Bay Area Air Quality Management District

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Permit Evaluation
and
Statement of Basis
for
RENEWAL of

MAJOR FACILITY REVIEW PERMIT

for

Keller Canyon Landfill Company
Facility #A4618

Facility Address:
901 Bailey Road
Pittsburg, CA 94565

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Pittsburg, CA 94565

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Site Engineer: Carol Allen

Application: 14306

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TITLE V STATEMENT OF BASIS

Keller Canyon Landfill Company; PLANT # A4618

APPLICATION # 14306

A. BACKGROUND

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.

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 m^3. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-304.

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

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

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A4618.

This facility received its initial Title V permit on September 20, 2001. The permit was revised on December 17, 2003, March 16, 2006, September 20, 2006, October 4, 2006, and March 2, 2007. This application is for a permit renewal and also incorporates a minor revision of the permit. Although the current permit expired on September 30, 2006, it continues in force until

the District takes final action on the permit renewal. The standard sections of the permit have been upgraded to include new standard language used in all Title V permits. The proposed renewal permit clearly shows all proposed changes to the permit in strikeout/underline format.

B. FACILITY DESCRIPTION

Keller Canyon Landfill Company (KCLC) owns and operates the Keller Canyon Landfill Facility (Facility # A4618) in Pittsburg, CA. The current permit includes the following equipment: S-1 Keller Canyon Landfill, S-3 Yard and Green Waste Stockpiles, A-1 Landfill Gas Flare, and A-2 Landfill Gas Flare.

The S-1 Keller Canyon Landfill is an active Class II MSW landfill that is equipped with a continuously operated landfill gas collection system. The landfill is currently permitted to accept a maximum 3500 tons/day of refuse and is permitted to dispose of 38.4 million tons of decomposable waste in the landfill. As of June 30, 2007, the landfill contained 9.6 MM tons of decomposable waste. In addition to MSW, this site is allowed to accept designated wastes including petroleum-contaminated soils. From July 2006-June 2007, KCLC reported accepting 21,134 tons of contaminated soil.

This facility also has a Yard and Green Waste Stockpile (S-3) that is permitted to accept up to 70,200 tons/year of waste material for recycling.

All collected landfill gas is vented to the A-1 and A-2 Landfill Gas Flares. These flares have maximum heat input limits of 1744.8 and 1824 MM BTU/day, respectively and can control a total of 5000 scfm of landfill gas. From July 2006-June 2007, KCLC reported that A-1 and A-2 burned a combined average of 907 scfm of landfill gas.

An independently owned company (Ameresco Keller Canyon, LLC, Site # B7667) has been issued an Authority to Construct for two 2677 bhp internal combustion engines that will be fueled on landfill gas collected from the S-1 Keller Canyon Landfill and that will be located on KCLC property. This energy facility is not subject to Title V permit requirements at this time.

All emission increases for this facility were discussed in detail in the Statements of Basis for the Title V permit revisions that were issued in 2003, 2006, and 2007 (Applications #7939, #10393, #11385, #13196, #14795, and #14656). Since the Title V permit was first issued in 2001, the most significant changes to facility-wide emissions were the CO, NO_x, SO_2, PM_{10}, and POC emission increases that occurred due to the permitting of the second landfill gas flare (A-2) pursuant to Application #11385 (March 16, 2006 revision). The current facility wide maximum potential emission rates for each source are summarized in Table 1.

Table 1. Maximum Potential Emissions for Site # A4618

Device Number and Description	Emissions (tons/year)				
	CO	PM_{10}	NO_x	POC	SO_2
S-1 Keller Canyon Landfill		24.5		40.6	
S-3 Yard and Green Waste Stockpiles		0.1			
A-1 Landfill Gas Flare	95.5	5.4	19.1	4.4	31.8
A-2 Landfill Gas Flare	66.6	11.2	20.0	4.6	33.3
Facility Wide Permitted Emissions	162.1	41.2	39.1	49.7	65.1

C. PERMIT CONTENT

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit. Routine changes to the standard permit text in Sections I "Standard Conditions", III "Generally Applicable Requirements", and X "Glossary" are not considered part of the Title V permit renewal process, but may be made at the discretion of the District during the term of this permit.

I. Standard Conditions

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

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

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

Changes to Permit, Section I:

- The District is updating the dates of adoption and approval of rules in Standard Condition 1.A.
- The District is adding the following language to Standard Condition I.B.1: "If the permit renewal has not been issued by [5th anniversary of issue date], but a complete application for renewal has been submitted in accordance with the above deadlines, the existing permit will continue in force until the District takes final action on the renewal application." This is the "application shield" pursuant to BAAQMD Regulation 2-6-407.
- The basis for Standard Condition I.B.11 is being amended by adding "Regulation 2-6-409.20" to conform to changes in Regulation 2, Rule 6.

- The following language is added as Standard Condition I.B.12: "The permit holder is responsible for compliance, and certification of compliance, with all conditions of the permit, regardless whether it acts through employees, agents, contractors, or subcontractors. (Regulation 2-6-307)." The purpose is to reiterate that the Permit Holder is responsible for ensuring that all activities at the facility comply with all applicable requirements.
- The District is correcting errors in the bases for Standard Conditions I.E.2 and I.F by deleting "Regulation 3;" from these bases.
- The District is clarifying the certification period in Standard Condition I.G by changing it from "October 1st to September 30th" to "October 1st through September 30th".

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year. This facility has no unpermitted significant sources.

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

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

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Following are explanations of the differences in the equipment list between the time that the facility was originally issued a Title V permit (September 2001) and the permit proposal date:

the A-2 Landfill Gas Flare was added pursuant to Title V Permit Application # 11385 and the S-2 Wipe Cleaning Operation was removed pursuant to Title V Permit Application # 14795. In Table II-A, the description of the gas collection system for S-1 has been updated several times. In Table II-B, the combustion zone temperature limits for the flares have also been updated several times. These changes were previously discussed in the Statements of Basis for Applications #7939, #10393, #11385, #14795, and #14656.

Changes to Permit, Section II:

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

III. Generally Applicable Requirements

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

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

Changes to Permit, Section III:

- The District is adding language to Section III to clarify that this section contains requirements that may apply to temporary sources. This provision allows contractors that have "portable" equipment permits that require them to comply with all applicable requirements to work at the facility on a temporary basis, even if the permit does not specifically list the temporary source. Examples are temporary sand-blasting, wood chipping, or soil-vapor extraction equipment.
- The District is adding EPA's website address for the SIP standards to Section III.
- For Table III, the District is amending dates of adoption or approval of the rules, correcting the "federal enforceability" status for these rules, and adding or deleting rules and standards to conform to current practice. The rules that are being amended, added, or removed are listed below:
    - Regulation 1, General Provisions and Definitions
    - Regulation 2, Rule 1, General Requirements
    - Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
    - Regulation 4, Air Pollution Episode Plan
    - Regulation 8, Rule 2, Miscellaneous Operations
    - Regulation 8, Rule 3, Architectural Coatings
    - Regulation 8, Rule 4, General Solvent and Surface Coating Operations

- Regulation 8, Rule 15, Emulsified and Liquid Asphalts
- Regulation 8, Rule 16, Solvent Cleaning Operations
- Regulation 8, Rule 40, Aeration of Contaminated Soil and Removal of Underground Storage Tanks
- Regulation 8, Rule 47, Air Stripping and Soil Vapor Extraction Operations
- Regulation 9, Rule 1, Sulfur Dioxide
- California Health and Safety Code Section 41750 et seq., Portable Equipment
- California Code of Regulations Title 17, Section 93105 et seq., Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations
- California Code of Regulations Title 17, Section 93106 et seq., Airborne Toxic Control Measure for Asbestos Containing Serpentine
- California Code of Regulations Title 17, Section 93115 et seq., Airborne Toxic Control Measure for Stationary Compression Ignition Engines
- California Code of Regulations Title 17, Section 93116 et seq., Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
- EPA Regulation 40 CFR Part 61, Subparts A and M.

