

Bay Area Air Quality Management District

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STATEMENT OF BASIS and PERMIT EVALUATION for RENEWAL of the MAJOR FACILITY REVIEW PERMIT

**for
Acme Fill Corporation
Facility #A1464**

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Application Number: 16969

September 2011

Renewal of Title V Permit

TABLE OF CONTENTS

A.	Background.....	3
B.	Facility Description	4
C.	Permit Content.....	6
I.	Standard Conditions	6
II.	Equipment	7
III.	Generally Applicable Requirements.....	10
IV.	Source-Specific Applicable Requirements.....	12
V.	Schedule of Compliance.....	16
VI.	Permit Conditions.....	17
VII.	Applicable Limits and Compliance Monitoring Requirements.....	25
VIII.	Test Methods	32
IX.	Permit Shield:	33
X.	Revision History:.....	34
XI.	Glossary:.....	33
XII.	State Implementation Plan:.....	34
D.	Alternate Operating Scenarios:.....	34
E.	Compliance Status:.....	34
F.	Differences between the Application and the Proposed Permit:	34
	APPENDIX A BAAQMD COMPLIANCE REPORT	36
	APPENDIX B COMPARISON OF ACTUAL EM ISSION CALCULATIONS.....	40
	APPENDIX C GLOSSARY	42
	APPENDIX D ENGINEERING EVALUATION FOR APPLICATION # 8371.....	51
	APPENDIX E ENGINEERING EVALUATION FOR APPLICATION # 9132	56
	APPENDIX F ENGINEERING EVALUATION FOR APPLICATION # 23071	64

Title V Statement of Basis

Acme Fill Corporation

Plant # A1464

Application # 16969

A. Background

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 New Source Performance Standards for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a new or modified landfill that is subject to this part and that meets the design capacity criteria to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV of this report, this facility is subject to this NSPS and the Part 70 permitting requirements because it meets the designated facility criteria listed in 40 CFR § 60.752(b).

Major Facility Operating permits (Title V permits) must meet specifications contained in Regulation 2, Rule 6, Major Facility Review (MFR). The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. 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 A1464.

This facility received its initial Title V permit on April 17, 2003. The permit has not been revised since initial issuance. Although the current permit expired on March 31, 2008, 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.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this Major Facility Review permit and determined that they are still valid and correct. This review included an analysis of applicability determinations for all sources, including those that

Renewal of Title V Permit

have been modified or permitted since the issuance of the initial Major Facility Review Permit. The review also included an assessment of all monitoring in the permit for sufficiency to determine compliance.

B. Facility Description

The Acme Fill Corporation (AFC) site (Facility #A1464) is a municipal solid waste disposal facility, located in Martinez, California, that has been in operation since 1949. The site is comprised of the following parcels: a 135-acre north parcel, an 87-acre east parcel, a 22-acre south parcel, and a 269-acre buffer zone/borrow area. A borrow area or borrow pit is an area of land where the overburden, consisting of unconsolidated rock, glacial debris, or other earth material overlying bedrock is extracted from the surface. Extraction occurs on a one-time basis or intermittently as need occurs, for use as fill materials by the extracting party in the form in which it is extracted. No milling is involved, except for the use of a scalping screen to remove large rocks, wood and trash. The material is used on land, which is relatively near the pit or borrow area, by the extracting party more for its bulk than its intrinsic qualities.

Of the 513 total acres of area, only the acreage from the north, east, and south parcels (244 acres) are permitted to accept waste. The south parcel is not addressed in this Title V permit since it is a discreet non-contiguous landfill located more than 1 mile from the north and east parcels and with less than 1,000,000 tons in place. Since the south parcel is closed and is not subject to NSPS or Emission Guidelines requirements for MSW Landfills or District regulations, it is not part of this stationary source (Site # A1464) and is not subject to Title V.

Permitted equipment for this facility include the landfill, which is equipped with a landfill gas collection system and an enclosed ground flare, a green waste grinding operation that is powered by a portable diesel engine, leachate treatment equipment, an emergency standby diesel generator set, and a water truck to control particulate emissions from the landfilling and waste recycling operations.

Currently the waste in place capacity of AFC is approximately 11,348,000 tons. According to permit Application 5630, AFC has been granted an increase in the total tons in place by an incremental 288,000 tons to a final 11,348,000 tons in place. The AFC was originally scheduled for closure in the year 2002. Due to Regional Water Quality Control Board directives, AFC is required to remain open to receive Class 3 wastes (non-hazardous, construction, and wood waste) until the final fill height is reached. The final fill height will be 75 feet, and the landfill will have an appropriate side slope angle that will to minimize surface water infiltration and subsequent contamination.

Presently the AFC site accepts only wood and green wastes, construction and demolition wastes and other inert waste material. AFC does not accept any VOC-laden soils or other similarly contaminated material. AFC no longer accepts household waste materials. The maximum daily waste acceptance rate remains 1500 tons per day. AFC plans to continue accepting waste at this landfill until it is filled to capacity (11,348,000 tons in place). AFC expects to reach this fill

Renewal of Title V Permit

capacity in approximately 2021. When the capacity is reached, the landfill will no longer accept waste materials of any kind, and will be closed.

Landfills generate landfill gas due to the waste decomposition process. The landfill gas contains methane and carbon dioxide (which are greenhouse gases: GHG) and small amounts of non-methane organic compounds (NMOC) and sulfur compounds. Many of the NMOCs are precursor organic compounds (POC), and many NMOCs and also toxic air contaminants (TACs) and hazardous air pollutants (HAPs). Hydrogen sulfide, a TAC, makes up about 95% or more of the sulfur compounds. District and EPA regulations require that landfill gas from larger landfills be continuously collected and controlled to reduce emissions of NMOCs to the atmosphere. These collection and control requirements also reduce GHG, TAC, and HAP emissions.

In accordance with these requirements, Acme Landfill (S-1) is equipped with a landfill gas collection system and landfill gas control systems. Landfill gas collection systems are perforated pipes that are buried in the refuse at numerous locations. For active collection systems, the perforated pipes are connected to blowers by solid pipes (referred to as laterals and headers). The blowers maintain a vacuum in the buried refuse and draw landfill gas into the perforated pipes. AFC's gas collection system currently includes a maximum of 70 vertical gas collection wells and 28 horizontal collectors. During 2009, AFC collected an estimated average of 1805 cfm of landfill gas from S-1.

The bulk of the collected landfill gas is compressed and sent to the Central Contra Costa Sanitary District (CCCSO) sewage treatment plant (Site # A0907) for use as a fuel for two boilers or two sewage sludge incinerators. It may also be delivered to the four microturbine generators at the Bulldog Gas & Power facility (Plant 13782) or abated on-site by the A-2 Landfill Gas Flare.¹ All of these combustion sources destroy most of the methane, NMOC, TAC, and HAP that are present in the landfill gas; however, landfill gas combustion operations also produce secondary emissions comprised of nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), formaldehyde, and acid gases such as hydrogen chloride (HCl) and hydrogen fluoride (HF).

At this site, AFC operates a Waste Recycler (S-10) and a diesel-fired IC Engine (S-9) that provides power to S-10. The waste recycler emits particulate matter (PM) and the engine emits combustion products including: GHG, NO_x, CO, SO₂, POC, PM, and diesel PM (a TAC).

The AFC site also includes a process for treating leachate, or runoff, from the landfill. This leachate contains small amounts of precursor organic compounds and toxic compounds and must be treated before it can be disposed of or discharged. The leachate process is identified at S-200, and consists of the following components: a 13,000 gal flow equalization tank, a 3,000 gallon

¹ The Central Contra Costa Sanitary District (CCCSO) sewage treatment plant (Site # A0907) and Bulldog Gas & Power facility (Plant # 13782) are separate companies from the Acme Landfill Corporation. The three companies have different owners and different SIC codes. The applicable requirements for the boilers and sludge incinerators mentioned above are discussed in detail in the MFR Permit for Site # A0907. The Bulldog Gas & Power facility (Plant # 13782) has low emissions and is not a designated facility. Therefore, the Bulldog Gas & Power facility is not subject to Title V permitting requirements.

Renewal of Title V Permit

contact tank, 2 aeration tanks at 13,000 gallon each, one secondary clarifier, a 700 gallon sludge thickening tank, one slurry tank with mixer, a mechanical filter press for sludge dewatering, and one 6,000 gallon caustic storage tank. Although the leachate treatment process is a permitted source, emissions are not significant, estimated at less than 1 pound/day of VOC. Potential emissions are reduced through the biological processes that occur in the leachate treatment plant. Some VOC emissions occur through normal weathering of the liquid streams and also through the air contacting process, the purpose of which is to provide oxygen for the biological reactions to occur.

This facility also has an Emergency Standby Diesel Engine - Generator Set (S-201) that provides power to leachate treatment operations in the event of a power failure. This engine emits combustion products including: GHG, NO_x, CO, SO₂, POC, PM, and diesel PM.

A comparison of actual emission calculations for each source at the facility as of 2011 and 2003 is shown in Appendix B.

C. Permit Content

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

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, and BAAQMD Regulation 2-6-409, Permit Content, which dictate 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.

Renewal of Title V Permit

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 toxic NSR rule: BAAQMD Regulation 2, Rule 5 “New Source Review for Toxic Air Contaminants” to Standard Condition 1.A, which was adopted since the initial Title V permit. However, this rule is not federally enforceable.
- SIP Regulation 2, Rule 6 – Permits, Major Facility Review has been added to Standard Condition 1A.
- 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 issuance 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.

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 this table but will have an “S” number. An abatement device

Renewal of Title V Permit

that is also a source (such as a thermal oxidizer that burns fuel) will have an “A” 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 permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

The sources at the AFC site, which are addressed in this permit are as follows (identified by an S number):

- S-1 Acme Landfill with Gas Collection System
- S-10 Waste Recycler
- S-200 Landfill Leachate Treatment Facility
- S-201 Emergency Standby Diesel Engine – Generator Set

The abatement devices are as follows (identified by an A number):

- A-1 Water Truck
- A-2 Landfill Gas Enclosed Flare

Equipment exempt from Title V requirements:

- S-9 IC Engine (powering S-10 Waste Recycler)

Differences between the Initial Title V Permit and the Current Sources:

S-201 Emergency Standby Diesel Engine – Generator Set:

The District approved a permit to operate for a new source (S-201 Emergency Standby Diesel Engine – Generator Set) on December 5, 2003 pursuant to Application #8371. This small engine (80 bhp) was installed at this site in 1996. At that time, emergency standby engines were excluded from District regulations. District permitting regulations were amended in 2000 and 2001 and this source now requires a District permit to operate. Consequently, this engine was permitted as a loss of exemption source. The Engineering Evaluation for Application #8371 (see Appendix D) contains a detailed discussion of the emissions and requirements for S-201.

Since this source was first permitted, the California Air Resource Board (CARB) adopted and amended an Airborne Toxic Control Measure (ATCM) that applies to S-201, and the District amended Regulation 9, Rule 8, which now applies to S-201. These non-federally enforceable

Renewal of Title V Permit

requirements have been included in this Title V renewal permit. In addition, the District is proposing to amend the permit conditions that were initially approved for S-201 to reflect these regulatory changes.

S-9 IC Engine (powering S-10) and S-10 Waste Recycler:

This permit renewal action includes changes to the waste recycling operations at this site. The S-5 Green Waste Tub Grinder and the S-4 IC Engine that powered S-5 were replaced by a new Waste Recycler (S-10) and a new IC Engine (S-9). The District approved the Authority to Construct for the new equipment on May 24, 2004 pursuant to District Permit Application #9132. The new equipment increased the waste processing capacity from 30 tons/hour to 80 ton/hour. The engine size increased from 503 bhp to 860 bhp. The Engineering Evaluation for Application #9132 (see Appendix E) contains a detailed discussion of the emissions and requirements for S-9 and S-10.

By Regulation 2 Permits, Rule 6 Major Facility Review, Section 114 Exemption, Non-Road Engines: Engines as defined by 40 CFR Part 89 are exempt from Major Facility Review requirements. Source 9 IC Engine is a non-road engine as defined by 40 CFR Part 89, as follows:

Nonroad engine is defined as any internal combustion engine, in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

An internal combustion engine is not a nonroad engine, if the engine remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation.

