023	B008		E019	K034R		M008R	O008	Q008	R008P		
A029			E020	K035R		M009R	O009	Q009	R1		
A030			E022R	K036		M010	O010	Q010	R2		
A031			E024			M011	O011		R3		
A032			E025R			M012	O012				
			E026			M013	O013R				
			E027R				O014R				
							O015R				
							O016				
12	8	6	1214	1210	6	913	16	10	11	3	43

D. PERMIT CONDITION REVISIONS

The District is proposing to modify Condition # 17309, Parts 18 and 19, as indicated below to update the description of the main landfill gas collection system and to clarify the operating and monitoring criteria for two components that were installed to prevent or control landfill gas migration.

Condition # 17309

For S-1 KELLER CANYON LANDFILL, A-1 LANDFILL GAS FLARE, AND A-2 LANDFILL GAS FLARE:

(no changes to Parts 1-18)

18. Landfill Gas Collection System Design and Alteration Requirements:
 The Permit Holder shall have a properly operated and properly maintained active landfill gas collection system at the S-1 Keller Canyon Landfill that complies with the design and alteration requirements listed below. (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 40 CFR 60.755(a) and 60.759)
 - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths of associated piping are as described in detail in Permit Applications #12155, #14837, and #15304. The authorized number of landfill gas collection system components is the baseline count listed below plus any components installed and minus any components permanently decommissioned pursuant to Part 18b, as

Updates to Landfill Gas collection System Description

evidenced by start-up and decommissioning notification letters submitted to the District.

i. The following components constitute the main landfill gas collection system.

Well Station	Number of Vertical Wells
A	12
B	8
D	6
E	14
K	10
L	6
M	13
O	16
Q	10
R	11
S	3
ID	Horizontal Collectors
HC-2	1

ii. The following components have been installed to prevent or control landfill gas migration and are not part of the main landfill gas collection and control system.

	Horizontal Collectors
HC-1	1
	Other Components
LCRS-1	1

b. The Permit Holder has been ~~issued an Authority to Construct for authorized to conduct~~ the landfill gas collection system alterations listed below pursuant to Applications ~~#14837 and~~ #15304. All collection system alterations shall comply with subparts i-vii below. Components installed or decommissioned pursuant to Part 18b shall be added to or removed from Part 18a(i) in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.

- i. The authorized collection system alterations are:
 - Install up to 4623 vertical gas collection wells.
 - Permanently decommission up to 18 vertical wells.
 - Install up to 52 wellhead stations that will provide flow rate control and monitoring points for recently installed wells.
- ii. The Permit Holder shall apply for and receive ~~an Authority to Construct a Change of Conditions~~ from the District before implementing any changes to the landfill gas collection system ~~that is~~ described in Part 18a, other than those authorized by Part 18b. Installing, decommissioning, and relocating vertical wells and horizontal collectors are alterations that are subject to this ~~Authority to Construct~~ requirement, unless this change constitutes a replacement as defined in subpart iii below.
- iii. Replacement of landfill gas collection system components with identical or functionally equivalent components will not be deemed an alteration and will not subject to the Authority to

Updates to Landfill Gas collection System Description

Construct requirement under the following circumstances. If a well or collector will be shut down and replaced by a new well or collector in essentially the same location as the old component and this decommission/installation will be accomplished in accordance with Regulations 8-34-117 and 8-34-118, then this activity shall be considered a component replacement that is not subject to ~~the an~~ Authority to Construct or Change of Conditions requirement. For each individual well or collector replacement, this subpart authorizes a maximum vacuum disconnection time of five consecutive days for compliance with Regulation 8-34-117.5. The disconnected component and the new component shall not be counted toward the Part 18b(i) component alteration limits; the numbers of replacement wells and replacement collectors are not limited. Alterations, repairs, or replacements of non-perforated piping sections (such as risers, laterals, or header pipes), piping connectors, or valves are not subject to the Authority to Construct requirement.