- The District is deleting the footnote to Table III, because it is not necessary. The applicability of SIP requirements is discussed elsewhere in the MFR permit.

IV. Source-Specific Applicable Requirements

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

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

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

Complex Applicability Determinations:

The landfill at this site is subject to BAAQMD Regulation 8, Rule 34, because the Keller Canyon Landfill has accepted waste within the last 30 years and contains more than 1,000,000 tons of decomposable refuse. The landfill is also subject to the NSPS for MSW Landfills (40 CFR, Part 60, Subpart WWW) and the NESHAP for MSW Landfills (40 CFR, Part 63, Subpart AAAA), because (1) it commenced construction after May 30, 1991, (2) it has accepted waste after November 8, 1987, (3) it has a design capacity of greater than 2.5 million cubic meters and greater than 2.5 million megagrams, and (4) the uncontrolled NMOC generation rate from the landfill exceeds 50 Mg/year. The only significant change to the applicable requirements that has occurred since the Title V permit was first issued was the addition of the NESHAP for MSW Landfills to Table IV-A. The Statement of Basis for Applications # 10393 describes the applicability determination for the S-1 Keller Canyon Landfill in detail.

District Permit Applications Included In This Proposed Permit:

This facility sends a large number of permit applications to the District every year. The most recent submittal (Application # 15304) concerns permit condition revisions related to the description and operation of the landfill gas collection system. The District's Engineering Evaluation for this application and the approved permit condition revisions are contained in Appendix C. All MFR Permit revisions that resulted from the District's approval of Application # 15304 are included in this proposed renewal permit. In addition, the District is proposing further revisions of Condition # 17309, Parts 16, 17, 18, 19, 20, and 31 to correct erroneous citations, to improve the readability of the conditions, and to make the gas collection system alteration and operating requirements consistent with the standard alteration and operating requirements conditions that the District has approved for other Bay Area landfill facilities.

KCLC has submitted applications to revise limits related to on-site vehicle travel for S-1 (NSR Application # 13652 and Title V Application # 13651). The District has not completed the evaluation of these applications yet. In the future, the Title V permit will be revised to incorporate any permit revisions that the District approves pursuant to these applications following the procedures in Regulation 2, Rule 6, Major Facility Review.

Changes to Permit, Section IV:

- Section IV is being modified by adding EPA's website address for the SIP standards.
- In Table IV-A, the amendment dates for BAAQMD Regulation 1 and BAAQMD Regulation 8, Rules 2 and 40 are being updated. Since the most recent revisions to these to rules involved changes to a definition and a description that had no impact on the applicability or execution of any of the S-1 specific requirements cited in Table IV-A, all cited sections of Regulation 8, Rules 2 and 40 remain federally enforceable.

- The District is adding BAAQMD Regulation 8-34-404 to Table IV-A, because the proposed permit condition revisions in Section VI (Condition # 17309, Part 19c) trigger these less than continuous operation provisions.
- The District is removing BAAQMD Regulation 11, Rule 14 from Table IV-A, because this requirement is temporary in nature and only applies to the landfill facility as a whole rather than to the waste disposal operation itself. Rule 14 is more appropriately characterized as a generally applicable requirement and is already contained in Table III.
- In Table IV-A, the District is updating amendment dates for the following federal requirements: 40 CFR Part 60, Subparts A and WWW and 40 CFR Part 63, Subparts A and AAAA.
- As discussed below for Section VI, the District is proposing to rearrange and revise Parts 17-20 and to correct the basis of Part 31. These changes are reflected in Table IV-A by deleting Parts 17-20 and replacing them with new descriptions of Parts 17-20 and by correcting the basis of Part 31.
- The District is deleting the footnote to Table IV-A, because it is not necessary. The applicability of SIP requirements is discussed elsewhere in the MFR permit.

V. Schedule of Compliance

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

"409.10 A schedule of compliance containing the following elements:

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

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

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

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

Changes to Permit, Section V:

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

VI. Permit Conditions

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and

enforceability. Each permit condition is identified with a unique numerical identifier, up to five digits.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

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.

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

Conditions that are obsolete or that have no regulatory basis have been deleted from the permit.

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.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arose from the District's Toxic Risk Management Policy and that were imposed prior to adoption of Regulation 2, Rule 5 NSR for Toxic Air Contaminants.

Under previous Title V permit applications, parameter monitoring was added for each abatement device. Additional monitoring was added, where appropriate, to assure compliance with the applicable requirements.

The District is proposing to modify BAAQMD Condition # 17309, Parts 16-20 and Part 31. As discussed below and in Appendix C, these permit condition revisions will: remove an unnecessary citation; improve the readability of the conditions; clarify authority to construct,

record keeping, and notification requirements; add less than continuous operation provisions for individual landfill gas collection system components; and correct a basis. All proposed changes to Parts 16-20 and Part 31 are marked with strike-through and underline formatting in the proposed permit.

The proposed changes to each part of Condition # 17309 are explained in more detail below.

Changes to Permit, Section VI:

- Condition # 17309, Part 16: The District is deleting the following text from Part 16h: "... that are required to be operating continuously pursuant to Part 20a." This text is being removed because it is unnecessary and potentially contradictory with the revised collection system operating requirements in Part 19.
- Condition # 17309, Parts 17-20: The District is rearranging these parts to improve readability. The original Part 17 requirement to vent all collected gases to the flares is being moved to Part 20. The original Part 18 requirement to operate the gas collection system continuously is being moved to Part 19a. The original Part 19 semi-annual report requirement is being moved to Part 17. The original Part 20 well installation and design provisions are being moved to Part 18 except that the alternative wellhead standards in the original Part 20c are being moved to Part 19b (these are more appropriately characterized as operating requirements).
- Condition # 17309, Part 18: In addition to rearranging the condition text, the District is clarifying the Authority to Construct requirements and component replacement definition by adding subparts 18b(ii and iii). The District is improving the notification and record keeping procedures related to collection system component installations by adding subparts 18b(iv and vi). The District is adding new notification and record keeping procedures for component decommissioning activities to subparts 18b(v and vii). These condition revisions are discussed in Appendix C. The District is proposing additional revisions to the condition revisions approved pursuant to Application # 15304 in order to use standardized text that has been approved for other facilities subsequent to the District's approval of the Application # 15304 condition changes.

- Condition # 17309, Part 19: As discussed above, the District is consolidating all of the landfill gas collection system operating requirements under Part 19. Per the Applicant's request, the District is removing 12 wells from the list of components that are subject to alternative wellhead standards, which is now contained in Part 19b(i). The District is also incorporating permit condition changes approved pursuant to Application # 15304 (see Appendix C) that will allow the temporary disconnection of a few components from the gas collection system. Less than continuous operation of individual collection system components is allowed by Regulation 8-34-404. Specifically, Part 19c will allow less than continuous operation for up to five components at any one time and for up to 120 days per year for each component. This constitutes less than 6% of the total collection system components, and neighboring components will continue to collect some of the gas generated in the vicinity of a disconnected component. Consequently, these changes are not expected to impact the overall effectiveness of the landfill gas collection system, but will give the operator additional flexibility when problems arise with individual components. For instance, these provisions will to allow the facility shut down a damaged well until repairs can be made or to shut down a well to evaluate the feasibility of permanently decommission that well. Parts 20c(iv and v) require additional component leak monitoring and records to verify that these temporary component disconnections are not causing leaks.
- Condition # 17309, Part 31: The District is correcting the basis of Part 31 by replacing "NSPS" with the correct citation: "40 CFR 60.754(d)."