Although S-9 is exempt from Major Facility Review requirements, this source remains subject to the following regulations, except as noted below. Since S-9 was first permitted, the California Air Resource Board (CARB) adopted and amended an Airborne Toxic Control Measure (ATCM) that applies to S-9, and the District amended Regulation 9, Rule 8, which will apply to S-9 in the future. In addition, the District is proposing to amend the permit conditions that were initially issued for S-9 and S-10 to reflect these regulatory changes and to improve the readability of the conditions.

Applicability of NSPS or NESHAPs for IC Engine (S-9)

The NSPS for Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII) is potentially applicable to any stationary compression ignition engines at a site. S-9 is a diesel fueled compression-ignition (CI) internal combustion (IC) engine. While S-9 requires a District permit because it remains at this facility for more than 12 consecutive months, it is a portable engine. Portable engines are usually considered to be non-road engines and would not typically be defined as stationary engines under this subpart. Portable engines that remain at a location for longer than 12 consecutive months are no longer considered to be non-road engines (per 40 CFR Part 1068.30, paragraph (2)(iii) of the non-road definition). In this case, a location is defined as

Renewal of Title V Permit

“any single site at a building, structure, facility, or installation.” S-9 is moved around to different locations within this facility and does not reside at any single location for more than 12 consecutive months. Therefore, S-9 will continue to be considered a non-road engine for the purposes of federal NSPS and NESHAP requirements.

Pursuant to 40 CFR, Part 60.4200(a)(2), subpart IIII applies to owners or operations of stationary compression-ignition IC engines that commence construction after July 11, 2005. S-9 is a model year 2003 portable engine that began operating at this site in 2004. As discussed above, S-9 is a non-road engine and is not a stationary engine pursuant to the definition of stationary internal combustion engine in 40 CFR Part 60.4219. Therefore, S-9 is not subject to Subpart IIII.

The NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ) applies to reciprocating IC engines (RICE) located at major and area sources of HAP. This facility is not a major source of HAP, but it is an area source of HAP. As discussed above for Subpart IIII, S-9 is a nonroad engine, because it is a portable engine that does not reside at a single on-site location for more than 12 consecutive months. Therefore, S-9 is not a stationary RICE pursuant to the definition on stationary RICE in 40 CFR Part 63.6675, and Subpart ZZZZ does not apply to S-9.

S-1 Acme Landfill and S-200 Leachate Treatment Facility:

On May 5, 2011, the District approved permit conditions changes for S-1 Acme Landfill and S-200 Leachate Treatment Facility pursuant to Application #23071. For S-1, Condition #19906, Part 4, the maximum number of vertical wells was increased from 60 to 70. In Part 8, the District allowed landfill gas monitoring for hydrogen sulfide to be performed using a District-approved analyzer instead of Draeger tubes. For S-200, Condition #19908, Part 2, influent and effluent sampling frequency was reduced from quarterly to semiannually. If after 3 years of semiannual monitoring, the emissions are less than 80% of the emission limits in Part 1, then the monitoring frequency may be reduced to annually. In Part 3, of Condition #19908, the maximum daily leachate flow rate was increased from 33,000 gallons per day to 72,000 gallons per day, to accommodate increase leachate seepage due to rainfall. The Engineering Evaluation for Application #23071 (see Appendix F) contains a detailed discussion of the impacts of these condition changes on the emissions and requirements for S-1 and S-200. These permit condition changes have been included in this Title V renewal permit.

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

Renewal of Title V Permit

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 a significant source pursuant to the definition in BAAQMD Rule 2-6-239. This facility does not have any significant sources that do not have District permits.

Changes to Permit, Section III:

- 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, Permits – General Requirements
 - Regulation 2, Rule 5, Permits – New Source Review of Toxic Air Contaminants
 - Regulation 6, Rule 1, Particulate Matter – General Requirements
 - Regulation 8, Rule 2, Organic Compounds – Miscellaneous Operations
 - Regulation 8, Rule 3, Organic Compounds – Architectural Coatings
 - Regulation 8, Rule 4, Organic Compounds – General Solvent and Surface Coating Operations
 - Regulation 8, Rule 15, Organic Compounds – Emulsified and Liquid Asphalts
 - Regulation 8, Rule 16, Organic Compounds – Solvent Cleaning Operations
 - Regulation 8, Rule 40, Organic Compounds – Aeration of Contaminated Soil and Removal of Underground Storage Tanks
 - Regulation 8, Rule 47, Organic Compounds – Air Stripping and Soil Vapor Extraction Operations
 - Regulation 9, Rule 1, Inorganic Gaseous Pollutants – Sulfur Dioxide
 - Regulation 9, Rule 2, Inorganic Gaseous Pollutants – Hydrogen Sulfide
 - Regulation 11, Rule 1, Hazardous Pollutants - Lead
 - California Health and Safety Code, Section 41750 et seq., Portable Equipment
 - California Code of Regulations, Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations
 - California Code of Regulations, Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Asbestos Containing Serpentine
 - California 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

Renewal of Title V Permit

- California Code of Regulations, Title 17, Sections 95460-95476, Methane Emissions from Municipal Solid Waste Landfills
- EPA Regulation 40 CFR Part 61, Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions.

IV. Source-Specific Applicable Requirements

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

- District Rules
- SIP Rules (if any) are listed following the corresponding District Rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program. [NOTE: for landfills, BAAQMD Regulation 8, Rule 34 is federally enforceable because it was approved into the state plan for landfills pursuant to 40 CFR § 60, Subpart Cc.]
- 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 VII, which includes 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:

EG, NSPS, NESHAP, and District Regulations for Landfills

Landfills and landfill gas combustion equipment are subject to BAAQMD Regulation 8, Rule 34. This regulation requires landfills that have more than 1 million tons of refuse in place to collect and control the landfill gas that is generated by waste decomposition and specifies numerous operating, monitoring, and reporting requirements for subject operations. Regulation 8, Rule 34

Renewal of Title V Permit

has required that the landfill at this site be controlled by an active landfill gas collection system and a landfill gas control system since 1987.

Landfills and landfill gas combustion equipment are also potentially subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. The EG for MSW Landfills (40 CFR Part 60, Subpart CC) applies to landfills that have had no design capacity modification since May 30, 1991 but that have accepted waste since November 8, 1987. Until the District issued Acme Fill Corporation an Authority to Construct for a small landfill design capacity expansion pursuant to Application # 5630 (submitted in June 2002 and approved September 11, 2002), AFC had not had a design modification since 1991, but had accepted waste after November 8, 1987. Therefore the EG regulations were previously applicable to this landfill.

On September 17, 2002, the District issued Acme Fill Corporation an Authority to Construct for a small landfill design capacity expansion (pursuant to Application # 5630), which triggered the applicability criteria for the NSPS for MSW Landfills. Initially, these requirements included only reporting requirements. The District has concluded that the NSPS control requirements apply to this facility, and these requirements have been added to the permit. The former EG control requirements are being removed from the permit.

Since this facility is subject to the NSPS for MSW Landfills, it is also subject to the NESHAP for Municipal Solid Waste (MSW) facilities (40 CFR, Part 63, Subpart AAAA). The change from an EG landfill to an NSPS landfill is reflected in revisions to Subpart AAAA.

In addition to Regulation 8, Rule 34, landfill operations and landfill gas combustion devices are also subject to numerous other BAAQMD regulations and permit conditions. All applicable requirements are described in Section IV of the permit.

Applicability of Regulation 8, Rules 2 and 40 for Active Landfills

The AFC site is permitted by the Regional Water Quality Control Board and the Integrated Waste Management Board to only accept clean fill materials, otherwise identified as Group 3 wastes. No contaminated soils are accepted for disposal. The materials processed include green wastes (stumps, tree trimmings, yard waste), clean construction debris, and clean fill material. Since there is no contaminated or VOC-laden fill material accepted, Regulation 8, Rules 2 and 40 do not apply to the S-1 Acme Landfill and are not included in Table IV-A. Also, the procedures for disposal and handling of contaminated or VOC-laden soils do not need to be addressed in the permit conditions.

Applicability of NSPS or NESHAPs for IC Engines (S-201)

The NSPS for Compression Ignition Internal Combustion Engines (40 CFR Part 60, Subpart IIII) is potentially applicable to any stationary compression ignition engines at a site. S-201 is a diesel fueled compression-ignition (CI) internal combustion (IC) engine. S-201 is a stationary CI IC engine.

Renewal of Title V Permit

Pursuant to 40 CFR, Part 60.4200(a)(2), subpart III applies to owners or operations of stationary compression-ignition IC engines that commence construction after July 11, 2005. S-201 is a stationary engine for an emergency generator that began operating at this site in 1996. Since S-201 commenced construction before July 11, 2005, Subpart III does not apply to S-201.

The NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR, Part 63, Subpart ZZZZ) applies to reciprocating IC engines (RICE) located at major and area sources of HAP. This facility is not a major source of HAP, but it is an area source of HAP. The S-201 Emergency Standby Diesel Engine is a stationary compression-ignition reciprocating internal combustion engine. This engine is considered to be an existing RICE because construction of this engine commenced prior to June 12, 2006 (40 CFR Part 63.6590(a)(1)(iii)).

In accordance with 40 CFR Part 63.6595(a)(1), existing stationary compression-ignition (CI) RICE must comply with the applicable emission and operating limitations of Subpart ZZZZ by no later than May 3, 2013. Section 63.6603(a) identifies the location of the applicable emissions and operating limitations for existing stationary RICE located at area sources of HAP. For S-201, the applicable limitations are in Table 2d. For emergency CI engines, these limitations include only engine maintenance criteria (frequencies of inspections and oil and filter changes) and do not include any emission limitations. Therefore, the testing requirements in Sections 63.6612, 63.6615, and 63.6620 and Tables 1b, 2b, 3, and 4 do not apply. The diesel fuel usage requirements of Section 63.6604 (i.e. the engine must use diesel fuel that complies with 40 CFR 80.510(b)) do not apply to emergency CI RICE. Section 64.6605 applies to all engines subject to this subpart. Other applicable monitoring, operating, and administrative requirements are contained in Sections 63.6625, 63.6630, 63.6635, 63.6640, 63.6645, 63.6650, 63.6655, 63.6660, and 63.6665. All applicable Subpart ZZZZ requirements for S-201 are identified in Table IV-E, and the operating limitations are summarized in Table VII-E.

Applicability of NSPS or NESHAPs to S-10 and S-200

There are no federal air regulations that apply to the S-10 Waste Recycler or the S-200 Leachate Treatment Facility. These sources are subject to several District Regulations and permit conditions as described in Section IV of the permit.

Compliance Assurance Monitoring (CAM)

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. A source must meet all three of the criteria specified in 40 CFR Part 64.2(a)(1-3) in order for CAM to apply. First, the source must be subject to an emission limit for a regulated air pollutant other than an exempt limitation. Second, the source must use a control device to achieve compliance with this emission limitation. Third, the pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

At this facility, the landfill and its related emission control devices (S-1 and A-2) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2(b)(1)(i), because the landfill and landfill gas control systems are subject to the NSPS and

Renewal of Title V Permit

NESHAPS requirements identified above, and these NSPS and NESHAP requirements were adopted pursuant to Sections 111 and 112 of the Clean Air Act after November 15, 1990. Since the applicable federal requirements contain adequate monitoring provisions, additional compliance monitoring is not necessary. In addition, the uncontrolled emissions of precursor organic compounds from the landfill are less than the major facility emissions threshold of 100 tons of POC per year. Thus, S-1 does not meet the third CAM applicability criteria from 40 CFR Part 64.2(a)(3). Since the landfill and its related control devices do not satisfy all three CAM applicability criteria, CAM does not apply to S-1 and A-2.

The S-201 Emergency Standby Diesel Engine – Generator Set does not have abatement equipment and the uncontrolled emissions from this engine is less than 100 tons/year per device for each criteria pollutant. Therefore, S-201 does not meet 40 CFR Part 64.2(a)(2 or 3), and CAM does not apply to S-201.