- iv. At least three days prior to initiating operation of a well or collector installed pursuant to Part 18b, the Permit Holder shall submit a start-up notice to the District that contains the component ID number for each new well or collector and the anticipated initial start-up date for each new component.
- v. For each well or collector that is permanently decommissioned after April 16, 2007, the Permit Holder shall submit a decommissioning notice to the District within no later than three working days after the component was disconnected from vacuum system. This decommissioning notice shall contain the component ID for each well or collector that was decommissioned, the date and time that each component was disconnected from the vacuum system, and the reason the component was decommissioned.
- vi. Within six months of installing a new component or permanently decommissioning an existing component, the Permit Holder shall prepare an updated map of the landfill gas collection system that identifies the ID numbers and locations of all operable wells and collectors. On this map or in accompanying documentation, the Permit Holder shall summarize all component changes that were made since the last map was prepared. The previous collection system map, the updated collection system map, and the component change summary shall be provided to District staff upon request.
- vii. If the Permit Holder has a net reduction (number of decommissioned components minus the number of installed components) of more than five components within a 120-day period, the Permit Holder shall submit a more comprehensive decommissioning notice to the District. In addition to the information required by subpart v, this comprehensive decommissioning notice shall include the maps and

Updates to Landfill Gas collection System Description

documentation required by subpart vi, shall identify all component changes that have occurred but that are not included on the most recently updated map, shall identify any components that are temporarily disconnected from vacuum pursuant to Part 19c, shall provide estimated vacuum reconnection dates for these components, shall include a list of all well installations that are expected to occur within the next 120 days, and shall discuss the reasons why this reduction in gas collection components is not expected to result in surface emission leaks. Upon request, the Permit Holder shall provide wellhead monitoring data, surface leak monitoring data, records of repair attempts made to date, and other information to support the need for a net component reduction of more than five wells. The District may require additional surface monitoring to verify that this net component reduction is not causing landfill surface leaks. The District will notify the Permit Holder in writing of any additional surface monitoring that is required pursuant to this subpart.

19. Operating Requirements for Landfill Gas Collection System and Collection System Components:

a. The landfill gas collection system described in Part 18a(i) shall be operated continuously. Each well-component that is subject to this continuous operation requirement shall not be shut off, disconnected, or removed from operation without prior written authorization from the District, unless the Permit Holder complies with Part 19c or with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (Basis: Regulation 8-34-301, 40 CFR 60.753(b and c) and 60.755(e))

i. The components identified in Part 18a(ii) are not required to operate continuously and may be connected to or disconnected from the main vacuum system at the operator's discretion, provided the owner/operator either connects each component to the vacuum system at least once per quarter or inspects each component to determine if vacuum connection is necessary at least once each quarter. The operator shall record the date, time, and reason for each vacuum connection/disconnection event and for each inspection.

b. Each landfill gas collection system component listed in Part 18a(i) shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, (as identified in subpart i below), and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts ii-vii below. (Basis: Regulation 8-34-305)

i. The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 8-34-305.4 shall not apply to the landfill gas collection wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume.

Updates to Landfill Gas collection System Description

- ~~EW-E011, EW-E027R, EW-K035R, EW-M002R, EW-M004R, EW-M005R, EW-M008R, EW-M009R, EW-O014R, EW-O015R, EW-R001(P), EW-R002(P), EW-R003(P), EW-R004(P), EW-R005(P), EW-R006(P), EW-R007(P)~~
- ii. The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit in subpart i by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 8-34-604.
 - iii. All test dates, wellhead oxygen concentration data, any deviations from the subpart i limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District approved log and made available to District staff upon request in accordance with Regulations 8-34-34-501.4, 8-34-501.9, and 8-34-414.
 - iv. To demonstrate that the alternative wellhead oxygen limit in subpart i will not cause surface emission leaks, the Permit Holder shall conduct additional surface emission monitoring within a 15 meter vicinity of each component listed in subpart i at the specific locations discussed below. For each component in subpart i, the Permit Holder shall maintain a map showing the location of the buried collection component and identifying the approximate radius of influence for the component. For each component in subpart i, the Permit Holder shall monitor for landfill surface emissions – in accordance with Regulations 8-34-506 and 8-34-607 – at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.
 - v. If no excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component for six consecutive months, the Permit Holder may discontinue the additional monthly surface emission monitoring in the vicinity of that component and shall continue with the routine quarterly surface emission monitoring requirements for that component.
 - vi. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of that component shall continue until either the no surface excess requirements of subpart v have been achieved or the repair and compliance restoration requirements of subpart vii have been satisfied.

