

Bay Area Air Quality Management District

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October, 2003

**Permit Evaluation and
Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
Significant Revision**

**for
Sonoma County Central Landfill
Facility #A2254**

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Title V – Significant Revision

A. Background

The Sonoma County Central Landfill was issued a Major Facility Operating Permit (Title V Permit) on February 27, 2001. Since the initial issuance, the facility has requested that a number of changes be made; including changing the responsible official, expansion of the landfill, addition of new sources, modifications to the gas collection system, and the correction of outdated or erroneous information. The District is proposing to revise the Title V permit as follows:

- Change the Responsible Official from Edward J. Walker to David D. Knight.
- Increase the permitted capacity of the Landfill S-1.
- Add S-13 and S-14, Lean Burn Internal Combustion Engine Generator Sets.
- Revise and update standard text in permit.
- Update Generally Applicable Requirements.
- Update Federally Enforceable Requirements and remove future effective dates that have past in the Applicable Requirements for the Landfill S-1 (Table IV-A).
- Add the Applicable Requirements for Landfill Gas Flare A-2 to those for the Landfill in Table IV-A and delete the existing separate Applicable Requirements table for the Flare (Table IV-D).
- Transfer the requirements of Regulation 11, Rules 1, 3, and 14 from Table IV-A to Table III, Generally Applicable Requirements.
- Add the future Applicable Requirements of the NESHAP for Municipal Solid Waste Landfills (40 CFR 63, Subpart AAAA) to Table IV-A.
- Group the Applicable Requirements for all of the Lean Burn Internal Combustion Engine Generator Sets into a single table (Table IV-B) and delete the existing Applicable Requirements table for IC Engines S-9 through S-12 (Table IV-C).
- Update Federally Enforceable Requirements and remove expired requirements and future effective dates that have past in the Applicable Requirements for the IC Engines (Table IV-B).
- Modify the permit conditions for the Landfill S-1 (Condition #4044) to account for the East Canyon expansion and new well construction.
- Remove part 20 from Permit Condition #4044, because Docket #2656 has been terminated.
- Add the new IC Engines S-13 and S-14 to Permit Condition #19933 (formerly #6117) and remove outdated text.
- Modify the emissions limits in Permit Condition #19933 as approved in Permit Application #6178.
- Add an exhaust gas temperature monitoring requirement for the IC engines to Permit Condition #19933 to outline how compliance with Regulation 8-34-509 “Key Emission Control System Operating Parameters” will be demonstrated.
- Combine the Applicable Limits and Compliance Monitoring Requirements for the A-2 Flare with those for the S-1 Landfill in Table VII-A and delete the existing Flare requirements in Table VII-D.
- Combine the Applicable Limits and Compliance Monitoring Requirements for all Landfill Gas Fired IC Engines into Table VII-B and delete Table VII-C.

- Remove outdated SIP requirements from Table VIII, Test Methods.

The proposed revisions include the expansion of the existing Landfill (S-1) and the addition of two new IC Engines (S-13 and S-14). These changes were made pursuant to District Permit Applications #19313 and #6178, the details of which are included in the attached Engineering Evaluation Reports. The potential increase of criteria pollutant emissions from these applications is summarized as follows:

Permit Application #	Pollutant Increase (tons/yr)				
	NOx	CO	POC	SO2	PM
19313	0.000	0.000	13.505	0.000	0.000
6178	17.582	46.152	5.275	2.198	6.593
Total	17.582	46.152	18.780	2.198	6.593

NOx and POC Offsets were provided by the District’s Small Facility Banking Account in accordance with Regulation 2-4-414 and California Health & Safety Code Section 42314(b).

This is a “Significant Permit Revision” in accordance with Regulation 2-6-226 for the following reasons:

1. Per Section 226.2, the East Canyon landfill expansion is a Significant Permit Revision because it is considered to be a modification under CFR 60 Subpart WWW “Standards of Performance for Municipal Solid Waste Landfills”.
2. Establishing a lower NOx emission limit for (8) existing IC Engine/Generator Sets at the facility so as not to trigger PSD modeling (Ref. Permit Application #6178) can be considered a case-by-case determination of an emission limit. Therefore, per Section 226.5, this action is a Significant Permit Revision.

B. Permit Content

The following is a brief explanation of the changes made to each section of the permit. The changes are discussed in the order in which they are presented in the permit.

I. Standard Conditions

The amendment date for various BAAQMD and SIP rules were updated or corrected.

II. Equipment

Table II A - Permitted Sources

The Maximum Design Capacity of the Landfill S-1 was changed from 19.8 million cubic yards and 12.0 million tons to 32.65 million cubic yards and 19.59 million tons to reflect the increased capacity from the East Canyon expansion. This expansion was approved by the District under Permit Application #19313.

Two new IC Engine/Generator Sets (S-13, and S-14) were added to the list of sources. District permits for these sources were approved under Permit Application #6178.

III. Generally Applicable Requirements

Changes to this section of the permit include updating the applicable requirements in Table III to reflect the current versions of the cited regulations, the addition of generally applicable requirements that were overlooked in the initial Title V permit, and the transfer of Regulation 11, Rules 1, 3, and 14 requirements from Table IV-A to Table III.