The S-10 Waste Recycler is controlled by integral water sprays that control PM emissions. As shown in Appendix E, S-10 is permitted to emit 0.6 tons/year of PM10 and the water sprays are expected to achieve 50% PM control. Therefore, uncontrolled PM emissions from S-10 are 1.2 tons/year. Since uncontrolled PM emissions are less than 100 tons/year from S-10, S-10 does not meet 40 CFR Part 64.2(a)(3), and CAM does not apply to S-10.

As discussed in Appendix F, the S-200 Leachate Treatment Facility includes aerated biological reactors that are achieving 75% removal of the VOC entering the treatment system. The emissions from S-200 are limited to 0.63 lbs/day. Maximum uncontrolled VOC emissions from S-200 are $(0.63 \text{ lbs/day}) / (0.25 \text{ lbs emitted/lb in influent}) = 2.52 \text{ lbs/day}$ (0.5 tons/year of VOC). Since uncontrolled emissions from S-200 are less than 100 tons/year of VOC, S-200 does not meet 40 CFR Part 64.2(a)(3), and CAM does not apply to S-200.

Changes to Section IV:

The specific changes to Section IV are as follows:

- Section IV is being modified by adding EPA's website address for the SIP standards.
- In Table IV-A, the amendment dates and descriptions for BAAQMD Regulation 1; BAAQMD Regulation 6, Rule 1; BAAQMD Regulation 8, Rule 34; 40 CFR Part 60, Subpart A; and 40 CFR Part 63, Subparts A and AAAA are being updated pursuant to recent revisions to these rules. These rule amendments involved changes to definitions, descriptions, and citation references and do not impact the applicability of any of these specific requirements to S-1.
- In Table IV-A, the District is making editorial corrections to the amendment dates for BAAQMD Regulation 9, Rules 1 and 2.
- In Table IV-A, 40 CFR, Part 60, Subpart Cc is deleted, and 40 CFR Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills is expanded. Application 5630, for height increase at the East Parcel, issued 9/17/2002, triggered this NSPS, because it was a height increase and design capacity increase of a MSW that

Renewal of Title V Permit

occurred after May 30, 1991. This small capacity increase did not result in any emission increases.

- Table IV-B, Source Specific Applicable Requirements for S-4 IC Engine is deleted.
- Table IV-C, Source Specific Applicable Requirements for S-5 Green Waste Tub Grinder, is being replaced with Table IV-C, Source Specific Applicable Requirements for S-10 Waste Recycler.
- In Table IV-D Source-Specific Applicable Requirements, S-200 Leachate Treatment Facility, the District is updating the regulatory amendment date for Regulation 8, Rule 2 and is adding the SIP version of this rule. Editorial corrections are being made to the bases and descriptions of the applicable permit conditions.
- The District is adding Table IV-E, Source-Specific Applicable Requirements for the new S-201 Standby Emergency Diesel Engine – Generator Set. This table includes the new NESHAP (40 CFR, Part 63, Subpart ZZZZ) that will apply to this engine in the future and two non-federally enforceable rules that currently apply to this engine (BAAQMD Regulation 9, Rule 8 and the CARB ATCM for Stationary Compression Ignition Engines).

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.

The BAAQMD Compliance and Enforcement Division has conducted a review of compliance for the period from 4/17/2003 to 8/18/2011, and notes that ACME Fill Corporation was in intermittent compliance from the initial permit period through the present. There was no evidence of ongoing noncompliance and no recurring pattern of violations. There were 8 citizen complaints alleging ACME Fill as the source; however none of these complaints were confirmed. No violations were issued as a result of episodes. There were four (4) Notices of Violation issued

Renewal of Title V Permit

during the period for the following landfill surface requirements noted in Regulation 8 Rule 34: one violation each for wellhead leaks and failure to report, one violation for excess O₂ at wellhead and one violation for a compressor leak. The compliance report is contained in Appendix A of this permit evaluation and statement of basis.

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.

While the District has authority to revise the existing permits, and is doing so here concomitantly with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. 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; all “underline” language will be retained.

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

The District has reviewed and, where appropriate, revised or added new annual and daily throughput limits on sources so as to help ensure compliance with District rules addressing preconstruction review, Regulation 2-1-301. For grandfathered sources, these limits are being added to the existing permits pursuant to the authority in 2-1-403, which provides the District with authority to “impose any permit condition [it] deems reasonably necessary to insure compliance with federal or California law or District regulations.” Creating throughput limits for grandfathered sources is not required by either Part 70 or the District’s MFR rules. However, issuance of the Title V permit is an opportunity for the District to exercise authority under 2-1-403 by adding conditions to the District operating permit through a parallel process, that is, by revising the P/O concurrently with the Title V permit issuance. The District believes the addition of these throughput limits is authorized under Regulation 2-6-409.2.2, as these limits will help “assure compliance” with the District preconstruction review program.

Renewal of Title V Permit

The applicability of preconstruction review (2-1-301) depends on whether there is a “modified source” as defined in District Rule 2-1-234. Whether there is a modified source depends in part on whether there has been an “increase” in “emission level.” Regulation 2-1-234 defines what will be considered an emissions level increase, and takes a somewhat different approach depending on whether a source was previously permitted by the District. Sources that were modified or constructed since the District began issuing new source review permits generally will have permits that contain throughput limits, and these limits are reflected in the Title V permit. These limits have previously undergone District review, and are considered to be the legally binding “emission level” for purposes of 2-1-234.1 and 2-1-234.2. By contrast, for “grandfathered” sources that have never been through preconstruction review, an “increase” in “emission level” is addressed in Regulation 2-1-234.3. A grandfathered source is not subject to preconstruction review unless its emission level increases above the highest of either: 1) the design capacity of the source, 2) the capacity listed in a permit to operate, or 3) highest capacity demonstrated prior to March 2000. However, if the throughput capacity of a grandfathered source is limited by upstream or downstream equipment (i.e., is “bottlenecked”), then the relaxing of that limitation (“debottlenecking”) is considered a modification. In the case of the design capacity modification at AFC’s landfill (Application # 5630), the landfill was previously a grandfathered source. The highest emission rate at the previous design capacity was used to determine baseline emissions for the purposes of Regulation 2-1-234.3. However, the maximum emissions expected after the design capacity modification will not exceed the baseline emissions. Therefore, the S-1 Acme Landfill was determined to be an altered source pursuant to Regulation 2-1-233 but not a modified source pursuant to 2-1-234.3, because it underwent a design capacity increase but this change did not result in emission increases.

In proposing throughput limits for grandfathered sources, the District has described the limits differently based on the factual support in the record. The limit may be a reporting threshold, in which case if the limit is exceeded and not reported, a permit violation has occurred. Secondly, it may be a firm throughput limit, in which case a permit violation occurs whenever the limit is exceeded. Thirdly, it may be a Regulation 2-1-234.3 modification threshold, in which case exceedence of the limit triggers a requirement to obtain an ATC. Where the information in the record is indicative of a 2-1-234.3 threshold, but not definitive in that regard, the limit is structured as a reporting threshold, and as presumptively an emissions limit and a modification threshold. Where - on the other hand - the District believes the information in the record is definitive, the limit is structured as a firm throughput limit and a modification threshold. It would be redundant for a limit to function as both a reporting threshold and a throughput limit, and so the latter will normally preclude the former.

As noted, for presumptive limits, exceedence of the limit is not per se a violation of the permit. *Failure to report an exceedence would be a permit violation.* If an exceedence occurs, the facility would have an opportunity to demonstrate that the throughput limit in fact did not reflect the appropriate limit for purposes of 2-1-234.3. If the facility can demonstrate this, no enforcement action would follow, and the permit would be revised at the next opportunity. It also follows that compliance with these limits is not a “safe harbor” for the facility. If evidence clearly shows that a grandfathered source has undergone a “modification” as defined in

Renewal of Title V Permit

2-1-234.3, the District would consider that a preconstruction review-triggering event, notwithstanding compliance with the throughput limit in the Title V permit. There is no Title V “permit shield” associated with throughput limits for grandfathered sources, as they are being proposed.

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 APCO to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.
- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source’s operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit pursuant to Regulation 2, Rule 2.
- TRMP: This term was used for a condition imposed by the APCO to ensure compliance with limits that arise from the District’s former Toxic Risk Management Policy. In 2005, this Toxic Risk Management Policy was replaced by BAAQMD Regulation 2, Rule 5. References to TRMP are being replaced by citations of the applicable sections in BAAQMD Regulation 2, Rule 5. Neither the TRMP nor BAAQMD Regulation 2, Rule 5 are federally enforceable requirements.

Parameter monitoring has been added for each abatement device. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

The reasons for the changes to each condition are discussed further below.

Condition # 19906 for S-1 Acme Landfill and A-2 Landfill Gas Flare

Part 1: Waste Acceptance Limits: As discussed in the Statement of Basis for the initial issuance of the Title V permit for this site, waste acceptance rate limits were previously added to Part 1 to define the capacity of the landfill, based on Application # 5630, which allowed a height increase at the East Parcel. The East Parcel is currently only accepting clean construction waste. The North Parcel is closed. The tons/day limit pertains to regulation of particulate emissions from waste transport and disposal. The total cumulative waste disposal limit and the design capacity limit pertain to regulation of VOC emissions from decomposing waste in the landfill. The tons per day limit and design capacity were provided in AFC’s Initial Design Capacity and Emission Rate Reports, as well as in the Collection and Control System Design Plan, and in Permit Application 5630. These limits were identified as firm throughput limits and modification thresholds, so that any changes to these rates would constitute a modification of the landfill source as defined in Regulation 2-1-234.4 and would be subject to the Authority to Construct

Renewal of Title V Permit

requirements of Regulation 2-1-301. The total cumulative limit was based on the required landfill apex height upon closure after factoring the landfill compaction density and current cover practices. The correlation between the total cumulative limit and emissions is therefore changeable based on these variables. Accordingly, this limit was used as a reporting threshold and as a presumptive throughput limit and modification threshold. The permitted capacity of this landfill was 11,200,000 tons and 22,522,000 cubic yards of landfilled materials. Using LANDGEM, the peak landfill gas generation rate for S-1 was determined to be 2990 scfm of landfill gas, which occurred in 1995. Waste placement resumed in 1997 and continues to date, but the waste being placed in the landfill now is mainly construction and demolition debris and contains very low amounts of decomposable materials (about 25,000 tons/year of decomposable waste). Consequently, the landfill gas generation rate for S-1 has been declining since 1995, even though waste placement is continuing.

With Application #23071, ACME requested to revise the maximum design capacity of the landfill from 11.2 million tons in place to 11.348 million tons in place. This revision was based on the remaining capacity of 288,000 tons added to the 11.06 million tons already in place as of December 2005. Acme's permit from the Regional Water Quality Control Board (RWQCB) is based on final fill height criteria of 75 feet, not tons in place. Based on the revised LANDGEM estimate of emissions with updated records of annual solid waste added through 2010, the expected landfill gas generation rates for S-1 are 1678 scfm for 2011, declining to 1263 scfm for 2020 and 847 cfm in 2030. Since the projected landfill gas generation rates for the current and future years do not exceed the peak gas generation rate of 2990 scfm that occurred in 1995, the fugitive landfill gas emissions will also be lower than the peak fugitive emission rate from 1995. Therefore, the requested change did not result in any emission increases and did not trigger NSR. Part 1b has been changed to limit the maximum amount of solid waste to 11.348 million tons in place.

Part 2: Dust Suppression: The citations for Regulation 6, Rule 1 were updated in the basis of this part to conform to regulatory changes that occurred in 2007.

Part 3: No Uncontrolled Venting of Landfill Gas: No Changes.

Part 4: Landfill Gas Collection System: This part was revised to clarify that changes to the landfill gas collection system are considered to be alterations that require a Change of Permit Conditions. Application #23071 allowed the addition of up to 10 new vertical wells for a total maximum of 70 vertical wells. This part includes a requirement for the operator to notify the District before initiating operation of any new wells. The total number of horizontal collectors remains at 28. Regulation 8, Rule 34 requires that the gas collection system be operated continuously. Continuous operation is defined as having all wells and collectors operating under vacuum and with landfill gas flow. Therefore, it is critical that the landfill gas collection system be clearly defined, so that both the operator and the District are aware of which wells and collectors are required to be under vacuum and to meet the other requirements of 8-34-305.