Updates to Landfill Gas collection System Description

- vii. If excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart i alternative wellhead oxygen limit shall be revoked for that component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection well, to any piping associated with the well or the remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point, to prevent impairment of vacuum application or vacuum adjustment at the collection well, and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs and any necessary landfill surface repairs and shall restore compliance with the Regulation 8-34-303 surface emission limit (at each location where an excess of the surface limit was measured) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered if the three excess events are discovered within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.
- c. The Permit Holder may temporarily disconnect individual wells or collectors [listed in Part 18a\(i\)](#) from the vacuum system, provided that all requirements of this subpart are satisfied. (Basis: Regulation 8-34-404)
 - i. No more than five (5) landfill gas collection system components (wells or collectors) may be temporarily disconnected from the vacuum system at any one time pursuant to Part 19c.
 - ii. For each individual well or collector that is temporarily disconnected from the vacuum system pursuant to Part 19c, the total vacuum system disconnection time shall not exceed 120 days during any 12-month period.
 - iii. Collection system components that are disconnected from the vacuum system are not subject to wellhead limits (Regulation 8-34-305 or Part 19b) or to monthly wellhead monitoring requirements (Regulation 8-34-505) during this vacuum disconnection time.
 - iv. Wells or collectors that are temporarily disconnected from the vacuum system continue to be subject to the component leak limit (Regulation 8-34-301.2) and the quarterly leak testing requirement (Regulation 8-34-503) at all times. In addition, the Permit Holder shall conduct the following component leak monitoring at each component that has been disconnected from the vacuum system pursuant to Part 19c: test for component leaks using the procedures identified in Regulation 8-34-602 within 10 calendar days of disconnection from vacuum and again within 1 month of disconnection from vacuum. If a component leak is detected at the well, the Permit Holder shall

Updates to Landfill Gas collection System Description

take all steps necessary to reduce the leak below the applicable limit, including reconnecting the well to the vacuum system, if no other corrective action measures are successful within the time frames allowed by Rule 34.

- v. For each temporary component disconnection event, the Permit Holder shall record each affected well ID number, all well disconnection dates and times, all well reconnection dates and times, all related monitoring dates and monitoring results in a District approved log. This log shall also include an explanation of why the temporary vacuum disconnection was necessary and shall describe all adjustments or repairs that were made in order to allow this well to operate continuously, to reduce leaks, or to achieve compliance with an applicable limit. All records shall be retained for a minimum of five years and shall be made available to District staff upon request.

E. RECOMMENDATION

Issue a Change of Permit Conditions for the following equipment:

S-1 Keller Canyon Landfill; abated by Flares (A-1 and A-2):

By: Signed by Carol S. Allen
Carol S. Allen
Supervising Air Quality Engineer

June 30, 2010
Date

APPENDIX C

ENGINEERING EVALUATION

for

APPLICATION # 23460

ENGINEERING EVALUATION

Keller Canyon Landfill Company; Site # A4618

APPLICATION # 23460

A. BACKGROUND

On June 29, 2010, the District issued a Change of Conditions for the S-1 Keller Canyon Landfill that updated the landfill gas collection system description by incorporating all of the well alterations completed to date pursuant to well changes authorized under Application # 15304. Since then, Keller Canyon Landfill Company (KCLC) has decommissioned 31 vertical wells, has installed 1 horizontal collector, has renamed 2 wells, has replaced 20 wells, and has requested additional landfill gas collection system alterations (install up to 100 new vertical wells and decommission up to 60 vertical wells) pursuant to Application # 23460. The District approved an accelerated permit to operate for these collection system alterations on August 16, 2011.