VII. Applicable Limits and Compliance Monitoring Requirements

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

The District has reviewed all monitoring and has determined that the existing monitoring is adequate. The tables below contain only the federally enforceable limits for which there is no monitoring in the applicable requirements. The District has examined the monitoring for other limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance. Calculations for potential to emit will be provided in the discussion when no monitoring is proposed due to the size of a source.

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

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

SO_2 Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-1 and A-2 Landfill Gas Flares	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes, AND ≤ 0.25 ppm for 60 minutes, AND ≤0.05 ppm for 24 hours	None

SO_2 Discussion:

Potential to Emit Calculations for the A-1 and A-2 Landfill Gas Flares:

Maximum potential SO_2 emissions are based on the maximum permitted total reduced sulfur compound concentration of 300 ppmv as H_2S from BAAQMD Condition # 17309, Part 34 and the maximum permitted landfill gas usage limits in BAAQMD Condition # 17309, Part 35 (636,852 MM BTU/year for A-1 and 665,760 MM BTU/year for A-2). All calculations assume that the landfill gas contains 50% methane with an HHV of 497 BTU/scf LFG and that the standard volume of gas at 70 °F is 387 scf/lbmol. The calculation equations are shown below for each flare.

A-1 Landfill Gas Flare:
(636,852 MM BTU/year)*(1E6 BTU/MM BTU)/(497 BTU/scf LFG)*(300 scf H_2S/1E6 scf LFG)/(387 scf H_2S/1 lbmol H_2S)*(64.06 pounds SO_2/1 lbmol H_2S)/(2000 lbs SO_2/ton SO_2)
= 31.8 tons SO_2/year

A-2 Landfill Gas Flare:
(665,760 MM BTU/year)*(1E6 BTU/MM BTU)/(497 BTU/scf LFG)*(300 scf H_2S/1E6 scf LFG)/(387 scf H_2S/1 lbmol H_2S)*(64.06 pounds SO_2/1 lbmol H_2S)/(2000 lbs SO_2/ton SO_2)
= 33.3 tons SO_2/year

BAAQMD Regulation 9-1-301: This facility is subject to federally enforceable limits that will ensure compliance with the Regulation 9-1-302 gas stream emission limit of 300 ppmv of SO_2 in the exhaust from each flare. Based on modeling analyses conducted at another landfill site, sources complying with the Regulation 9-1-302 limit are not expected to result in an excess of the ground level concentration limits listed in Regulation 9-1-301. Monitoring for ground level SO_2 concentrations in addition to the existing quarterly landfill gas monitoring, annual source testing, and record keeping requirements would not be appropriate.

PM Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-1 and A-2 Landfill Gas Flares	BAAQMD 6-310	0.15 grains/dscf	None

PM Discussion:

Potential to Emit Calculations for the A-1 and A-2 Landfill Gas Flares:

Maximum permitted PM emissions for A-1 were based on the AP-42 emission factor for landfill gas fired flares (17 lbs PM_{10}/MM dscf of methane). For A-2, the maximum permitted PM emissions were determined based on the flare manufacturer's guarantee of: 0.001 lbs/hr/scfm LFG. These factors are converted to units of lbs/MM BTU and grains/dscf of exhaust as shown below. All calculations assume that the landfill gas contains 50% methane with an HHV of 497 BTU/scf LFG and that this landfill gas produces 4.773 sdcf of exhaust at 0% oxygen per scf of landfill gas burned.

A-1 Landfill Gas Flare:
(17 lbs PM_{10}/MM dscf CH_4)*(1 MM dscf CH_4/1E6 scf CH_4)*(0.50 scf CH_4/scf LFG)/
(497 BTU/scf LFG)*(1E6 BTU/MM BTU) = 0.0171 lbs PM_{10}/MM BTU

(636,852 MM BTU/year)*(0.0171 lbs PM_{10}/MM BTU)/(2000 lbs PM_{10}/ton PM_{10})
= 5.4 tons PM_{10}/year

(0.0171 lbs PM_{10}/MM BTU)*(7000 grains PM/lb PM)/(1E6 BTU/MM BTU)*
(497 BTU/scf LFG)/(4.773 sdcf exhaust/scf LFG) = 0.013 grains/dscf exhaust at 0% O_2

A-2 Landfill Gas Flare:
(0.001 lbs PM_{10}/hr-scfm LFG)/(60 min/hr)/(497 BTU/scf LFG)*(1E6 BTU/MM BTU)
= 0.0335 lbs PM_{10}/MM BTU

(665,760 MM BTU/year)*(0.0335 lbs PM_{10}/MM BTU)/(2000 lbs PM_{10}/ton PM_{10})
= 11.2 tons PM_{10}/year

(0.0335 lbs PM_{10}/MM BTU)*(7000 grains PM/lb PM)/(1E6 BTU/MM BTU)*
(497 BTU/scf LFG)/(4.773 sdcf exhaust/scf LFG) = 0.024 grains/dscf exhaust at 0% O_2

BAAQMD Regulation 6-310: Regulation 6-310 limits filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume. As shown above in the potential to emit calculations for these sources, the flares will emit less than 0.03 gr/dscf of exhaust at 0% oxygen. The actual flare exhaust will contain at least 10% O_2. The ratio of exhaust volumes for 10% O_2 versus 0% O_2 is 1.9:1. Therefore, the grain loading in the actual flare exhaust will be: <0.02 gr/dscf of exhaust at 10% oxygen, which is less than 14% of the limit. Since the Regulation 6-310 grain loading limit is far above any expected PM emissions and total potential PM emissions from the flares are fairly low, it would not be appropriate to add periodic monitoring for this standard.

POC Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Keller Canyon Landfill	BAAQMD 8-40-117	Soil Contaminated by Accidental Spillage of ≤ 5 gallons of Liquid Organic Compounds	None

POC Discussion:

Potential to Emit Calculations for S-1: During the aeration of soil, all organic compounds are assumed to be emitted into the atmosphere. For a maximum spill volume of five gallons and an average density for organic liquids of 7.0 pounds/gallon. The maximum potential to emit per aeration event is:
(5 gals/event)*(7.0 pounds POC/gal)/(2000 pounds POC/ton POC) = 0.018 tons of POC/event
The aeration of soil contaminated by small spills is expected to be a rare occurrence (no more than once per year). Therefore the annual potential to emit associated with BAAQMD 8-40-117 is 0.02 tons/year of POC.

BAAQMD 8-40-117: If this facility plans to employ the Regulation 8-40-117 exemption to allow the aeration of soil that has been contaminated by a spill, the spill volume cannot exceed five gallons. For such rare and unpredictable aeration events, it may be difficult to obtain accurate records of spill volumes and maintaining such records would be burdensome. In addition, the maximum potential emissions from such an event are very small (0.02 tons/year of POC). Since the likelihood of non-compliance is low and the consequences of non-compliance are insignificant, it would not be appropriate to add periodic monitoring for this spill volume limit.

Changes to Permit, Section VII:

- A note is being added at the beginning of the section to clarify that this section is a summary of the limits and monitoring, and that in the case of a conflict between Sections I-VI and Section VII, the preceding sections take precedence.
- In Table VII-A, the District is correcting the permit condition citations based on the condition rearrangement changes for Parts 17-20 that are discussed above for Section VI.
- In Table VII-A, the District is adding and revising text in order to clarify the applicability of the wellhead limits, a well shutdown limit, an SO_2 limit, and the TRS limit.
- In accordance with the permit revisions discussed above for Section VI that will allow temporary vacuum disconnections for individual collection system components, the District is adding to Table VII-A: (a) limits on the number of components, (b) limits on the duration of the disconnection time, and (c) additional component leak monitoring requirements, which will apply only to temporarily disconnected collection system components.
- In Table VII-A, the District is deleting the limits that derived from Regulation 11, Rule 14 requirements, because the District is removing these limits from Table IV-A.
- In Table VII-B, the District is correcting the description of the BAAQMD 6-301 opacity limit by adding the appropriate time reference: "Ringelmann No. 1 for 3 minutes in any hour".
- In Table VII-B, the District is adding symbols ($\leq$) to clarify that all limits in Table VII-B are maximum limits.