Part 5: Landfill Gas System to Be Operated Continuously: No Changes.

Renewal of Title V Permit

Part 6: Flare Heat Inputs: Editorial Correction.

Part 7: Flare Minimum Temperature Requirement: The basis of this part is being corrected pursuant to the adoption of Regulation 2, Rule in 2005, which replaced the former Toxic Risk Management Policy (TRMP).

Part 8: Sulfur Concentration Limit for Landfill Gas: Landfill gas contains sulfur compounds; typically 95% or more of this sulfur is hydrogen sulfide and the remainder is carbon disulfide and mercaptans. When landfill gas is burned, the sulfur compounds are converted to sulfur dioxide (SO₂). Therefore, all landfill gas combustion equipment is subject to the Regulation 9-1-302 limit: ≤ 300 ppmv of SO₂ in the exhaust point (dry basis). However, Regulation 9, Rule 1 does not contain any monitoring requirements that would demonstrate on-going compliance with Regulation 9-1-302. When the Title V permit for this facility was first issued, the District addressed this monitoring deficiency by requiring quarterly monitoring of the sulfur content in the landfill gas at the inlet to the A-2 Flare. For combustion operations, the District commonly allows monitoring of the sulfur content in gaseous fuel as a more cost effective alternative to monitoring for SO₂ in the outlet gases.

Under theoretical combustion conditions, 300 ppmv of SO₂ in the exhaust is equal to 1300 ppmv of H₂S in landfill gas containing 45% methane. Therefore, the District limited the sulfur content of the collected landfill gas from S-1 to 1300 ppmv of sulfur, expressed as H₂S. Typical landfill gas sulfur levels at AFC range from 20 to 30 ppm. Since the sulfur in the landfill gas at this site is essentially all hydrogen sulfide and typical sulfur concentrations are far below the limit, the site has been allowed to use an H₂S monitor for the quarterly monitoring events.

The current permit conditions specify the type of H₂S monitor that must be used (draeger tubes). The facility requested to have the ability to use an alternative portable H₂S analyzer. The District reviewed and approved the use of the alternative analyzer, a Gas Tech GT Land Surveyor, and this change is reflected in Part 8.

Part 9: Source Test: The District is removing total hydrocarbons (THC) from the list of compounds to be tested for, because the THC limit is no longer applicable.

Part 10: Landfill Gas Characterization: Regulation 8-34-412 requires an annual characterization of the landfill gas. This characterization includes an outline of the procedures for drawing the sample, reporting the results, and allowances for specific compound analysis. A specific list of compounds to be tested is being added in consideration of detectable levels of compounds found in previous characterization tests at this facility. The basis is being corrected by adding references to AB-2588 and Regulation 9-1-302 and replacing TRMP with Regulation 2-5-302.

Part 11: Record Keeping: Several editorial corrections are being made to this part and the basis is being updated to reflect applicable requirements.

Part 12: Reporting: No changes.

Renewal of Title V Permit

Condition # 19908 for: Source S-200 Leachate Treatment Facility

The throughput limit for the S-200 Leachate Treatment Facility (Part 3) was originally based on Application # 8603 and an influent flow rate of 25 gallons/minute (gpm). The limits that were placed on the process were for emissions of total VOC and benzene. Based on measured influent concentrations and computer modeling, the applicant did not expect the VOC emissions to exceed the BACT trigger, or the benzene emissions to exceed the toxic trigger level.

Initial source testing was required with a goal of estimating VOC and benzene emissions as well as average biodegradation efficiencies across the leachate treatment operation. The results of the source test demonstrated a benzene biodegradation efficiency of 75%. It should be noted that the initial source tests were performed within 60 days of startup of the leachate treatment facility, before the biomass inventory had reached steady state. The expected benzene removal efficiency is now expected to be approximately 99% based on a mature biomass inventory. Ongoing emissions of VOC and benzene are calculated based on monitored influent concentrations and flow rates and a conservative biodegradation efficiency of 75%. The initial source testing showed the VOC emissions to be approximately 44% of the emissions limit, hence compliance (0.63 lb/day maximum) was easily demonstrated. The actual benzene emissions were approximately 0.4% of the limit (0.05 lb/day).

Part 1: The only change to this part is a correction to the basis. The District is replacing TRMP with the correct citation, Regulation 2-5-301. The emission limits will continue to be 0.63 lb/day for VOC and 0.05 lb/day benzene. Based on current influent concentrations, ACME expects to easily meet the above limits. Compliance demonstration procedures are the same as described above.

Part 2: In Application #23071, sampling frequency of influent and effluent leachate is revised from quarterly to semiannually for benzene and total VOC concentrations. Part 2c was revised to allow annual sampling after 3 years of semi-annual monitoring with emissions less than 80% of the emission limits in Part 1. Quarterly testing performed over the past several years has demonstrated little variation.

Part 3: With Application #23071, the maximum leachate influent flow rate was increased from 33,000 to 72,000 gallons per day to allow increased leachate seepage during wet winter weather. Emission rates were not changed as the increased flow is expected to be predominantly rainwater. The increased capacity is consistent with the current Wastewater Discharge Permit Contract between Acme and Central Contra Costa Sanitary District, effective April 11, 2007.

Part 4: Editorial correction.

Renewal of Title V Permit

Condition # 19911 for S-4 IC Engine and S-5 Green Waste Tub Grinder

The District is deleting this entire condition, because S-4 and S-5 have been removed from this permit.

Condition # 21474 for S-9 IC Engine and S-10 Waste Recycler

When the District issued the Permit to Operate for the S-9 IC Engine and S-10 Waste Recycler pursuant to Application 9132, this equipment was subject to Condition #21474. During the review of this renewal permit, the District decided to rearrange the parts of this condition to improve readability. Obsolete or unnecessary requirements were removed and record keeping requirements were clarified. Since this condition is new to this Title V permit, these specific changes to the conditions that were issued with the NSR permit are not shown in the permit, but the changes are discussed below for clarity.

Part 1: Hours of Operation: This limits the operating hours for sources S-9 and S-10 to 1200 hours during any consecutive 12 month period. Text was revised to improve clarity.

Part 2: Waste Processing Limits: These waste processing limits were originally identified in Part 7, but the breakdown relief language was deleted. The application for breakdown relief is voluntary on the part of the applicant, and the granting of breakdown relief is up to the discretion of the enforcement division staff. It is not appropriate or necessary to discuss breakdown relief in permit conditions. The option to apply for breakdown relief is still available to the operator pursuant to Regulation 1.

The record keeping requirements that were formerly in Part 2 were moved to Part 8.

Part 3: Waste Storage Limit: This waste storage limit was originally identified in Part 7. It was split into a separate part from the waste processing limits in Part 2 in order to clarify the basis for this limit.

The former Parts 3a and 3b repeated the Regulation 9-1-304 fuel sulfur limit and required records of the vendor certified fuel oil sulfur content to demonstrate compliance with this rule. This part was deleted because the CARB ATCM for Portable Diesel Engines requires S-9 to use CARB diesel fuel, which has a maximum sulfur content limit of 15 ppmw for fuel sold after January 1, 2006, which is 0.3% of the Regulation 9-1-304 limit (over 300:1 compliance margin). Since CARB rules prohibit the sale of fuels that do not meet this very low sulfur limit, vendor certification of the fuel sulfur content is not required. Instead, the operator will be required to maintain records of diesel fuel purchases to verify that the fuel used at S-9 is CARB diesel (see Part 8e).

Part 4: Particulate Abatement, S-9: This part requires operator monitoring of the appearance of the exhaust from the engine. If persistent visible smoke is observed, the operator of the source

Renewal of Title V Permit

must take all appropriate measures to remedy the episode. The District made editorial corrections to the basis, but this part is otherwise unchanged from the original Part 4.

Part 5: Particulate Abatement, S-10: This part requires the operator to use integral water sprays as a particulate abatement measure for the S-10 Waste Recycler. This part is essentially the same as the original Part 5, except that the District added Cumulative Increase to the basis, because the use of water sprays at S-10 reduced the permitted PM emission levels for S-10.

Part 6: Visible Particulate Emissions, S-10: This part limits visible particulate emissions and particulate fallout from S-10. It is the same as the original Part 6 except for editorial corrections to the basis.

Part 7: Continuous Monitoring of S-10: This part requires enhanced monitoring for S-10, and requires operator action in the event that visible emissions are detected. It was formerly identified as Part 8. The District also made editorial corrections to the basis.

Part 8: Recordkeeping: All of the record keeping requirements from the original conditions were consolidated into this new Part 8. The District also added record keeping requirements for waste processing at S-10 to demonstrate compliance with the waste processing and storage limits.

Condition #24451 for S-201 Emergency Standby Diesel Engine – Generator Set

The S-201 Emergency Standby Diesel Engine was initially permitted pursuant to Application #8371 and was initially subject to Condition #19533. Subsequently, the District amended Regulation 9, Rule 8 and CARB adopted an ATCM that reduced the reliability related operating time limit for this engine to 20 hours/year. The District developed template conditions for standby diesel engines subject to this new CARB limit (Condition # 22820), which were applied to S-201 in 2006. The District is now proposing to replace Condition #22820 with Condition #24451. Condition # 24451 is based on Condition #22820, but it does not include the near school provisions, which do not apply to S-201, and adds a requirement to visually observe the particulate emissions from the engine (similar to the requirement in Condition #21474, Part 4 for S-9).

- Part 1 limits reliability-related testing to 20 hours per year in accordance with the CARB ATCM for Stationary Diesel Engines and Regulation 9-8-330.
- Part 2 identifies the operating restrictions for emergency standby engines consistent with the CARB ATCM and Regulation 9-8-330. This part specifies that the engine shall only operate to mitigate emergency conditions or for reliability-related testing.
- Part 3 requires a non-resettable totalizing meter consistent with the CARB ATCM and Regulation 9-8-530.
- Part 4 describes the recordkeeping requirements contained in the CARB ATCM and Regulation 9-8-530.
- Part 5 requires visual observation of the emissions and corrective action, if necessary.

Renewal of Title V Permit

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 the existing monitoring is adequate with the following exceptions.

The tables below contain only the limits for which there is no monitoring or inadequate 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 when no monitoring is proposed due to the size of a source.

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

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

SO₂ Discussion:

All of the combustion devices located at this facility burn fuels that contain small amounts of sulfur compounds and emit sulfur dioxide (SO₂) as a product of combustion. Therefore, each of these devices will contribute to the ground level SO₂ concentration at the fence line of this site, and all of these combustion devices are subject to Regulation 9-1-301 ground level SO₂ limits

Renewal of Title V Permit

The District is not proposing any ground level SO₂ monitoring for this facility because the likelihood of non-compliance with these ground level SO₂ limits is very low. Ground level SO₂ monitoring is very expensive. This type of expensive monitoring is not justifiable in light of a high margin of compliance and low actual SO₂ emission rates from the equipment at this site.