B. EMISSIONS

Landfill gas collection system well alterations are intended to ensure that the landfill gas collection system is properly maintained and operated. These alterations optimize the performance of the landfill gas collection system and maintain or improve the overall capture efficiency of the gas collection system. Since these alterations will not result in gas collection rates that exceed the permitted capacity of the control systems for this site, these alterations will not result in any changes to the maximum permitted emissions from the landfill or the on-site flares.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This action concerns a change of permit conditions at the S-1 Keller Canyon Landfill that could involve minor alterations of the landfill gas collection system, which is part of the overall emission control system for the landfill. However, these alterations and permit condition revisions will not allow any expansion of any operations beyond the currently permitted maximum operating rates and will not result in any emission increases at this facility. There is no possibility that the proposed permit condition revisions or collection system alterations could have any significant impact on the environment. Therefore, this proposed change of permit conditions is categorically exempt from CEQA review pursuant to Regulations 2-1-312.1, 2-1-312.2, and 2-1-312.6. 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.

Gas Collection System Alterations

Regulation 2, Rule 2:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review or any requirements of Regulation 2, Rule 2.

Regulation 2, Rule 5:

Since this project will not result in any increases of maximum permitted emissions from S-1, this project is not subject to New Source Review for Toxic Air Contaminants or any requirements of Regulation 2, Rule 5.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. In addition to being a designated facility, the maximum permitted CO emission rate for this site exceeds 100 tons/year of CO. Therefore, a Title V permit is required pursuant to Regulation 2-6-301 as well as Regulation 2-6-304.

This facility received its initial Title V permit on September 20, 2001. The Title V permit was renewed on January 3, 2008 and was last revised on October 9, 2008.

These proposed permit condition revisions will require a minor revision of the MFR permit and will be discussed in detail in the Statement of Basis for Application # 23461.

Regulation 8, Rule 34:

Regulation 8, Rule 34 requires that this facility be equipped with a landfill gas collection that is properly maintained and properly operated. The District previously authorized alterations to the collection system that were intended to fulfill these Regulation 8-34 requirements. Monitoring of wellhead parameters at the installed wells indicates that the new wells are functioning properly.

Notifications of well changes were submitted on 7/28/11, 9/2/11, 9/13/11, and 10/7/11. The currently installed landfill gas collection system wells and the revised well IDs are identified in Table 1 below. The decommissioned components are identified with strike-through formatting and are highlighted in yellow. New components and replaced wells with new IDs are identified with underline formatting and highlighted in green. Renamed wells are highlighted in blue.

Three components, the new horizontal collector (HC-3), an existing horizontal collector (HC-1) and a vacuum connection point at the leachate collection and removal system piping (LCRS-1) were installed for landfill gas migration control purposes and are not part of the main landfill gas collection and control system. These components were installed to prevent the emission of landfill gas in the event that landfill gas escapes from the waste area and migrates into these piping systems. Since these components are not part of the main landfill gas collection system, they are not required to be operated continuously by Section 301.1 and are not subject to the Section 305 wellhead standards.

Gas Collection System Alterations

Table 1. Landfill Gas Collection System Components Installed as of October 7, 2011

A001	B001	D001	E007R	K013R	L037R	M001	Q001	Q001R	R001P	S001	HC-1
A002	B002	D002	E008R	K014	L038	M002R	Q002	Q002R	R002P	S002	HC-2
A003	B003	D003	E009R	K015R	L039	M003R	Q003	Q003R	R003P	S003	HC-3
A004	B004	D004	E010R	K016R	L040R	M004R	Q004	Q004R	R004P		LCRS-1
A005	B005	D005	E011	K017R	L041R	M005R	Q005R	Q005R	R005P		
A006	B006	D006	E012R	K018R	L042	M006R	Q006	Q006R	R006P		
A021	B007		E017R	K022R		M007R	Q007R	Q007R	R007P		
A023R	B008		E019R	K028R		M008R	Q008	Q008R	R008P		
A029			E020R	K033R		M009R	Q009	Q009R	R1		
A030			E022R	K034R		M010	Q010	Q010R	R2		
A031			E024R	K035R		M011	Q011		R3		
A032			E025R	K036		M012	Q012				
			E026			M013	Q013R				
			E027R				Q014R				
							Q015R				
							Q016				
12	8	6	149	1011	63	137	160	10	119	3	34

D. PERMIT CONDITION REVISIONS

The District is proposing to modify Condition # 17309, Parts 18 and 19, as indicated below to update the description of the main landfill gas collection system based on the alteration notifications submitted to data.