VIII. Test Methods

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

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

Changes to Permit, Section VIII:

- The introductory text to Section VIII is being corrected.
- In Table VIII, the District is making editorial revisions to the descriptions for several requirements to improve the clarity of these descriptions and to identify the applicable pollutant if it is missing.
- The District is removing Regulation 11, Rule 14 from Table VIII, because this rule is no longer a source-specific requirement.
- The District is correcting several citation references for consistency with the Section VI permit condition revisions concerning the rearrangement of Parts 17-20.

- Condition # 17309, Part 19c requires additional component leak monitoring to verify that temporarily disconnecting the component will not result in leaks. The necessary citation is added to Table VIII to reflect that the existing component leak test procedure should be used for these additional monitoring requirements.

IX. Permit Shield:

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

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

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

Changes to Permit, Section IX:

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

X. Revision History

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

Changes to Permit, Section X:

- The District is adding the permit revisions associated with this MFR Renewal Permit (Application # 14306) to Section X.

XI. Glossary

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

Changes to Permit, Section XI:

- The District is updating the Section XI Glossary by clarifying explanations and adding numerous new terms.

XII. Applicable State Implementation Plan

Changes to Permit, Section XII:

- The District is deleting this section. The address for EPA's website is now found in Sections III and IV.

D. ALTERNATIVE OPERATING SCENARIOS

No alternate operating scenarios have been requested for this facility.

E. COMPLIANCE STATUS

A September 11, 2007 office memorandum from the Director of Compliance and Enforcement, to the Director of Permit Services, presents a review of the compliance record of Keller Canyon Landfill Company (Site # A4618). This review was initiated as part of the District evaluation of an application by renewal of a Title V permit and is contained in Appendix A.

The Compliance and Enforcement Division staff has reviewed the compliance history for Keller Canyon Landfill Company for the prior five-year permit term (September 20, 2001 through August 31, 2006) and has reviewed KCLC's Annual Compliance Certifications submitted between 2001 and 2006. Most recently, the owner certified that all equipment was operating in compliance on September 29, 2006. The Compliance and Enforcement Division staff found no on-going non-compliance and no recurring pattern of violations.

The Compliance and Enforcement Division staff also reviewed the compliance history for this site for the prior 12-month period (from August 23, 2006 through August 24, 2007). During this period, activities known to the District include:

- The District issued one Notice of Violation. One violation was issued on June 6, 2007 for an excess of the Regulation 8-34-303 surface emission leak limit (methane > 500 ppmv). This violation was returned to compliance before the end of the review period.
- The District received eighteen air pollution complaints alleging KCLC as the source of odors. None of these complaints were confirmed to the site.
- The District did not receive any notifications of a Reportable Compliance Activity (RCA) during this period.
- The facility is not operating under an Enforcement Agreement, a Variance, or an Order of Abatement.

The Compliance and Enforcement Division has determined that for the periods reviewed, KCLC was in intermittent compliance. However, there is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule.

F. DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT

The Title V permit application for renewal was originally submitted on March 6, 2006. Since March 6, 2006, the District issued a reopening (3-16-06), two significant revisions (3-16-06 and 9-20-06), an administrative amendment (10/4/06), and a minor revision (3/2/07). The March 2, 2007 version of the Title V permit for Site # A4618 is the basis for constructing the proposed Title V permit.

In application # 14306, the facility requested two administrative amendments: change the facility name to Keller Canyon Landfill Company and delete S-2 Wipe Cleaning Operation. These actions were accomplished on October 4, 2006 under Title V Application # 14795.

The District is proposing changes to several standard language sections, updates of regulatory amendment dates, inclusions of new generally applicable regulatory requirements, modifications of permit conditions, removal of non-applicable requirements, clarifications of numerous limits, changes to the glossary, and removal of Section XII. These revisions were not identified by the applicant.

APPENDIX A
BAAQMD COMPLIANCE REPORT

COMPLIANCE AND ENFORCEMENT DIVISION
OFFICE MEMORANDUM

September 11, 2007

TO: BRIAN BATEMAN, DIRECTOR, ENGINEERING DIVISION

FROM: KELLY WEE, DIRECTOR OF ENFORCEMENT

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

Keller Canyon Landfill Company (Site #A4618)

Background

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

Compliance Review

Staff reviewed KCLC's Annual Compliance Certifications for October 31, 2001 to October 24, 2006 and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for KCLC for August 23, 2006 through August 24, 2007. During this period KCLC's activities known to the District include:

> The District issued one Notice of Violation. The violation was issued on June 6, 2007 for excess surface emissions of methane > 500 ppmv limit as specified by District Regulation 8-34-303. The violation returned to compliance before the end of the review period.
>
> The District received eighteen air pollution complaints alleging KCLC as the source. None of the eighteen complaints were confirmed to the site.

The District received no notifications of a Reportable Compliance Activity (RCA) during this review period.

There are no enforcement agreements, open variances, or open abatement orders for KCLC.

Conclusion

The Compliance and Enforcement Division has made a determination that for the five year period KCLC was in intermittent compliance. There is no evidence of on-going non-compliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule.

APPENDIX B
GLOSSARY

ACT
Federal Clean Air Act

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

API
American Petroleum Institute

ARB
Air Resources Board (same as CARB)

ASTM
American Society for Testing and Materials

ATC
Authority to Construct

ATCM
Airborne Toxic Control Measure

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

C1
An organic chemical compound with one carbon atom, for example: methane

C3
An organic chemical compound with three carbon atoms, for example: propane

C5
An Organic chemical compound with five carbon atoms

C6
An Organic chemical compound with six carbon atoms

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CCR
California Code of Regulations

CEC
California Energy Commission

CEQA
California Environmental Quality Act

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

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

CH4 or CH_4
Methane

CO
Carbon Monoxide

CO2 or CO_2
Carbon Dioxide

CT
Combustion Zone Temperature

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

District
The Bay Area Air Quality Management District

E 6, E 9, E 12
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EG
Emission Guidelines

EO
Executive Order

EPA
The federal Environmental Protection Agency.

ETP
Effluent Treatment Plant

Excluded
Not subject to any District Regulations.

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

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

FR
Federal Register

GDF
Gasoline Dispensing Facility

GLM
Ground Level Monitor

grains
1/7000 of a pound

H2S or H_2S
Hydrogen Sulfide

H2SO4
Sulfuric Acid

H&SC
Health and Safety Code

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by both 40 CFR Part 63, and District Regulation 2, Rule 5.

Hg
Mercury

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

KCLC
Keller Canyon Landfill Company

LFG
Landfill gas

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

Long ton
2200 pounds

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

MAX or Max.
Maximum

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

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MSW
Municipal solid waste

MTBE
methyl tertiary-butyl ether

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPs
National Emission Standards for Hazardous Air Pollutants. Contained in 40 CFR Part 61.

NMHC
Non-methane Hydrocarbons (same as NMOC).

NMOC
Non-methane Organic Compounds (same as NMHC).

NOx or NO_x
Oxides of nitrogen.