SO₂ Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
A-2 Landfill Gas Flare And S-201 Emergency Standby Diesel Engine	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 300 ppm (dry)	NONE

Maximum Expected SO₂ Emissions from Site # A1464

Sources	Description	Fuel Sulfur Content	SO ₂ Emissions Tons/Year
A-2	Landfill Gas Flare	400 ppmv of TRS in LFG (Maximum Detected Level for Active Landfills in Bay Area)	30.35
S-201	Standby Diesel Engine	15 ppmw S in CARB Diesel Oil	0.00
Total	All Combustion Sources		30.36

Landfill Gas Sulfur Content Data for Site # A1464

Date	Source Test #	Location	Sulfur Content ppm as H ₂ S
8/04/2004	OS-809	Flare Station	29
7/11/2005	OS-1107	Flare Station	25
7/10/2006	OS-1591	Flare Station	27
7/11/2007	OS-2036	Flare Station	27.6
7/10/2008	OS-2510	Flare Station	22.4
7/09/2009	OS-2952	Flare Station	22.4
Average			25.6

Renewal of Title V Permit

BAAQMD 9-1-301 for A-2 Landfill Gas Flare:

Air dispersion modeling at other landfill sites has demonstrated that landfill gas combustion equipment that is complying with Regulation 9-1-302 will result in ground level SO₂ concentrations that are less than the 9-1-301 limits. The A-2 Landfill Gas Flare is subject to the Regulation 9-1-302 limit of 300 ppmv of SO₂ in the exhaust and has compliance margin of more than 40:1 with this limit. This landfill is subject to a federally enforceable limit of 1300 ppmv of total reduced sulfur (TRS) compounds in the landfill gas to ensure compliance with the BAAQMD Regulation 9-1-302 emission limit of 300 ppmv of SO₂ in the flare exhaust. Landfill gas is monitored for total reduced sulfur content (on a quarterly basis) to ensure compliance with this limit. District source tests indicated that the actual concentration of TRS in landfill gas collected from active landfills in the Bay Area is less than 400 ppmv of TRS. Site testing indicates the TRS concentration in Acme's landfill gas is less than 30 ppmv. Although the maximum potential emissions from A-2 are 98.6 tons/year of SO₂ based on the landfill gas sulfur concentration limit of 1300 ppmv as H₂S, the maximum expected emissions from A-2 are only 30.3 tons/year of SO₂ based on the maximum expected landfill gas sulfur concentration of 400 ppmv as H₂S for Bay Area landfills. Actual emissions from A-2 are less than 1 tons/year of SO₂. Projected SO₂ emissions from this site are not substantial (30.4 tons/year of SO₂), and the actual emissions are very low (< 1 tons/year of SO₂). Ground level SO₂ monitoring is very expensive. Considering the high likelihood of compliance, low emissions, and the high cost of monitoring, monitoring for ground level SO₂ concentrations in addition to the proposed landfill gas monitoring to demonstrate compliance with the Regulation 9-1-302 limit would not be appropriate.

BAAQMD 9-1-301 for S-201 Diesel Engines:

The diesel engine is subject to Regulation 9-1-304, which limits sulfur content in liquid fuels to 0.5% by weight. However, the engine is required to use CARB diesel fuel. Since 2006, CARB rules prohibit the sale or use of diesel fuel that has more than 15 ppm by weight of sulfur. The CARB diesel sulfur limit results in a compliance margin of over 300:1 compared to Regulation 9-1-304.

The S-201 diesel engine is using compliant diesel fuel. Based on the 15 ppmw fuel oil sulfur limit, the maximum potential sulfur dioxide emissions from the two diesel engines are less than 0.007 tons/year of SO₂.

H₂S Discussion:

As discussed above, landfill gas contains sulfur compounds including hydrogen sulfide (H₂S). Although most of the landfill gas at this site is captured and controlled, there will still be some fugitive landfill gas emissions from the surface of the landfill (S-1) and some residual landfill gas emissions that are not destroyed by the flare (A-2). These fugitive and residual landfill gas emissions from S-1 and A-2 will contain small quantities of H₂S. Therefore, S-1 and A-2 are subject to the non-federally enforceable ground level H₂S limits in BAAQMD Regulation 9-2-301.

Renewal of Title V Permit

In consideration of the high likelihood of compliance with the ground level H₂S limits, the low H₂S emissions from this site, and the high cost of ground level H₂S monitoring, the District has determined that ground level H₂S monitoring (in addition to the quarterly landfill gas sulfur monitoring that is already occurring) is not justifiable or necessary.

H₂S Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Acme Landfill and A-2 Landfill Gas Flare	BAAQMD 9-2-301 (not a federally enforceable limit)	Property Line Ground Level Limits: ≤ 0.06 ppm for 3 minutes, AND ≤ 0.03 ppm for 60 minutes	NONE

BAAQMD 9-2-301 for S-1 Acme Landfill and A-2 Landfill Gas Flare:

Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, hydrogen sulfide emissions are typically discovered by smell well before the concentration approaches the lowest Regulation 9-2-301 emission limit of 0.03 ppmv. The District rarely ever receives complaints about hydrogen sulfide odors from Bay Area landfills and has never received any complaints about hydrogen sulfide odors from this facility. Since hydrogen sulfide odors have not been detected at this facility, the concentration of hydrogen sulfide at the property line is expected to be well below the Regulation 9-1-301 limits. Furthermore, the actual hydrogen sulfide emissions are expected to be less than 0.3 tons/year of H₂S, based on current projected landfill gas generation rates and the average site-specific H₂S concentration of 26 ppmv in landfill gas. Monitoring for ground level H₂S concentrations would not be appropriate for such low emission rates unless an on-going hydrogen sulfide odor problem has been documented.

POC Discussion:

During the evaluation of the initial Title V permit for this site, the District added record keeping requirements to demonstrate compliance with the total carbon limit in Regulation 8-2-301 and improved the existing monitoring and record keeping requirements for the VOC content limit in Condition # 19908, Part 1 for the S-200 Leachate Treatment Facility. The facility is currently required to maintain daily records of the influent leachate flow rate and quarterly analyses of the VOC content in the leachate. Daily VOC emission rates are calculated on a monthly basis using this flow rate and VOC content data and an emission factor that was established by previous source tests. These records are also sufficient to demonstrate compliance with the Regulation 8-2-301 total carbon limit, which is less stringent than the maximum permitted VOC emission rate in the permit conditions. The permit condition limit of 0.63 pounds/day of VOC is

Renewal of Title V Permit

approximately equal to 0.5 pounds/day of total carbon, and the Regulation 8-2-301 limit is 15 pounds/day, which is 30 times greater than the permit condition limit.

The District is now proposing to modify the frequency of the VOC content testing on the influent leachate. The daily flow rate records and emission calculation procedures will remain the same. Pursuant to Application #23071, Condition #19908, Part 2 will be revised to allow influent and effluent sampling semiannually instead of quarterly. Years of previous source tests have demonstrated that this source is well within the emission limits in Part 1. Part 2c was revised to allow annual sampling, if after 3 years of semiannual monitoring, the emissions are within 80% of the emission limits in Part 1. The District has determined that a reduced monitoring frequency for VOC content is appropriate in this case because the site has demonstrated that the VOC content does not vary appreciably and the measured VOC contents are well below the current limit.

Sources of Organics

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-200 Leachate Treatment Facility	BAAQMD 8-2-301	15 pounds/day or 300 ppm, dry basis	Records
S-200 Leachate Treatment Facility	BAAQMD Condition #19908, Part 1	0.63 pounds/day of VOC	Daily Flow Rate Records, Semiannual VOC Content Testing, and Calculations

Particulate discussion:

As discussed in the Facility Description, active landfilling operations emit fugitive particulate matter. The bulk of the PM emissions from active landfills are due to fugitive road dust, primarily due to the hauling of waste to the site. These road dust emissions are typically controlled by regular sweeping of paved roads and the use of water sprays or other dust suppressants on unpaved areas. The dumping of waste and cover materials and the material handling operations associated with spreading and compacting waste and cover materials also generate smaller amounts of PM emissions. These operations are typically controlled by water sprays. Waste grinding operations (formerly S-5 and now S-10) emit PM and are typically controlled by water sprays. In addition, all combustion operations will emit small amounts of PM from the stack.

During the initial Title V permit evaluation, the District identified several District PM emission limits in Regulation 6 that applied to S-1 Acme Landfill, A-2 Landfill Gas Flare, and to the S-4

Renewal of Title V Permit

IC Engine and S-5 Tub Grinder that have since been removed from this site. The District added visual observation and record keeping requirements for dust mitigation measures employed at S-1 to demonstrate compliance with the visible PM emission limit in Regulation 6-301 that applied to S-1. The District also added visible observation and corrective action requirements for S-4, and S-10 to demonstrate compliance with the applicable visible emission limits. Records and calculations were found to adequately demonstrate compliance with the Regulation 6-311 limit that applied to S-5. However, for the Regulation 6-301 Ringelmann 1 limit that applied to A-2 and for the PM grain loading limit in Regulation 6-310 that applied to A-2 and S-4, the District determined that PM monitoring was not justified.

The District has determined that the visual observation, calculation, and record keeping measures described above are sufficient to demonstrate compliance with Regulations 6-1-301 for the existing and new equipment (S-1), with Regulation 6-1-303 for S-201, and with Regulation 6-1-311 for S-10. The District is not making any changes to these monitoring decisions; the District is simply applying the same monitoring requirements to existing or new sources.

The District concludes that monitoring for compliance with the Regulation 6-1-301 Ringelmann 1 limit that applies to A-2 is not necessary, because the combustion of landfill gas is not expected to result in any visual emissions. The District also concludes that monitoring for compliance with the PM grain loading limit in Regulation 6-1-310 is not justified for A-2 or S-201. These decisions are discussed further below.

Particulate Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-1 Acme Landfill	BAAQMD 6-1-301	≤ Ringelmann No. 1 for < 3 minutes/hr	Records of all site watering and road cleaning events (Condition # 19906, Parts 2 and 11d)
A-2 Landfill Gas Flare	BAAQMD 6-1-301	≤ Ringelmann No. 1 for < 3 minutes/hr	NONE
S-10 Waste Recycler	BAAQMD 6-1-301	≤ Ringelmann No. 1 for < 3 minutes/hr	Visual Observation of Emissions (Condition # 21474, Part 7)
S-201 Emergency Standby Diesel Engine	BAAQMD 6-1-303.1	≤ Ringelmann No. 2 for < 3 minutes/hr	Visual Observation of Emissions
A-2 Landfill Gas Flare and S-201 Emergency Standby Diesel Engine	BAAQMD 6-1-310	≤ 0.15 grans/sdcf	NONE

Renewal of Title V Permit

Particulate Sources

S# & Description	Emission Limit Citation	Federally Enforceable Emission Limit	Monitoring
S-10 Waste Recycler	BAAQMD 6-1-311	Maximum Allowable Emission Rate = 40 lb/hr For P >57,320 lb/h	NONE

BAAQMD Regulation 6-1-301 for S-1 Landfill: AFC will continue to demonstrate compliance with Regulation 6-1-301 by visually monitoring the active filling operations and dust from vehicle traffic and by employing dust mitigation measures as necessary to prevent an exceedance of the Ringelmann 1.0 limit. Dust mitigation measures include the application of water and/or dust suppressants on unpaved roads, fill areas, stockpiles, and other dust prone operations and sweeping, watering, or other cleaning measures on paved roads and parking areas. The frequency of watering and sweeping schedules varies from several water applications per day for dry days to no watering or sweeping on rainy days. AFC’s watering requirements are specified in Condition # 19906, Part 2. Record keeping requirements of all water and/or dust suppressant applications and road cleaning activities are specified in Condition # 19906, Part 11d. District inspectors will occasionally observe the landfill operations on dry days to ensure that AFC’s dust mitigation measures are adequate to maintain compliance with the Ringelmann 1.0 limit.

BAAQMD 6-1-301 for A-2 Landfill Gas Flare: Visible particulate emissions are normally not associated with combustion of gaseous fuels, such as natural gas or landfill gas. Natural gas is used as the flare pilot. Landfill gas is burned in the flare only when the other combustion sources (Central Contra Costa Sanitary District incinerators or boilers) or the landfill gas turbine generators at Bulldog Gas & Power are unable to use the landfill gas. The AP-42 emission factor is 0.0168 pounds/MM BTU for an enclosed ground flare burning landfill gas. Maximum potential emissions from A-2, assuming all landfill gas is flared, is approximately 3.5 tons/year of PM₁₀. Since this is a highly unrealistic scenario and violations of Ringelmann 1.0 limit are not expected, periodic monitoring for the Ringelmann limit is not appropriate for this flare.

BAAQMD Regulation 6-1-301 for S-10 Waste Recycler: Visual observation of the sources and the emissions was included in Condition #24451, Parts 4 and 7 to ensure compliance with Regulation 6-1-301. This is a standard method of demonstrating compliance with the Ringelmann 1.0 visible emission limit.

BAAQMD Regulation 6-1-303 for S-201 Standby Emergency Diesel Engine: Condition # 24451, Part 5 is being added to S-201 to require visual observation of the source during operation. Visual observation of the emissions is a standard method of demonstrating compliance with the applicable visible emission limitation.