Condition # 17309

For S-1 KELLER CANYON LANDFILL, A-1 LANDFILL GAS FLARE, AND A-2 LANDFILL GAS FLARE:

(no changes to Parts 1-18)

18. Landfill Gas Collection System Design and Alteration Requirements:
The Permit Holder shall have a properly operated and properly maintained active landfill gas collection system at the S-1 Keller Canyon Landfill that complies with the design and alteration requirements listed below. (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, 40 CFR 60.755(a) and 60.759)
 - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths of associated piping are as described in detail in Permit Application #1530423460. The authorized number of landfill gas collection system components is the baseline count listed below plus any components installed and minus any components permanently decommissioned pursuant to Part 18b, as evidenced by start-up and decommissioning notification letters submitted to the District.

Gas Collection System Alterations

- i. The following components constitute the main landfill gas collection system.

Well Station	Vertical Wells
A	12
B	8
D	6
E	149
K	1011
L	63
M	137
O	160
Q	10
R	119
S	3
ID	Horizontal Collectors
HC-2	1

- ii. The following components have been installed to prevent or control landfill gas migration and are not part of the main landfill gas collection and control system.

Horizontal Collectors	
HC-1	1
HC-3	1
LCRS-1	Other Components 1

- b. The Permit Holder has been authorized to conduct the landfill gas collection system alterations listed below pursuant to Application #~~15304~~23460. All collection system alterations shall comply with subparts i-vii below. Components installed or decommissioned pursuant to Part 18b shall be added to or removed from Part 18a(i) in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.

- i. The authorized collection system alterations are:
- Install up to ~~23~~100 vertical gas collection wells.
 - Permanently decommission up to ~~18~~60 vertical wells.
 - Install up to 2 wellhead stations that will provide flow rate control and monitoring points for recently installed wells.
- ii. The Permit Holder shall apply for and receive a Change of Conditions from the District before implementing any changes to the landfill gas collection system described in Part 18a, other than those authorized by Part 18b. Installing, decommissioning, and relocating vertical wells and horizontal collectors are alterations that are subject to this requirement, unless this change constitutes a replacement as defined in subpart iii below.

Gas Collection System Alterations

- iii. Replacement of landfill gas collection system components with identical or functionally equivalent components will not be deemed an alteration and will not be subject to the Authority to Construct requirement under the following circumstances. If a well or collector will be shut down and replaced by a new well or collector in essentially the same location as the old component and this decommission/installation will be accomplished in accordance with Regulations 8-34-117 and 8-34-118, then this activity shall be considered a component replacement that is not subject to an Authority to Construct or Change of Conditions requirement. For each individual well or collector replacement, this subpart authorizes a maximum vacuum disconnection time of five consecutive days for compliance with Regulation 8-34-117.5. The disconnected component and the new component shall not be counted toward the Part 18b(i) component alteration limits; the numbers of replacement wells and replacement collectors are not limited. Alterations, repairs, or replacements of non-perforated piping sections (such as risers, laterals, or header pipes), piping connectors, or valves are not subject to the Authority to Construct requirement.
- iv. At least three days prior to initiating operation of a well or collector installed pursuant to Part 18b, the Permit Holder shall submit a start-up notice to the District that contains the component ID number for each new well or collector and the anticipated initial start-up date for each new component.
- v. For each well or collector that is permanently decommissioned after April 16, 2007, the Permit Holder shall submit a decommissioning notice to the District within no later than three working days after the component was disconnected from vacuum system. This decommissioning notice shall contain the component ID for each well or collector that was decommissioned, the date and time that each component was disconnected from the vacuum system, and the reason the component was decommissioned.
- vi. Within six months of installing a new component or permanently decommissioning an existing component, the Permit Holder shall prepare an updated map of the landfill gas collection system that identifies the ID numbers and locations of all operable wells and collectors. On this map or in accompanying documentation, the Permit Holder shall summarize all component changes that were made since the last map was prepared. The previous collection system map, the updated collection system map, and the component change summary shall be provided to District staff upon request.