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

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of air pollutants for which the District is classified "non-attainment". Mandated by Title I of the Clean Air Act and implemented by 40 CFR Parts 51 and 52 as well as District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets at a specified ratio for the emissions from a new or modified source and any pre-existing cumulative increase minus any onsite contemporaneous emission reduction credits. Applies to emissions of POC, NO_x, PM_{10}, and SO_2.

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

POC
Precursor Organic Compounds

PM
Total Particulate Matter

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

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

PV or P/V Valve
Pressure/Vacuum Valve

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

RMP
Risk Management Plan

S
Sulfur

SCR
A "selective catalytic reduction" unit is an abatement device that reduces NOx concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NOx compounds to nitrogen gas.

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

SO2 or SO_2
Sulfur dioxide

SO3 or SO_3
Sulfur trioxide

SSM
Startup, Shutdown, or Malfunction

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

TAC
Toxic Air Contaminant (as identified by CARB)

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

therm
100,000 British Thermal Unit

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

TOC
Total Organic Compounds includes all NMOC plus methane (same as THC).

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Policy

TRS
Total Reduced Sulfur, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to, hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO_2 that will be present in the combusted fuel gas, since sulfur compounds are converted to SO_2 by the combustion process.

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VMT
Vehicle Miles Traveled

VOC
Volatile Organic Compounds

Symbols:

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

Units of Measure:

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

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

APPENDIX C

ENGINEERING EVALUATION FOR APPLICATION # 15304

ENGINEERING EVALUATION

Keller Canyon Landfill Company; Site # A4618

APPLICATION # 15304

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. The current permit includes the following equipment: S-1, S-3, A-1, and A-2 (under construction).

The S-1 Keller Canyon Landfill is an active Class II MSW landfill that is equipped with a continuously operated landfill gas collection system. The landfill is currently permitted to accept a maximum 3500 tons/day of refuse and is permitted to dispose of 38.4 million tons of decomposable waste in the landfill. As of June 30, 2006, the landfill contained 8.48 MM tons of decomposable waste. In addition to MSW, this site is allowed to accept designated wastes including petroleum-contaminated soils. From July 2005-June 2006, KCLC reported accepting 26,682 tons of contaminated soil.

All collected landfill gas is currently vented to the A-1 Landfill Gas Flare. This flare has maximum permitted capacities of 1744.8 MM BTU/day and 636,852 MM BTU/year and can process about 2438 scfm of landfill gas. For July 2005-June 2006, KCLC reported that A-1 burned an average of 1035 scfm of landfill gas. KCLC holds an Authority to Construct for a second flare (A-2 Landfill Gas Flare) that is capable of burning up to 76 MM BTU/hour of landfill gas (about 2500 scfm). This second flare is under construction.

This facility also has a Yard and Green Waste Stockpile (S-3) that is permitted to accept up to 70,200 tons/year of waste material for recycling. For July 2005-June 2006, KCLC reported that S-3 accepted 0 tons/year of materials.

Current Request:

KCLC submitted Application # 15304 to request a Change of Conditions that would allow the facility to make various modifications to the landfill gas collection system on an as needed basis. Initially, KCLC requested to be allowed to decommission up to 40 gas collection wells after notifying the District (7 days in advance) of the specific wells that will be decommissioned. In April 2007, KCLC also requested to install up to 11 new wells, to install 2 additional perimeter well manifold stations, and to replace up to 8 wells. The list of currently installed landfill gas collection wells (which are each required to be operated continuously pursuant to Regulation 8-34-301.1) is identified in Condition # 17309, Part 20a. The authorized gas collection system modifications are identified in Part 20b.

B. EMISSIONS

Maximum permitted emissions from landfills that are related to the waste decomposition process are determined using empirical equations and site specific factors including: the maximum permitted decomposable waste capacity for the site, historical and projected waste disposal rates, site specific landfill gas constituent data, an assumed landfill gas collection system capture efficiency, and maximum

allowable emission rates from the authorized control devices. The District evaluates the efficacy of each site's landfill gas collection system design through the permit application process to ensure that the overall landfill gas collection system is adequate and will achieve the minimum landfill gas capture efficiency that was assumed for the site and will prevent surface leaks in excess of the Regulation 8-34-303 leak limit. Any modifications to the landfill gas collection system design that are authorized by the District are intended to ensure that the landfill gas collection system will continue to adequately control the landfill gas from a site and will not result in any emission increases for a site. The potential impacts of the specific collection system modifications that are proposed for this site are discussed in more detail below.

Since the waste decomposition process generates landfill gas continuously, operators must collect this landfill gas continuously in order to prevent excessive surface leaks. Continuous landfill gas collection is accomplished by continuously operating a vacuum system, by balancing the amount of vacuum that is applied to each particular well, and by appropriately distributing the wells throughout all of the decomposable waste areas. Each particular well and vacuum level is expected to be capable of controlling the landfill gas that is generated by a particular volume of refuse. The type of waste, type of cover material, compaction practices, moisture content of the waste and cover materials, and many other physical factors can influence the size and shape of the volume of waste that can be controlled by any particular well and vacuum level combination. Since the factors affecting gas transport within the waste can change throughout the volume of the landfill, the gas collection system must be designed conservatively with overlapping areas of expected vacuum influence to ensure that a sufficient amount of landfill gas will be captured. These gas transport factors and the gas generation rate in any particular waste area will also change over time (seasonally and from year to year). Consequently, the vacuum system must be frequently evaluated and rebalanced to ensure adequate landfill gas capture rates for each well.

Regulation 8, Rule 34 requires continuous operation for each and every component that is part of the landfill gas collection system. Although this rule contains provisions that allow an operator to temporarily disconnect a few wells from the vacuum system (see Sections 113, 116, 117, 404, and 414), a temporary well shut down is sometimes not the appropriate course of action for the problem encountered in the field. Instead, the appropriate course of action may be a permanent shut down of the damaged or improperly functioning well. Permanent changes to the list of landfill gas collection system components that are subject to the continuous operation provisions require an Authority to Construct (such changes are generally alterations that do not result in any emissions changes) and are typically handled through the permit application process. However, due to the changeable nature of landfill operations, the operators occasionally need to disconnect individual landfill gas collection well from the vacuum system on short notice in order to extinguish a fire, to isolate a damaged well, or to prevent non-compliance with other applicable requirements (such as wellhead limits). In addition, the temporary shut down times allowed under the Regulation 8, Rule 34 exemptions (maximum shut down time of five consecutive days for each individual well) and repair schedules (up to 120 days, but only if the collection system is expanded) do not always provide sufficient time for the operator to determine and implement the appropriate course of action. To address this need to quickly respond to the variety of problems that may be encountered in the field in a more expedited manner, Keller Canyon Landfill Company has requested permit condition revisions that would allow them to quickly decommission landfill gas collection wells from the vacuum system.

As explained earlier, landfill gas collection systems that are designed to meet the Bay Area's stringent Regulation 8, Rule 34 standards must have gas collection wells with overlapping areas of influence. As a result of this conservative design feature, neighboring wells that are operating under vacuum can usually

provide sufficient vacuum to a nearby refuse volume (which was previously controlled by a decommissioned well) long after a well has been shut down. The landfill gas generated by that refuse volume will travel to a different well, but it will still be captured by the collection system. Therefore, shutting down a few landfill gas collection wells in different areas of the landfill is not expected to result in any emission increases.

On the other hand, if too many wells in one single area are shut down or too many wells are shut down at one time, the remaining collection system wells will likely not have a sufficient influence on the refuse volumes near the decommissioned wells to gather all of the landfill gas generated in these distant refuse volumes. In this case, the landfill gas collection system would not achieve the minimum capture efficiency that was assumed for the emission rate calculations and emission increases will occur. To address these potential excess emission concerns, KCLC proposed to notify the District of each planned well shutdown event at least seven days in advance. This notice would identify the particular well or wells that would be either be temporarily or permanently shut down and would provide justification for the need to disconnect the well from the vacuum system. This notification would give the District engineering staff an opportunity to review the proposed well shut downs to ensure that the remaining gas collection system wells will be able to provide sufficient landfill gas collection in that area.