Renewal of Title V Permit

BAAQMD Regulation 6-1-310 for A-2: This combustion device is subject to the grain loading standard of 0.15 grains/dscf pursuant to Regulation 6-1-310. There are no monitoring requirements to demonstrate compliance with this standard. However, as shown below, the PM emissions from each device are well below the grain loading limit. Based on the District's experience with permitting landfill gas flares and diesel engines, the District does not expect any excesses of this grain loading standard at A-2 or S-201. Since PM₁₀ emissions are not substantial and the likelihood of compliance is high, PM monitoring for this grain loading limit is not necessary.

A-2:

$$(17 \text{ lbs PM}_{10}/1\text{E}6 \text{ ft}^3 \text{ CH}_4) * (0.45 \text{ ft}^3 \text{ CH}_4/\text{ft}^3 \text{ LFG}) / (4.406 \text{ ft}^3 \text{ flue gas}/\text{ft}^3 \text{ LFG}) * (7000 \text{ grains}/\text{lb}) \\ = 0.012 \text{ grains PM}_{10}/\text{ft}^3 \text{ flue gas at } 0\% \text{ O}_2$$

$$(412,560 \text{ MM BTU}/\text{yr}) * (0.0168 \text{ lbs PM}_{10}/\text{MM BTU}) / (2000 \text{ lbs}/\text{ton}) = 3.47 \text{ tons}/\text{year of PM}_{10}$$

BAAQMD Regulation 6-1-310 for S-201: This emergency standby engine is also subject to the grain loading standard of 0.15 grains/dscf pursuant to Regulation 6-1-310. There are no monitoring requirements to demonstrate compliance with this standard. Based on the District's experience with permitting emergency standby diesel engines of this size, the District does not expect any excesses of this grain loading standard at S-201. The District expects that the Ringelmann standard would be exceeded before the grain loading standard is exceeded. Since PM₁₀ emissions are very low, monitoring is not appropriate in this case.

S-201:

$$(0.31 \text{ lbs}/\text{MM BTU}) * (0.5754 \text{ MM BTU}/\text{hr}) * (500 \text{ hrs}/\text{yr}) / (2000 \text{ lbs}/\text{ton}) = 0.04 \text{ tons}/\text{year PM}_{10}$$

BAAQMD Regulation 6-1-311 for S-10 Waste Recycler: The waste recycler is capable of processing 80 tons/hour (160,000 pounds/hour) of wood waste. Under Regulation 6-1-311, the allowable particulate emission rate is the maximum rate of 40 pounds/hour. Per AP-42, this process is similar to log debarking producing particulate emissions of approximately 0.024 pounds/ton processed (Table 10.3-3, Wood Products Industry, AP-42, 4th edition). The calculated uncontrolled emissions would then be 1.92 pound/hour (1.15 tons/year). The emission limit is more than 20 times this expected uncontrolled emission rate. The particulate emissions from the waste recycler are controlled by water sprays. Since the margin of compliance is so large, monitoring for the Regulation 6-1-311 limit is not necessary.

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.

Renewal of Title V Permit

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

- In Table VIII, the District is correcting citations and adding the missing EPA reference methods for Regulation 6, Rule 1 requirements.
- EPA and BAAQMD test methods for analyzing Total Organic Compounds for Miscellaneous Operations was added regarding Regulation 8-2-301.
- Descriptions were corrected for various sections of Regulation 8-34.
- An obsolete integrated sampling method for Regulation 9-1-302 was removed.
- New CARB and ASTM procedures were added for fuel oil sulfur determinations related to Regulation 9-1-304 and CARB diesel oil sulfur limits.
- Regarding Regulation 9-8-304.2 and 305, the applicable test methods were added for NOx and CO limits.
- CARB methods for determining compliance with diesel PM limits and fleet average PM emission calculations were added.
- The test methods for the applicable limits in 40 CFR Part 60, Subpart WWW were added to Table VIII.
- For Condition #19906, Parts 8 and 10, the District is replacing the Draeger tube test method with the appropriate EPA and BAAQMD test methods for analyzing sulfur compounds in a gas.

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 that identifies and justifies specific federally enforceable regulations and standards are not applicable to a source or group of sources, or (2) A provision in a major facility review permit that identifies and justifies specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting which 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.

No permit shields were requested by the applicant.

Changes to Permit, Section IX:

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

Renewal of Title V Permit

X. Revision History:

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

- The District is adding the permit revisions associated with this MFR Renewal Permit (Application # 16969) to Section X.

XI. Glossary:

This Glossary defines acronyms and terms that are used throughout the permit.

- The District is adding a number of terms to Section XI.

XII. State Implementation Plan:

This section contained the EPA web site address for the District's SIP approved rules. This address has been moved to Sections III and IV of the permit, and Section XII is no longer necessary.

- The District is deleting Section XII.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

This section will be updated when the compliance report is received.

ACME Fill Corporation stated that they are in full compliance with all applicable local, state, and federal air quality requirements by signing compliance certification statements on.

F. Differences between the Application and the Proposed Permit:

S-9 IC Engine and S-10 Waste Recycler were permitted with Application 9132 on May 24, 2004. These two sources replaced S-4 IC Engine and S-5 Green Waste Tub Grinder. The District is removing S-4 and S-5 and all associated tables and permit conditions from the proposed Title V permit. The District is identifying S-9 as a source that is exempt from major facility review

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

pursuant to Regulation 2-6-114. The District is adding S-9 to a new exempt equipment list (Table II-C). The District is adding S-10 to the proposed Title V renewal permit.

Source 201 Emergency Standby Diesel Generator was permitted with Application 8371 on December 5, 2003. The District is adding S-201 to the proposed Title V renewal permit.

The District is proposing to incorporate permit condition changes that were approved pursuant to NSR Permit Application 23071 for S-1 Landfill and S-200 Leachate Treatment Facility into the proposed Title V renewal permit.

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Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit


APPENDIX A
BAAQMD COMPLIANCE REPORT


Renewal of Title V Permit

COMPLIANCE & ENFORCEMENT DIVISION

Inter-Office Memorandum

August 31, 2011

TO: JOHN CHILADAKIS – DIRECTOR OF ENGINEERING 

FROM: BRIAN BATEMAN – DIRECTOR OF ENFORCEMENT 

SUBJECT: REVIEW OF COMPLIANCE RECORD OF:

ACME FILL CORPORAION; SITE #A1464

Background

This review was initiated as part of the District evaluation of an application by ACME FILL CORPORATION for a Title V Permit Renewal. It is standard practice of the Compliance and Enforcement Division to undertake a compliance record review in advance of a renewal of a Title V Permit. The purpose of this review is to assure that any non-compliance problem(s) identified during the prior permit term has 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.

ACME FILL CORPORATION is a landfill located in Martinez, CA. Gasses produced by the decay of landfill materials are routed to Bulldog Gas and Power Inc. (Site B3782) where they are used to generate electrical energy for the landfill and Central Contra Costa Sanitary District (Site A0907) where they are used to incinerate sewage sludge.

Compliance Review

1. Violation History

Staff reviewed ACME FILL CORPORATION Annual Compliance Certifications for **4/17/03 - 8/18/11** and found no ongoing non-compliance and no recurring pattern of violations.

Staff also reviewed the District compliance records for ACME FILL CORPORATION for **4/17/03 - 8/18/11**. During this period ACME FILL CORPORATION activities known to the District include:

Renewal of Title V Permit

REVIEW OF COMPLIANCE RECORD OF:
ACME FILL CORPORATION – SITE #A1464
August 31, 2011
Page 2 of 3

4 District-issued Notice of Violation(s):

NOV#	Regulation	Date Occur	# of Days	Comments	Disposition
A11144A	2-6-307	10/23/03	1	Wellhead Leaks	Penalty
A11144B	8-34-305.4	10/23/03	1	Failure to Report	Penalty
A11147A	8-34-305	7/21/04	1	Excess O2 @ Wellhead	Penalty
A11147B	8-34-301.2	7/21/04	1	Compressor Leak	Penalty

2. Complaint History

The District received **8** air pollution complaints alleging ACME FILL CORPORATION as the source; none of these complaints were confirmed to the site.

Complaint	Occur	Confirmed	Type	Description
190652	6/23/05	No	Odor	Garbage Dump
191589	9/26/05	No	Odor	Garbage
191653	9/29/05	No	Odor	Ammonia
193553	5/13/06	No	Odor	None Given
195321	10/7/06	No	Odor	Very Bad
198235	9/5/07	No	Odor	Garbage
201610	10/17/08	No	Odor	Strong Garbage
208445	1/8/11	No	Odor	Grease Pit/Oily

3. Reportable Compliance Activity

Reportable Compliance Activity (RCA), also known as "Episode" reporting, is the reporting of compliance activities involving a facility as outlined in District Regulations and State Law. Reporting covers breakdown requests, indicated monitor excesses, pressure relief device releases, inoperative monitor reports and flare monitoring.

Within the permit period, **4/17/03 - 8/18/11**, the District received **1** notification for an RCA. **0** NOV(s) for **0** violations issued as a result of this RCA.

Episode	Date Occur	# of Days	Comments	Disposition
Inoperative Monitor 04F41	7/21-23/04	3	Loose Connection to Thermocouple (temp.)	No Enf. Action Required

4. Enforcement Agreements, Variances, or Abatement Orders

There were no enforcement agreements, variances, or abatement orders for ACME FILL CORPORATION over the period of the initial permit period or thereafter.

Renewal of Title V Permit

REVIEW OF COMPLIANCE RECORD OF:
ACME FILL CORPORATION – SITE #A1464
August 31, 2011
Page 3 of 3

Conclusion

Following its review of all available facility and District compliance records from the date of issuance of ACME FILL CORPORATION initial Title V permit through 8/18/2011, the District's Compliance and Enforcement Division has determined that ACME FILL CORPORATION was in intermittent compliance from the initial permit period through the present. ACME FILL CORPORATION has demonstrated no evidence of ongoing noncompliance and no recurring pattern of violations that would warrant consideration of a Title V permit compliance schedule for this facility.

Based on this review and analysis of all the violations for the **4/17/03 - 8/18/11** period, the District has concluded that no schedule of compliance or change in permit terms is necessary beyond what is already contained in the facility's current Title V permit.

SW 8/18/11

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

APPENDIX B

COMPARISON OF ACTUAL EMISSION CALCULATIONS

Renewal of Title V Permit

Comparison Tables of Actual Emission Calculations for 2011 and 2003

Table 1. Actual 2011 Emissions for Site # A1464

Device Number and Description	Throughput	Emissions (tons/year)				
		CO	PM10	NOx	POC	SO2
S-1 Landfill with Gas Collection	286685.0 thou cubic ft/yr	0	0.35	0.055	39.1	0
S-9 IC Diesel Engine for Waste Recycler	3.1 thou gal/yr	0.16	0.05	0.73	0.05	0
S-10 Waste Recycler	7466.0 tons/yr	0	0.09	0	0	0
S-200 Leachate Treatment Facility	6938.0 thous gal/yr	0	0	0	0.04	0
S-201 Emergency Standby Genset	0.0 thou gal/yr	0	0	0	0	0
A-2 Landfill Gas Enclosed Flare	9108.0 thou cu ft/yr	0.86	0.02	0.16	0.02	0.04
Facility Wide Emissions		1.02	0.51	0.95	39.21	0.04

Table 2. Actual 2003 Emissions for Site # A1464

Device Number and Description	Throughput	Emissions (tons/year)				
		CO	PM10	NOx	POC	SO2
S-1 Landfill with Gas Collection	373450.0 thou cubic ft/yr	0	0.38	0.05	38.7	0
S-4 IC Diesel Engine for S-5 Tub Grinder	4.9 thous gal/yr	0.25	0.09	1.15	0.09	0
S-5 Tub Grinder	2880.0 tons/yr	0	0.03	0	0	0
S-200 Leachate Treatment Facility	9233.0 thou gal/yr	0	0	0	0.04	0
A-2 Landfill Gas Enclosed Flare ¹	264389.4 thou cu ft/yr	25.12	0.4	4.76	0.29	1.11
Facility Wide Emissions		25.37	0.9	5.96	39.12	1.11

¹ The difference in emissions for A-2 Landfill Gas Enclosed Flare between 2003 and 2010 is noted as follows:
During 2003 most of the landfill gas was burned in the Enclosed Flare onsite.
For 2011, most of the collected landfill gas was sent offsite to energy recovery equipment at other facilities.