Gas Collection System Alterations

- vii. If the Permit Holder has a net reduction (number of decommissioned components minus the number of installed components) of more than five components within a 120-day period, the Permit Holder shall submit a more comprehensive decommissioning notice to the District. In addition to the information required by subpart v, this comprehensive decommissioning notice shall include the maps and documentation required by subpart vi, shall identify all component changes that have occurred but that are not included on the most recently updated map, shall identify any components that are temporarily disconnected from vacuum pursuant to Part 19c, shall provide estimated vacuum reconnection dates for these components, shall include a list of all well installations that are expected to occur within the next 120 days, and shall discuss the reasons why this reduction in gas collection components is not expected to result in surface emission leaks. Upon request, the Permit Holder shall provide wellhead monitoring data, surface leak monitoring data, records of repair attempts made to date, and other information to support the need for a net component reduction of more than five wells. The District may require additional surface monitoring to verify that this net component reduction is not causing landfill surface leaks. The District will notify the Permit Holder in writing of any additional surface monitoring that is required pursuant to this subpart.

- 19. Operating Requirements for Landfill Gas Collection System and Collection System Components:
 - a. The landfill gas collection system described in Part 18a(i) shall be operated continuously. Each component that is subject to this continuous operation requirement shall not be shut off, disconnected, or removed from operation without prior written authorization from the District, unless the Permit Holder complies with Part 19c or with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (Basis: Regulation 8-34-301, 40 CFR 60.753(b and c) and 60.755(e))
 - i. The components identified in Part 18a(ii) are not required to operate continuously and may be connected to or disconnected from the main vacuum system at the operator's discretion, provided the owner/operator either connects each component to the vacuum system at least once per quarter or inspects each component to determine if vacuum connection is necessary at least once each quarter. The operator shall record the date, time, and reason for each vacuum connection/disconnection event and for each inspection.

Gas Collection System Alterations

- b. Each landfill gas collection system component listed in Part 18a(i) shall be operated in compliance with the wellhead limits of Regulation 8-34-305, unless an alternative wellhead limit has been approved for that component, (as identified in subpart i below), and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts ii-vii below. (Basis: Regulation 8-34-305)
- i. The nitrogen and oxygen concentration limits in Regulation 8-34-305.3 and 8-34-305.4 shall not apply to the landfill gas collection wells listed below, provided that the oxygen concentration in each of the following wells does not exceed 15% by volume.
E011, E027R, K035R, ~~M002R, M004R, M005R, M008R, M009R, O014R, O015R,~~ R001(P), ~~R002(P),~~ R003(P), R004(P), R005(P), R006(P), R007(P)
- ii. The Permit Holder shall demonstrate compliance with the alternative wellhead oxygen limit in subpart i by monitoring each wellhead for oxygen on a monthly basis, in accordance with the provisions of Regulations 8-34-505 and 8-34-604.
- iii. All test dates, wellhead oxygen concentration data, any deviations from the subpart i limit, repair actions, repair dates, re-monitoring dates and results, and compliance restoration dates shall be recorded in a District approved log and made available to District staff upon request in accordance with Regulations 8-34-34-501.4, 8-34-501.9, and 8-34-414.
- iv. To demonstrate that the alternative wellhead oxygen limit in subpart i will not cause surface emission leaks, the Permit Holder shall conduct additional surface emission monitoring within a 15 meter vicinity of each component listed in subpart i at the specific locations discussed below. For each component in subpart i, the Permit Holder shall maintain a map showing the location of the buried collection component and identifying the approximate radius of influence for the component. For each component in subpart i, the Permit Holder shall monitor for landfill surface emissions – in accordance with Regulations 8-34-506 and 8-34-607 – at three representative points on the landfill surface that are within the radius of influence of the component and that are not more than 15 meters from the surface location of the component. This additional surface emission monitoring shall be conducted on a monthly basis for a period of at least six consecutive months.
- v. If no excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component for six consecutive months, the Permit Holder may discontinue the additional monthly surface emission monitoring in the vicinity of that component and shall continue with the routine quarterly surface emission monitoring requirements for that component.