For this application, KCLC has specifically requested to be allowed to decommission up to 40 vertical wells. Currently, the gas collection system consists of 88 wells. The proposed wells for decommissioning represent 45% of the entire gas collection system. Permanently shutting down this many gas collection wells with no replacement wells would clearly impair the effectiveness of the gas collection system, would result in emission increases above the calculated emission rates for this site, and may jeopardize compliance with the Regulation 8, Rule 34 surface leak limit. Although the District has adopted permit condition language for other landfill sites that allows them to decommission wells on short notice, the District has never allowed a landfill site to decommission more than 20% of the gas collection system. For Keller Canyon Landfill, twenty percent of the currently installed gas collection system would be 18 wells. To ensure that decommissioning wells will not result in inadequate gas collection and for consistency with well shut down limitations that have been approved for other facilities, the District is proposing to limit the total number of wells that may be either temporarily or permanently decommissioned on short notice to 18 wells and is proposing to limit the number of wells that may be shut down during any three month period to no more than five wells. In addition, the District will require that KCLC notify the District of the planned shutdown event at least seven days in advance so that the District can verify that the proposed shutdown event will not involve too many wells in close proximity to each other and will not jeopardize compliance with Regulation 8, Rule 34.

The total number of authorized replacement wells will be the current number of authorized well replacements (15) plus KCLC's April 11, 2007 request for 8 additional well replacements, for a new total of 23 well replacements. If well these well replacements are conducted within the current Regulation 8, Rule 34 exemption limitations (total vacuum disconnection time does not exceed five days), the additional surface monitoring discussed above for permanent well decommissioning will not be required.

Well decommissioning requests from other sites were often accompanied by a request for an equal or greater number of new well installations, because the facility ultimately planned to replace the decommissioned well with a new well located nearby at a later date. In accordance with Condition # 17309, part 20b, KCLC is currently authorized to install up to 17 new wells in recently filled areas. The District is proposing to authorize installation of an equal number of new wells to the number of wells that may be permanently decommissioned (18 new wells) so that these decommissioned wells can be replaced at a later date, if necessary. The District is also including KCLC's April 11, 2007 request to install up to

11 new vertical wells in recently filled areas. Thus, the total number of additional wells authorized will now be (17+18+11) = 46 new wells.

The limitations on well decommissioning proposed above and the proposed monitoring and notification requirements will ensure that well shut downs will not be excessive and that the actively operating landfill gas collection wells will provide sufficient landfill gas capture for all currently controlled decomposable waste areas. The authorized installation of new wells and replacement wells will ensure that all waste areas can be quickly equipped with the devices necessary to capture landfill gas and to prevent surface leaks. The proposed condition revisions below are intended to ensure that the entire gas collection system is adequate to capture at least 75% of the gas that is generated by the landfill at all times. These proposed revisions will not result in any emission increases for the S-1 Keller Canyon Landfill.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application is for 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 modifications 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.

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. The NSPS for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) requires 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 and meets the designated facility criteria listed in 40 CFR § 60.32c(c). Therefore, a Title V permit is required pursuant to Regulation 2-6-304.

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 permit was revised on December 17, 2003, March 16, 2006, September 20, 2006, October 4, 2006, and March 2, 2007. The Title V renewal permit is undergoing internal review pursuant to Application # 14306. This current permit condition revision request arose out of comments submitted by the facility concerning the draft preliminary renewal permit. 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 # 14306.

Regulation 8, Rule 34:

Regulation 8, Rule 34, Sections 219 and 301.1 require that each landfill gas collection system component be operated continuously, where continuous operation is defined - in part - as each collection system component being maintained under vacuum. Many types of inspection, maintenance, repair, or construction activities can trigger the need to either temporarily or permanently disconnect a landfill gas collection well from the vacuum system. Rule 34 has three ways of addressing the need to temporarily disconnect an individual well from the vacuum system: limited exemptions (Sections 113, 116, and 117), repair schedules (Section 414), and less than continuous operation provisions (Section 404). Excerpts from the most relevant sections of Regulation 8, Rule 34 are copied below.

The Rule 34 limited exemptions from 8-34-301.1 (Sections 113, 116, and 117) allow very short-term shut downs (no more than 5 days) and only allow vacuum disconnections for specific reasons. Sections 116 and 117 also limit the number of wells that may be temporarily shut down to no more than 5 wells (or 10% of the gas collection system, which ever is less). The Section 414 repair schedule allows wells to be temporarily disconnected from the vacuum system for longer periods of time (up to 120 days) and doesn't limit the number of wells that may be shut down at any one time. However, this repair schedule can only be invoked when the operator has discovered the problem and complied with the repair schedule monitoring, record keeping, and gas collection system expansion requirements. At the operator's request, the District has the authority, pursuant to the Section 404 less than continuous operation provisions, to approve additional temporary well disconnection allowances on a case-by-case basis. Permanently disconnecting one or more wells from the vacuum system requires an Authority to Construct and is handled through the permit application process.

This permit application involves permit condition changes that will allow the operator to either temporarily or permanently disconnect a few wells from the vacuum system shortly after notifying the District of the planned disconnections, the duration of the shut downs, and the reasons for the well disconnections. Currently, temporary well disconnections are only allowed for the specific instances that satisfy the limitations in Sections 113, 116, 117, or 414. The proposed revisions would also allow temporary disconnections of a few wells on a case-by-case basis under the provisions of Section 404, provided the operator demonstrates that these temporary shut downs will not result in wellhead excesses or excess surface leaks.

The proposed permit condition revisions will also allow the operator to permanently disconnect wells from the vacuum system after notifying the District about the anticipated well shut downs and the reasons that permanent decommissioning is necessary. This permanent well shut down allowance is not intended to prevent the operators from receiving a violation if one is warranted. Instead, the proposed well decommissioning allowance is intended to allow the operator to minimize the time needed to return the

landfill gas collection system to compliance, if the operator demonstrates that shutting down the malfunctioning well(s) will not result in excess surface leaks due to the inherent redundancy that is built into the gas collection system design for the facility.

The shut down of a well from the vacuum system followed by the replacement of that well at a later date (with a new well in substantially the same location) amounts to a temporary shutdown of an individual landfill gas collection system component. In some cases, a damaged well must be shut down to minimize excess emissions or to ensure proper operation of the control system even though a replacement well cannot be brought on-line in the time allowed by Section 117 and when Section 414 is not applicable (such as a case where the District and not the operator discovered the damaged well). If the operator can demonstrate that the temporary well shut will not result in excess surface leaks (because other nearby wells will collect the gas from this area), then this temporary shut down would be allowed pursuant to Section 404. The permit conditions will ensure that the number of wells allowed to be temporarily shut down pursuant to Section 404 is not excessive, will require the operator to submit sufficient information to satisfy the provisions of Sections 404.1-2, and will describe the operating, monitoring, and renewal requirements to meet the requirements of Sections 404.3-5.

Occasionally, operators find that the well field cannot be balanced without exceeding wellhead limits, especially oxygen values. The Section 414 repair schedule describes collection system expansion as the only allowable corrective action. However for such cases, permanently disconnecting a well from the vacuum system may be the appropriate corrective action instead of well field expansion. The proposed conditions will expressly allow a limited number of wells to be permanently decommissioned for reasons such as preventing wellhead excesses or when an operator finds (after temporarily disconnecting a damaged well) that the particular well was not necessary for the gas collection system to maintain compliance with the surface leak limit.