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

APPENDIX C

GLOSSARY

Renewal of Title V Permit

ACT

Federal Clean Air Act

AP-42

An EPA Document "Compilation of Air Pollutant Emission Factors" that is used to estimate emissions for numerous source types. It is available electronically from EPA's website at: <http://www.epa.gov/ttn/chief/ap42/index.html>

APCO

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

ARB

Air Resources Board

ASTM

American Society of 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 which 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, for example: pentane

C6

An organic chemical compound with six carbon atoms, for example: hexane

Renewal of Title V Permit

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. NO_x 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 CH₄

Methane

CIWMB

California Integrated Waste Management Board

CO

Carbon Monoxide

CO₂ or CO₂

Carbon Dioxide

Cumulative Increase

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

Renewal of Title V Permit

District

The Bay Area Air Quality Management District

E6, E9, E12

Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53E6 equals $(4.53) \times (10^6) = (4.53) \times (10 \times 10 \times 10 \times 10 \times 10 \times 10) = 4,530,000$. Scientific notation is used to express large or small numbers without writing out long strings of zeroes.

EL

Emission limit

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.

FID

Flame Ionization Detector

FP

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

FR

Federal Register

GLM

Ground Level Monitor

Grain

1/7000 of a pound

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.

Renewal of Title V Permit

H₂S or H₂S

Hydrogen sulfide

H₂SO₄ or H₂SO₄

Sulfuric Acid

H&SC

Health and Safety Code

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.

LFG

Landfill gas

LHV

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

Long ton

2200 pounds

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.

MSDS

Material Safety Data Sheet

MSW

Municipal solid waste

Renewal of Title V Permit

MTBE

Methyl tertiary-butyl ether

MW

Molecular weight

N2 or N₂

Nitrogen

NA

Not Applicable

NAAQS

National Ambient Air Quality Standards

NESHAPS

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

NMHC

Non-methane Hydrocarbons (Same as NMOC)

NMOC

Non-methane Organic Compounds (Same as NMHC)

NO₂ or NO₂

Nitrogen Dioxide

NO_x 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 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.)

O₂ or O₂

Oxygen

Offset Requirement

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

Renewal of Title V Permit

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 or 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.

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, refinery marine terminals, regulated organic liquids are defined as "organic liquids" in Regulation 8, Rule 44.

RCRA

Resource Conservation and Recovery Act

RWOCB

Regional Water Quality Control Board

S

Sulfur

Short ton

2000 pounds

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 SO₂

Sulfur dioxide

SOCMI

Synthetic Organic Compound Manufacturing Industry

Renewal of Title V Permit

TAC

Toxic Air Contaminant (as identified by CARB)

THC

Total Hydrocarbons (NMHC plus methane) (same as TOC)

Therm

100,000 British Therma Units

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 plus methane, same as THC)

TPH

Total Petroleum Hydrocarbons

TRMP

Toxic Risk Management Plan

TRS

Total Reduced Sulfur, which is a measure of the amount of sulfur-containing compounds in a gas stream, typically a fuel gas stream, including, but not limited to hydrogen sulfide. The TRS content of a fuel gas determines the concentration of SO₂ that will be present in the combusted fuel gas, since sulfur compounds are converted to SO₂ by the combustion process.

TSP

Total Suspended Particulate

TVP

True Vapor Pressure

VOC

Volatile Organic Compounds

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

Renewal of Title V Permit

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
in	=	inches
max	=	maximum
m ²	=	square meter
m ³	=	cubic meters
min	=	minute
mm	=	million
MM	=	million
MM BTU	=	million BTU
M cf	=	one thousand cubic feet
MMcf	=	million cubic feet
Mg	=	mega grams
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

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

APPENDIX D

ENGINEERING EVALUATION FOR APPLICATION # 8371

Renewal of Title V Permit

ENGINEERING EVALUATION REPORT

PLANT NAME	Acme Fill Corporation
APPLICATION NUMBER	8371
PLANT NUMBER	A1464
DATE	<u>4 December 2003</u>

1. BACKGROUND

Acme Fill Corporation has applied for a Permit to Operate an existing standby generator powered by an 80 hp diesel engine (S-#201). The engine has been in operation since approximately 1996, and was thus installed before May 17, 2000 when Regulation 1 and Regulation 2-1 were modified to require engines greater than 50 HP to require a Permit to Operate. As such, S-201 constitutes a Loss-Of-Exemption source not subject to Regulation 2-1-301.

S-201 Standby Emergency Genset, 80 hp, John Deere 4039D

This genset was installed before May 17, 2000 and will therefore be conditioned to operate for 100hours per year for reliability purposes and unlimited for emergencies.

2. EMISSION CALCULATIONS

Emissions will not be calculated per se, but emission factors will be presented. Sulfur dioxide emission factors will be estimated based on an engine operating 100 hours per year, burning 21 gal/hr of diesel fuel.

For S-201 no specific emissions factors were provided by the applicant for these engines. Factors will be taken from AP-42, Chapter 3.3-1.

For Diesel Engines Smaller than 600 HP

- **NO_x** 4.41 lb/MM Btu (Uncontrolled, AP-42, Table 3.3-1)
- **CO** 0.95 lb/MM Btu (AP-42, Table 3.3-1)
- **POC** 0.36 lb/MM Btu (AP-42, Table 3.3-1)
- **PM** 0.31 Lb/MM Btu (AP-42, Table 3.3-1)
- **SO₂** 0.044 lb/MM Btu (calc shown below, sulfur in diesel is 500 ppm max)

$$\begin{aligned} \text{SO}_2 \text{ Factor: Diesel Usage} &= [100 \text{ hr/yr}][4 \text{ gal/hr}] = 400 \text{ gal} \\ \text{Annual SO}_2 &= [400 \text{ gal/yr}][6.11 \text{ lb/gal}][500 \# \text{ S}/1\text{E}6 \# \text{ diesel}] \\ &= [\text{mole S}/32.06 \# \text{ S}][\text{mole SO}_2/\text{mole S}][64.1 \text{ lb SO}_2/\text{mole}] = 2.4 \text{ lb/yr} \end{aligned}$$

SO₂

$$\text{Emission Factor} = [2.4 \text{ lb/yr}]/[[400 \text{ gal}][0.140 \text{ MM Btu/gal}]] = 0.044 \text{ lb/MM Btu}$$

Renewal of Title V Permit

Databank Emission Factors – Engines Smaller than 600 hp

- NO_x Factor Conversion (smaller diesel engines): [4.41 lb NO_x/MM Btu][140 MM Btu/M gal] = 617.4 lb/m gal
- CO 133 lb/m gal (AP-42, Table 3.3-1)
- POC 50.4 lb/m gal (AP-42, Table 3.3-1)
- PM 43.4 lb/m gal (AP-42, Table 3.3-1)
- SO₂ 6.2 lb/m gal

3. CUMULATIVE EMISSIONS

Emissions from S-201 do not count towards the facility's cumulative increase since S-201 is not defined as a new or modified source pursuant to Regulation 2-1-232.

4. PERMIT REQUIREMENTS/DISCUSSION OF EXEMPTION

The engine is exempt from the emission requirements of 9-8-301, 302, and 502, but is subject to emergency standby engine requirements as noted in the Regulation and as per current District policy.

5. BACT/OFFSETS

Since S-201 is a loss-of-exemption source, it is not subject to the BACT requirements of Regulation 2-2-301.

Offsets are not required pursuant to Regulation 2-2-302 because S-201 is not a new or modified source.

6. TOXIC RISK ASSESSMENT

A Toxic Risk Screen Analysis is not required for this source since S-201 is not a new or modified source and is not subject to Regulation 2-1-316.

7. STATEMENT OF COMPLIANCE

S-201 is a loss-of-exemption **standby generator** installed before May 17, 2000. Pursuant to Regulation 9-8-110.2, S-201 is not subject to Regulations 9-8-301, 9-8-302, and 9-8-502. S-201 is subject to the monitoring and record keeping procedures described in Regulation 9-8-530, the SO₂ limitations of Regulation 9-1-302 (ground level concentration) and 9-1-304 (0.5% by weight in fuel), and the Ringelmann No. 2 limitations of Regulation 6-303(emissions opacity limitations). Requirements for Regulation 9-8-530 are included in the proposed permit conditions. Compliance with Regulation 9-1-304 is likely since California law mandates using diesel fuel with a 0.05% by weight sulfur.

Per Regulation 6, Section 303, a person shall not emit for a period or periods aggregating more than three minutes in any hour, a visible emission that is as dark or

Renewal of Title V Permit

darker than No. 2 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree, nor shall said emission, as perceived by an opacity sensing device in good working order, where such device is required by District regulations, be equal to or greater than 40% opacity. A properly maintained engine is expected to meet this.

This application is considered to be ministerial under the District's proposed CEQA guidelines (Regulation 2-1-311) and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

This source is not defined as a new or modified source and is therefore not subject to the public notification requirements of Regulation 2-1-412.

A toxic risk screening analysis is not required.

BACT, PSD, NSPS, and NESHAPS are not triggered.

8. CONDITIONS

Recommend the following permit condition emergency standby engine generator S-201 (BAAQMD Plant 1464).

COND# 19533 -----
CONDITIONS FOR NON "ESSENTIAL" EMERGENCY ENGINES:

Stationary Equipment Requirements

1. Hours of Operation: The owner/operator shall operate the emergency standby engine(s) only to mitigate emergency conditions or for reliability-related activities. Operating while mitigating emergency conditions is unlimited. Operating for reliability-related activities is limited to 100 hours per any calendar year. [Basis: Regulation 9-8-330]

"Emergency Conditions" is defined as any of the following:

- a. Loss of regular natural gas supply.
- b. Failure of regular electric power supply.
- c. Flood mitigation.
- d. Sewage overflow mitigation.
- e. Fire.
- f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor. [Basis: Regulation 9-8-231]

Renewal of Title V Permit

"Reliability-related activities" is defined as any of the following:

- a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
- b. Operation of an emergency standby engine during maintenance of a primary motor.

[Basis: Regulation 9-8-232]

2. The owner/operator shall equip the emergency standby engine(s) with either:

- a. a non-resettable totalizing meter that measures the hours of operation for the engine; or
- b. a non-resettable fuel usage meter, the maximum hourly fuel rate shall be used to convert fuel usage to hours of operation.

[Basis: Regulation 9-8-530]

3. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 2 years and shall make the log available for District inspection upon request:

- a. Hours of operation (total).
- b. Hours of operation (emergency).
- c. For each emergency, the nature of the emergency condition.
- d. Fuel usage for engine(s) if a non-resettable fuel usage meter is utilized.

[Basis: Regulations 9-8-530 and 1-441]

9. RECOMMENDATIONS

It is recommended that a Permit to Operate be issued to Acme Fill Corporation for the following emergency standby engine source S-201 subject to the following condition:

Condition # 19533

by:

Randy E. Frazier, P.E.
4 December 2003

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

APPENDIX E

ENGINEERING EVALUATION FOR APPLICATION # 9132

Renewal of Title V Permit

ENGINEERING EVALUATION REPORT

PLANT NAME	ACME Fill Corporation
PLANT NUMBER	1464
APPLICATION NUMBER	9132
PLANT/SITE ADDRESS	950 Waterbird Way Martinez, CA 94553
DATE	19 May 2004
ENGINEER	R.E. Frazier
PAGE	1 of 7

1. BACKGROUND

This application is for an Authority to Construct/Permit to Operate for a diesel-powered recycle grinder at the ACME Fill Corporation. The sources are identified as follows:

- S-9 IC Engine, Diesel, 860 hp, 1649 Cu Inch (powering S-10 Waste Recycler)**
- S-10 Waste Recycler, Track Mounted, Peterson Pacific HC 5410, 80 ton/hr**

This new operation is a replacement for the existing tub grinder/engine combination, sources S-4 IC Engine (503 hp) and S-5 Green Waste Tub Grinder. The new unit was purchased because of the higher reliability and because it is mobile whereas the old tub grinder/diesel engine was not. The new unit was recently placed in operation as a source permitted under the Statewide Portable Equipment permitting program. However, ACME Fill wished to make the source a permanent operation at their facility – although portable throughout the facility. The unit is subject to NSR including BACT, offsets and toxic risk review.