Gas Collection System Alterations

- vi. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting the excess and shall follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. The additional monthly surface emission monitoring in the vicinity of that component shall continue until either the no surface excess requirements of subpart v have been achieved or the repair and compliance restoration requirements of subpart vii have been satisfied.
- vii. If excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart i alternative wellhead oxygen limit shall be revoked for that component. The Permit Holder shall conduct all necessary repairs to the landfill gas collection well, to any piping associated with the well or the remote wellhead monitoring system, to valves, flanges, or other connectors, and to any test ports or other openings that are necessary to eliminate air intrusion into the well or the monitoring point, to prevent impairment of vacuum application or vacuum adjustment at the collection well, and to restore the collection well and associated monitoring point to proper function. The Permit Holder shall complete all of the above repairs and any necessary landfill surface repairs and shall restore compliance with the Regulation 8-34-303 surface emission limit (at each location where an excess of the surface limit was measured) and the Regulation 8-34-305.4 wellhead oxygen concentration limit by the earlier of the following dates: (a) within 120 days of the date that the first excess was discovered if the three excess events are discovered within a single quarterly period pursuant to the re-monitoring requirements of 8-34-415 or (b) within 60 days of detection of the third excess.
- c. The Permit Holder may temporarily disconnect individual wells or collectors listed in Part 18a(i) from the vacuum system, provided that all requirements of this subpart are satisfied. (Basis: Regulation 8-34-404)
 - i. No more than five (5) landfill gas collection system components (wells or collectors) may be temporarily disconnected from the vacuum system at any one time pursuant to Part 19c.
 - ii. For each individual well or collector that is temporarily disconnected from the vacuum system pursuant to Part 19c, the total vacuum system disconnection time shall not exceed 120 days during any 12-month period.

Gas Collection System Alterations

- iii. Collection system components that are disconnected from the vacuum system are not subject to wellhead limits (Regulation 8-34-305 or Part 19b) or to monthly wellhead monitoring requirements (Regulation 8-34-505) during this vacuum disconnection time.
- iv. Wells or collectors that are temporarily disconnected from the vacuum system continue to be subject to the component leak limit (Regulation 8-34-301.2) and the quarterly leak testing requirement (Regulation 8-34-503) at all times. In addition, the Permit Holder shall conduct the following component leak monitoring at each component that has been disconnected from the vacuum system pursuant to Part 19c: test for component leaks using the procedures identified in Regulation 8-34-602 within 10 calendar days of disconnection from vacuum and again within 1 month of disconnection from vacuum. If a component leak is detected at the well, the Permit Holder shall take all steps necessary to reduce the leak below the applicable limit, including reconnecting the well to the vacuum system, if no other corrective action measures are successful within the time frames allowed by Rule 34.
- v. For each temporary component disconnection event, the Permit Holder shall record each affected well ID number, all well disconnection dates and times, all well reconnection dates and times, all related monitoring dates and monitoring results in a District approved log. This log shall also include an explanation of why the temporary vacuum disconnection was necessary and shall describe all adjustments or repairs that were made in order to allow this well to operate continuously, to reduce leaks, or to achieve compliance with an applicable limit. All records shall be retained for a minimum of five years and shall be made available to District staff upon request.

E. RECOMMENDATION

Issue a Change of Permit Conditions for the following equipment:

S-1 Keller Canyon Landfill; abated by Flares (A-1 and A-2):

By: signed by Carol S. Allen
Carol S. Allen
Supervising Air Quality Engineer

10/11/11
Date