For these out of the ordinary temporary and/or permanent well shut downs, the District is proposing to require additional surface monitoring in the vicinity of the disconnected component, similar to the surface monitoring in Part 20c that is required for wells with high oxygen values, unless the decommissioned wells are replaced by new wells within one month. Both the temporary and permanent well disconnection will be subject to a seven day notification requirement that will give the District an opportunity to verify that the proposed shut downs are not excessive and not concentrated in a single area. A seven-day notice is consistent with Regulation 8-34-118.1 requirements for construction activities. This notification should include the following: the ID number for each well that will be shut down, a map showing the location of these wells, the reason that each well shutdown is necessary (provide wellhead monitoring data, surface leak test results, and repair attempts to date, if applicable), the expected shut down date for each well, and the expected shut down duration. These provisions and the proposed permit conditions will satisfy all related requirements of Regulation 8, Rule 34.

Relevant Excerpts From Regulation 8, Rule 34:

8-34-113 Limited Exemption, Inspection and Maintenance: The requirements of Sections 8-34-301, 303 and 305 shall not apply to solid waste disposal sites during inspection and maintenance of the landfill gas collection or emission control system provided that the following conditions are met:

113.1 Emission of raw landfill gas to the atmosphere is minimized during shutdown.

113.2 The gas collection and emission control systems are not shutdown for more than 240 hours in any calendar year. The duration of a gas collection system shutdown shall not exceed 5 consecutive days. For the purposes of determining consecutive days of shutdown, collection system startups lasting less than 12 hours shall be considered to be shutdown days....

8-34-116 Limited Exemption, Well Raising: The requirements of Sections 8-34-301.1, 301.2 and 305 shall not apply to individual wells involved in well raising provided all of the following conditions are met:

116.1 New fill is being added,

116.2 No more than five gas collection wells or ten percent of the gas collection wells of the landfill gas collection system, whichever number is less, are shut down at any time for well raising purposes. For the purposes of this section, a well shall be deemed shutdown if it has been disconnected from a vacuum source and is not meeting the requirements of Section 8-34-305,

116.3 A gas collection well is not disconnected from a vacuum source for longer than 24 consecutive hours unless fill is actively being placed or compacted in the immediate vicinity around the well...

8-34-117 Limited Exemption, Gas Collection System Components: The requirements of Sections 8-34-301.1, 301.2, and 305 shall not apply to individual landfill gas collection system components that must be temporarily shut down in order to repair the components, to connect new landfill gas collection system components to the existing system, to prevent or extinguish fires, or to perform construction activities meeting the requirements of Sections 8-34-118.1 through 118.9, provided the following requirements are met:

117.1 Existing gas collection system components are being repaired to maintain compliance with this Rule or are being shut down to prevent or extinguish fires,

117.2 New gas collection system components are required to maintain compliance with this Rule and are included in the most recent Collection and Control System Design Plan as specified in Section 8-34-408,

117.3 For other construction activities, the requirements of Sections 8-34-118.1 through 118.9 must be met,

117.4 No more than five gas collection wells or ten percent of the gas collection wells of the landfill gas collection system, whichever number is less, are shut down at any time, except in cases where wells are being shut down to prevent or extinguish fires. For the purposes of this section, a well shall be deemed shutdown if it has been disconnected from a vacuum source and is not meeting the requirements of Section 8-34-305,

117.5 No gas collection well may be disconnected from a vacuum source for longer than 24 consecutive hours, unless the operator receives prior written approval from the APCO for a longer well shutdown time. Under

no circumstances shall a gas collection well be disconnected from a vacuum source for longer than 5 consecutive days...

8-34-118 Limited Exemption, Construction Activities: The requirements of Sections 8-34- 303 shall not apply to the working face of the landfill or to areas of the landfill surface where the landfill cover material has been removed and refuse has been exposed for the express purpose of installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal systems, provided the following requirements are met:

118.1 The operator shall submit a construction plan in writing to the APCO at least seven calendar days prior to beginning any construction activities, unless the construction activity is urgently required. Appropriate reasons for urgent construction activities include, but are not limited to, preventing or extinguishing fires, minimizing emissions of raw landfill gas to the atmosphere or meeting the requirements of Sections 8-34-414 or 415...

8-34-219 Continuous Operation: A landfill gas collection system and emission control system shall be considered to be operated continuously when all existing gas collection wells are operating under vacuum while maintaining landfill gas flow with the collected landfill gas being processed by an emission control system or energy recovery device 24 hours per day.

(Adopted July 17, 1996)

8-34-301 Landfill Gas Collection and Emission Control System Requirements: Except as provided in Sections 8-34-110, 111, 113, 114, 116, 117, 121 and 122, an operator shall collect and process landfill gases through a gas collection system and emission control system installed in such a manner that the requirements of Sections 8-34-301.1 and 301.2 and either 301.3 or 301.4 are met:

301.1 The gas collection and emission control systems are operated continuously as defined in Section 8-34-219, unless the requirements of Section 8-34-404 are met; and ...

8-34-404 Less than Continuous Operation Petition: Any operator seeking to operate less than continuously shall submit a written petition to the APCO that contains the following:

404.1 The landfill gas flow rate and methane concentrations as measured for the entire system or as measured for individual gas collection wells or components for which less than continuous operation is being sought;

404.2 A map showing the locations of individual components; and

404.3 An operating, maintenance, and inspection schedule.

404.4 If the APCO grants written approval, such approval shall contain landfill gas flow rate, methane concentration, and operating conditions.

404.5 A less than continuous operation petition must be renewed every three years or whenever the information submitted pursuant to Section 8-34-404.1 changes.

A petition to operate the entire gas collection and emission control systems less than continuously will only be considered when a landfill is not generating enough landfill gas to operate the emission control system continuously.

(Adopted 11/17/93; Amended 7/17/96; 10/6/99)

8-34-414 Repair Schedule for Wellhead Excesses: In accordance with the provisions of 40 CFR 60.755(a)(3 and 5), any operator subject to the requirements of Section 8-34-305 shall meet the following requirements, if any excess of a limit specified in Sections 8-34-305.1, 305.2, 305.3, or 305.4 is detected.

414.1 The operator shall record the date, the excess value and the well identification number.

414.2 The operator shall initiate action to correct the excess within 5 calendar days of discovering the problem.

414.3 If the excess cannot be corrected within 15 days of the date that the problem was first discovered, the gas collection system shall be expanded to correct the excess.

414.4 If a gas collection system expansion is required pursuant to Section 8-34-414.3, the expansion shall be completed and all new wells shall be operating within 120 days of the date that the problem was first discovered.

(Adopted October 6, 1999)

Federal Requirements:

NSPS for MSW Landfills: The 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. The Administrator must approve the gas collection system design plan and any changes to this design plan, such as the permanent decommissioning of wells.

Subpart WWW requires continuous operation of the entire landfill gas collection system, except during start-up, shut-down, and malfunction events, provided these events do not exceed 5 consecutive days. This regulation also requires that the gas collection system operate with negative pressure at each wellhead (40 CFR Part 60.753(b)), but it does allow permanently decommissioned wells to have a static positive pressure. It does not specifically prohibit temporarily or permanently disconnecting a well from the vacuum system as long as these changes are authorized by the collection and control system design plan. Within the District, the BAAQMD is the administrator, and the permit application process constitutes the collection system design plan approval and modification process. Design plan changes, including well decommissioning, are acceptable as long as the changes will ensure that a sufficient density of collectors is in place to maintain compliance with the surface leak standard.

The monitoring requirements in the proposed permit condition revisions will ensure that temporary and permanent well disconnections will not result in surface leak excesses. Therefore, these proposed changes will ensure compliance with the NSPS for MSW Landfills.