IV. Source-Specific Applicable Requirements

Routine changes to Section IV include updating the standard text, the addition of applicable requirements associated with newly permitted equipment, updating the version dates and federal enforceability status of the cited regulations to reflect recent SIP approvals, and removing “Future Effective Dates” that have since passed. Changes that may be considered non-routine were made as follows:

1. The future Applicable Requirements of the NESHAP for Municipal Solid Waste Landfills (40 CFR 63, Subpart AAAA) were added to the permit during this revision because they become effective as of January 16, 2004 and the current Title V permit does not expire until January 31, 2006. Therefore, putting these future effective requirements in the permit now saves the District from having to re-open the permit when the requirements go into effect.
2. The requirements for the Landfill Gas Flare A-2 were grouped with those of the Landfill S-1 in Table IV-A. This type of grouping has become the standard practice of the District for Landfill Title V permitting because many of the requirements are overlapping. Requirements that are specific to the Flare are so noted in the table.
3. The Applicable Requirements for all of the IC Engine/Generator Sets have been merged into Table IV-B. As a result of the expiration of the Limited Exemption for Energy Recovery Devices in Regulation 8-34-114 that applied only to S-4 through S-7 and the addition of the new sources S-13 and S-14 to Permit Condition #19933 (formerly #6117), all IC Engine/Generator Sets now have identical requirements. As a result of the consolidations, Table IV-C and Table IV-D have been deleted.
4. The Hazardous Pollutants requirements for Lead, Beryllium, and Asbestos Containing Serpentine found in Regulation 11, Rules 1, 3, and 14 were taken out of Table IV-A and placed in Table III Generally Applicable Requirements because while lead, beryllium, and asbestos containing serpentine may from time to time be present at the facility, there is no reason to suspect that these compounds are emitted from the landfill on an ongoing basis.
5. The Emission Guidelines requirements (40 CFR Part 60, Subpart Cc) and the requirements for the Approval and Promulgation of State Plans (40 CFR Part 62, Subpart GGG) were removed from Tables IV-A and IV-B because they no longer apply. Since the landfill was modified, this facility is now subject to the requirements of 40 CFR Part 60, Subpart WWW “Standards of Performance for Municipal Solid Waste Landfills”.

V. Schedule of Compliance

A minor change was made to this section to reflect the current standard text used by the District.

VI. Permit Conditions

The following modifications were made to the permit conditions of the Title V permit:

Permit Condition #4044 was modified to reflect the new maximum design capacity of the Landfill S-1, to update the number of landfill gas collection wells, to include the IC Engines S-13 and S-14 as landfill gas control devices, and to remove part 20, which is no longer relevant (i.e. Order for Abatement terminated on 7/24/97).

Permit Condition #6117 was renumbered as #19933 and modified as follows:

1. The IC Engines S-13 and S-14 were added to the conditions for the existing engines.
2. The NO_x emission limit was lowered from 78 ppmv @ 15% O₂ to 0.8 grams per horsepower hour (approximately 58 ppmv @ 15% O₂), and NO_x and CO limits are now expressed in terms of grams per horsepower hour to be consistent with the BACT standards.
3. Part 7 of the condition was replaced by a new condition to reflect the current organic compound removal efficiency requirements.
4. Part 8 was modified to remove outdated text regarding the initial source testing of the IC engines.
5. In accordance with Regulation 8-34-509, this facility is required to monitor a key operating parameter for the IC engines in order to demonstrate compliance with the NMOC destruction efficiency requirements of Regulation 8-34-301.4 on an ongoing basis. The Sonoma County Central Landfill has proposed monitoring and recording the exhaust gas temperature for each of the IC Engines at 15-minute intervals. The District is in agreement with this proposal and has added Part 11 to the conditions to make exhaust gas temperature monitoring a requirement of the permit. The facility is required to comply with this requirement following the annual source testing of the engines that will occur in December 2003.

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; all “underline” language will be retained.

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.

Changes made to this section of the permit generally reflect the changes to other parts of the permit that have previously been discussed, including the grouping of sources/abatement devices with similar or identical requirements and the deletion of two tables (Table VII-C and Table VII-D).

Except for the addition of the exhaust gas temperature monitoring requirement for the IC engines added to Condition #19933, the compliance monitoring requirements for this facility have not substantially changed from the initial Title V permit. The District deems that the current monitoring is adequate to provide a reasonable assurance of compliance.

VIII. Test Methods

The changes made to this section are routine and include the removal of outdated SIP 8-34 and SIP 8-40 required test methods and the addition of exhaust temperature monitoring.

IX. Permit Shield:

No changes were made to this section.

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APPENDIX A
BAAQMD ENGINEERING EVALUATION REPORTS

APPENDIX B
GLOSSARY

ACT

Federal Clean Air Act

APCO

Air Pollution Control Officer

ARB

Air Resources Board

BAAQMD

Bay Area Air Quality Management District

BACT

Best Available Control Technology

Basis

The underlying authority which allows the District to impose requirements.

CAA

The federal Clean Air Act

CAAQS

California Ambient Air Quality Standards

CAPCOA

California Air Pollution Control Officers Association

CEQA

California Environmental Quality Act

CFR

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

CO

Carbon Monoxide

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). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District

The Bay Area Air Quality Management District

dscf

Dry Standard Cubic Feet

EPA

The federal Environmental Protection Agency.

Excluded

Not subject to any District regulations.

Federally Enforceable, FE

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

FP

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

HAP

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

Major Facility

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

MFR

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

MOP

The District's Manual of Procedures.

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

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 Federal Clean Air Act, and implemented by 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 pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and

implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement

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

Phase II Acid Rain Facility

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

POC

Precursor Organic Compounds

PM

Particulate Matter

PM10

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

PSD

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

SIP

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

SO2

Sulfur dioxide

THC

Total Hydrocarbons (NMHC + Methane)

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 (NMOC + Methane, Same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TSP

Total Suspended Particulate

VOC

Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year