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. The proposed permit conditions will identify procedures that KCLC must follow, if surface leaks are found in the vicinity of a decommissioned well.

D. PERMIT CONDITION REVISIONS

The District is proposing to modify Condition # 17309, Part 20, as indicated below.

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. The landfill gas collection system described below in Part 20a shall be operated continuously. Each ~~W~~wells~~s~~ 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 18a 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))
    a. The Permit Holder may temporarily disconnect a well from the vacuum system for up to 120 days, provided that all requirements of this subpart are satisfied. (Basis: Regulation 8-34-404)
        i. No more than 5 landfill gas collection wells may be temporarily disconnected from the vacuum system at any one time.
        ii. An individual well may not be temporarily disconnected from the vacuum system - pursuant to subpart 18a - more than once in a 12-month period.
        iii. Wells that are temporarily disconnected from the vacuum system in accordance with Part 18a continue to be subject to the component leak limit (Regulation 8-34-301.2), the surface leak limit (Regulation 8-34-303), and the associated quarterly monitoring requirements (Regulations 8-34-503 and 8-34-506). The Permit Holder shall also conduct component leak monitoring at each well subject to this subpart within seven days of disconnection from vacuum and again within 30 days of disconnection from vacuum. If a component leak is detected at the

well or a surface leak is detected within 15 meters of this well, the Permit Holder shall take all steps necessary to reduce the leaks below the applicable limits, including reconnecting the well to the vacuum system if no other corrective action measures are successful within the time frames allowed by Rule 34.

iv. Wells that are disconnected from the vacuum system are not subject to wellhead limits (Regulation 8-34-305 or Part 20c) or monthly wellhead monitoring requirements (Regulation 8-34-505).

v. For each well 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 well shut down 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.

(no changes to Part 19)

20. Well Installation and Design Parameters:

The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in subsection a below. Increasing or decreasing the number of wells or collectors or significantly changing the locations, depths or lengths of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement. (Basis: Regulations 8-34-303, 8-34-304, 8-34-305, 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 and # 15304. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components permanently decommissioned pursuant to Part 20b, as evidenced by start-up and shut-down notification letters submitted to the District.

Well Station	Number of Wells
A	12
E	12
K	12
L	6
M	9
O	16
Q	10

R 11

b. The Permit Holder has been issued an Authority to Construct to allow for the landfill gas collection system modifications described below ~~as of August 9, 2006~~. All collection system modifications shall comply with subparts b(i-vii) below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications # 14837 and # 15304. Wells installed or decommissioned pursuant to Part 20b shall be added to or removed from Part 20a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.

i. ~~———~~Install ~~4 to 17~~ up to 46 vertical gas collection wells.
~~——— Replace 15 existing vertical wells.~~

ii. ~~———~~Install ~~3~~5 wellhead stations that will provide flow rate control and monitoring points for recently installed wells.

iii. Replace 23 existing vertical wells, where replacement includes the shut down and capping of an existing well and the installation and start-up of a new well in essentially the same location. The well shut downs associated with these one-for-one well replacements are not subject to the additional monitoring requirements in subpart b(iv) below, if the replacements are accomplished in accordance with Regulation 8-34-117 and total vacuum disconnection time for each well replacement event does not 5 consecutive days. For well replacements, a single shut-down/start-up notice may be submitted to comply with subparts b(vi-vii), provided this notice contains all information required for each type of notice.

iv. Permanently decommission up to 18 vertical wells, provided no more than 5 wells are decommissioned during any 120-day period. After permanently decommissioning a well pursuant to this subsection, the Permit Holder shall comply with the additional requirements in subsection b(v).

v. For each well that is permanently decommissioned after [insert date of approval of this permit condition revision], the Permit Holder shall: record the date that each well was disconnected from the vacuum system, record the date that each well was permanently capped, maintain a map showing the location of each capped well, and identify the approximate radius of influence for each capped well prior to its shut-down. To demonstrate that permanently decommissioning a well will not cause surface emission leaks, 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 capped well but that are not more than 15 meters from the capped well. This additional surface emission monitoring shall begin no later than 30 days from the date that the

well was disconnected from vacuum and shall continue on a monthly basis. For each monitoring event, the Permit Holder shall: record the date the monitoring was conducted, identify the three surface monitoring locations, and record the total hydrocarbon concentration (ppmv as methane) measured at each of these three locations. This additional surface emission monitoring may be discontinued, if a new well is installed and begins operating within the radius of influence of the capped well, or if no excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of the capped well for at least six consecutive months. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected within a 15 meter vicinity of a capped well during a six consecutive month period, the Permit Holder shall follow all applicable requirements for recording and reporting this excess. If the operator discovers this surface leak excess, the operator may follow the Regulation 8-34-415 repair schedule for landfill surface leak excesses. If surface leaks are detected pursuant to three or more monitoring events within a six consecutive month period, the Permit Holder shall install a new well within the radius of influence of the capped well, and this new well must begin operating by the earlier of the following dates: within 120 days of the date that the first excess was discovered (if the three excess events are discovered within a single quarterly period), or within 60 days of detection of the third excess. All records shall be retained for at least five years from the date of entry.

vi. At least three days prior to initiating operation of a well installed pursuant to Part 20b, the Permit Holder shall submit a start-up notice to the District that contains the following information: the well ID number for each new well, the wellhead station for each well (if applicable), the anticipated initial start-up date for each new well, and a map showing the location of each new well (this map may show an approximate location for each new well, provided a new map showing an accurate location for all new wells is submitted to the District within six months of the initial start-up date for these new wells).

vii. At least seven days prior to permanently decommissioning a well pursuant to Part 20b, the Permit Holder shall submit a shut-down notice to the District that contains the following information: the well ID number for each well that will be shut down or replaced, the expected vacuum disconnection date for each well, the expected duration of the shut-down (if the decommission well will be replaced by a new well at a later data), a map showing the location of each well that will be shut down, and a discussion of the reasons that each well shut down is necessary (if relevant, provide wellhead monitoring data, surface leak

test results, repair attempts made to date, etc. to support these reasons). If a decommissioned well will not be replaced by a new well within 5 days, provide information to justify that decommissioning this well will not result in surface emission leaks.

c. Each landfill gas collection system component listed in Part 20a 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 c(i), and the Permit Holder complies with all of the additional requirements for that component, as identified in subparts c(ii-vii).

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.
EW-E011, EW-E027, EW-K015, EW-K016, EW-K018, EW-K022, EW-K028, EW-K034, EW-K035RD, EW-M002, EW-M003, EW-M004, EW-M005, EW-M006, EW-M007, EW-M008, EW-M009, EW-O005, EW-O007, EW-O013, EW-O014, EW-O015, 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 c(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 c(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 c(i) will not cause surface emission leaks, the Permit Holder shall conduct additional surface emission monitoring ~~in the~~ within a 15 meter vicinity of each component listed in subpart c(i) at the specific locations discussed below. For each component in subpart c(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 c(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 ~~in the~~ 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 ~~in the vicinity of~~ for that component.

vi. If one or more excesses of the Regulation 8-34-303 surface emission limit are detected ~~in the~~ 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 c(v) have been achieved or the repair and compliance restoration requirements of subpart c(vii) have been satisfied.

vii. If excesses of the Regulation 8-34-303 surface emission limit are detected ~~in the~~ within a 15 meter vicinity of a component for three or more monitoring events during a six consecutive month period, the subpart c(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 (~~in the vicinity of that component~~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.

(no changes to Parts 21-37)

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):

signed by Carol S.Allen — April 16, 2007
By: Carol S. Allen — Date
Senior Air Quality Engineer