Although ACME does not expect to increase their green waste throughput above current levels, they have requested 1200 hours per year of operating time, which will be the basis of the permit evaluation. It appears on cursory examination, that the engine emissions meet BACT and that NOX and/or POC emissions may need to be offset.

Emissions from the operation include combustion emissions from the engine (S-9) and particulate emissions from the waste recycler (S-10) after control by an integral water spray. This engine is from model year 2003 and has been certified and tested under CARB Executive Order U-R-001-0216-1. According to emission factors presented by the Executive Order, the engine meets BACT for criteria and toxic emissions.

Renewal of Title V Permit

2. EMISSION CALCULATIONS

Calculations Basis:

Hours of Operation, Annual: 1200 hr
Horsepower at Operation: 860hp
Fuel Usage Rate: 49.8 gal/hr
Hogger Throughput: 80 ton/hr

Table 1, Emission Factors vs. BACT/TBACT Factors (CARB Executive Order U-R-001-0216-1)
Waste Recycler Factor: AP-41, Table 10.3-1 (taken from Table 9 Notes, AN 17552, Redwood LF)

FACTORS	PM10	NOx	HC	CO	SO2
S-9 Engine					
ISO 8178 D-2 Factor, g/hp-hr*	0.082	6.26	0.075	1.04	Mass balance
TBACT/BACT2	0.15 (TBACT)	6.9	1.5	2.75	<0.05% fuel S
S-10 Waste Recycler (Hogger)					
AP-42, Table 10.3-1	0.024 lb/ton				

PM-10 Emissions: $[860 \text{ bhp}][1200 \text{ hr/yr}][0.082 \text{ g/bhp-hr}][\text{lb}/454 \text{ g}] = 186.4 \text{ lb/yr}$ (0.51 lb/day annual average)

Highest day emissions = $[[186 \text{ lb/yr}]/[1200 \text{ hr/yr}]]*24\text{hr/day}] = 3.7 \text{ lb/day}$

NOx Emissions: $[860 \text{ bhp}][1200 \text{ hr/yr}][6.26 \text{ g/bhp-hr}][\text{lb}/454 \text{ g}] = 14,300 \text{ lb/yr}$ (39 lb/day annual average)

Highest day emissions = $[[14,300 \text{ lb/yr}][1200 \text{ hr/yr}]]*24\text{hr/day}] = 285 \text{ lb/day}$

CO Emissions: $[860 \text{ bhp}][1200 \text{ hr/yr}][1.04 \text{ g/bhp-hr}][\text{lb}/454 \text{ g}] = 2364 \text{ lb/yr}$ (6.5 lb/day annual average)

Highest day emissions = $[[2364 \text{ lb/yr}][1200 \text{ hr/yr}]]*24\text{hr/day}] = 47.3 \text{ lb/day}$

TOC Emissions : $[860 \text{ bhp}][1200 \text{ hr/yr}][0.075 \text{ g/bhp-hr}][\text{lb}/454 \text{ g}] = 171 \text{ lb/yr}$ (0.47 lb/day annual average)

Highest day emissions = $[[171 \text{ lb/yr}][1200 \text{ hr/yr}]]*24\text{hr/day}] = 3.4 \text{ lb/day}$

SO₂ Emissions:Basis: Diesel S Content: 500 ppm S (wt)

Diesel Usage = $[1200 \text{ hr/yr}][49.8 \text{ gal/hr}] = 59,760 \text{ gal/yr}$

Annual SO₂ = $[59,760 \text{ gal/yr}][6.1 \text{ lb/gal}][500 \text{ # S}/1\text{E}6 \text{ # diesel}]$

$[\text{mole S}/32.06 \text{ # S}][\text{mole SO}_2/\text{mole S}][64.1 \text{ lb SO}_2/\text{mole}] = 365 \text{ lb/yr SO}_2$

Daily average: 0.99 lb/day

Highest Day Emission: $[[365 \text{ lb/yr}][1200 \text{ hr/yr}]]*24 \text{ hr/day}] = 7.3 \text{ lb/day}$

Factor = $[365 \text{ lb/yr}][\text{yr}/59760 \text{ gal}][\text{gal}/0.14 \text{ MM Btu}] = 0.04 \text{ lb/MM Btu}$ (6.1 lb/mgal)

*Uncontrolled emission factors supplied via Manufacturer's Performance Data Sheet, 2003 Engine Year, CARB Executive Order U-R-001-0216-1;

Emissions from the wood hogger are presented, although the new recycler S-10 is replacing an existing tub grinder, with similar emissions and controls (water spray). There is no increase in wood throughput, therefore no emissions increase is expected. The abatement efficiency of the water spray is 50% of the particulate emissions.

S-10 Recycler PM Emissions: $[1200 \text{ hr/yr}][80 \text{ ton/hr}][0.024 \text{ lb/ton}][1-0.5] = 1,152 \text{ lb/yr}$ (3.2 lb/day annual average (23 lb/day highest day emissions)

Renewal of Title V Permit

3. **EMISSIONS SUMMARY**

Table 2 S-9 and S-10 Emissions Summary

POLLUTANT	Toxic Trigger Level (lb/yr)	Annual Emissions (lb/yr)	Annual Average (lb/day)	Tons/Yr	Highest Day (lb/day)
S-9 Engine					
Diesel PM10	0.64	186	0.51	0.09	3.7
NOx	N/A	14,300	39	7.2	285
CO	N/A	2,364	6.5	1.2	47.3
TOC	N/A	171	0.47	0.086	3.4
SO ₂	N/A	365	0.99	0.2	7.3
S-10 Recycler					
PM		1,152	3.2	0.57	23

4. *CUMULATIVE INCREASE/OFFSETS*

At present, there is no cumulative increase for emissions of NOx, CO, or SO2 from this facility. A printout of the current balance is provided in this permit application package. Emissions of TOC and NOx are below 50 tpy and therefore any emission offsets that are needed for these pollutants will be provided from the small facilities bank.

The emissions from the waste recycler will not be considered inasmuch as the new unit performs the identical function of the old tub grinder with equivalent (or better) abatement and the same throughput.

For the purpose of calculating the ERCs for the old engine, the actual diesel usage will be used in combination with AP-42 factors. Average diesel usage for engine S-4 is 4,930 gal/yr. Emission factors and emissions are calculated as follows and presented in Table 3.

Calculations Basis:

S-4 Engine HP: 503
 Annual Usage: 4,930 gal/yr
 Fuel Usage: [503 hp][7,000 Btu/hp-hr][gal/140E3 Btu] = 25.2 gal/hr (3.52 E6 Btu/hr)
 Fuel Heat Throughput: [4,930 gal/yr][140E3 Btu/gal][MM Btu/1E6 Btu] = 690 MM Btu/yr

NOx Emissions, S-4: [690 MM Btu/yr][4.41 lb/MM Btu] = 3,044 lb/yr

Table 3 Plant 1464 Emissions Summary Data

POLLUTANT-----	PM10	NOx	HC	CO	SO2
Cumulative Increase					
Pre-project (tpy)	0.991	0.00	0.115	0.00	0.00
S-4 Engine					
AP-42 Factors (lb/MM Btu)	0.31	4.41	0.35	0.95	Mass balance
Emission Reduction Credits, lb/yr	214	3,044	241	655	30
S-9 Emissions, Project Emissions					
S-9 Emissions, lb/yr	186	14,300	171	2,364	365
ERCs from S-4, lb/yr	214	3,044	241	655	30
Net Emissions Increase, lb/yr	No increase	11,256	No increase	1,709	335
Net Emissions Increase, tpy	-	5.6	-	0.85	0.17
Plant Emissions					
Pre-project, tpy	1.4	12.1	39.7	57.9	0.015
Post-project, tpy	1.4	17.7	39.7	58.7	0.18
Offset Ratio	N/A	1.0	1.0	N/A	N/A

Renewal of Title V Permit

Table 4 AN 9132 Emission Offsets Summary

POLLUTANT	PROJECT EMISSIONS INCREASE (tpy)	PLANT EMISSIONS post project (tpy)	OFFSETS (tpy)	PLANT CUMULATIVE INCREASE, (tpy) (pre-project)	PLANT CUMULATIVE INCREASE, (tpy) (post-project)
PM10	-	1.4	n/a	0.991	0.991
NOx	5.6	17.7	5.6	0.0	0
CO	0.85	58.7	n/a	0.0	0.85
TOC	-	39.7	n/a	0.115	0.115
SO ₂	0.17	0.18	n/a	0.0	0.17

Emission offsets for the NOx increase will be withdrawn from the small facilities bank account, leaving the cumulative increase for NOx at zero.

It should be noted that the above emission offset requirements are based on ERCs resulting from actual operation of the old engine S-4. Engine S-4 was permitted to operate for 2,920 hours/yr with estimated diesel usage of 25.2 gal/yr gave a maximum potential diesel usage of 73,438 gal/yr. The new engine S-9 will be permitted to operate 1,200 hr/yr at 50 gal/hr which gives 60,000 gal/yr. Hence less diesel will be consumed with the new engine S-9 as compared to S-4. ERCs have been provided based on the lesser of actual throughput or permitted throughput (2-2-605.2, 5-17-2000).

5. STATEMENT OF COMPLIANCE

**A. Toxic Evaluation:
S-9 IC Engine, Diesel, 860 hp, 1649 Cu Inch (powering S-10 Waste Recycler)**

Toxic emissions from this source include PM-10 which is used as a surrogate for all other emitted toxic air contaminants. Our toxic analysis used the following assumptions in the development of the risk estimates for this engine:

Meteorological Data: TOS (Tosoro) Met Data
 Exhaust flow: 5,333 cfm @ 0.83 ft dia
 Stack height: 11'
 Operation: 1200 hr/yr
 Building Parameters/Footprint: See risk screening info request form
 Nearest residence: Vine Hill (West); Clyde (East)
Distance to Property Line: 1,500 ft
 Industrial Exposure factor: 0.66

RESIDENTIAL RISK	FENCELINE RISK	INDUSTRIAL MEI
0.9 in million	4 in a million	~3 in a million

Carcinogenic Risk Evaluation,-S-9

The fence line carcinogenic risk is estimated at 4 in a million. The facility is located in an area surrounded generally with large buffer areas between ACME and the nearest industrial receptor. The largest unit concentration for the nearest potential industrial receptor is just off the southeast corner of the facility. The risk to the nearest residential receptor occurs in the Vine Hill residential area and is less than in a million at 1200 hours of operation per year. ***This engine complies with TBACT with a diesel particulate emission level of 0.075 g/hp-hr.***

Renewal of Title V Permit

Non-Carcinogenic Chronic Risk Evaluation, S-9

Non-carcinogenic chronic risks were estimated using the REL for chronic inhalation of particulate from diesel engine combustion. The tabulation of the emissions are shown in a spreadsheet in this evaluation, as are the calculated hazard indices for the various pollutants. The hazard index for the maximally exposed residential and fence-line receptors are both estimated at well below 1.0. Since the hazard indices are less than 1, the health impacts from chronic exposure to diesel particulate from this source is not significant.

Public Notification: The nearest school (downtown Martinez) is well over 1,000 ft from the ACME Fill Corporation property. **Therefore public notification due to toxic air contaminants is not required.**

B. Regulation 1 – General Provisions and Definitions

§1-301: Prohibits discharging emissions in quantities that cause injury, detriment, nuisance, or annoyance. These sources are replacements for S-4 and S-5 and are not expected to violate 1-301..

C. Permits – General Requirements, Regulation 2 Rule 1

Source S-9 is not located within 1,000 feet of the nearest school, and therefore is not subject to the public notification requirements of 2-1-412.

D. Permits – New Source Review, Regulation 2 Rule 2 (dated 10/7/98)

1. **BACT, S-9, S-10:** BACT is required for any listed criteria pollutant with highest day emissions exceeding 10 lb/day. For S-9, BACT is required for NOx and CO and TBACT is required for toxic diesel PM10. A comparison of BACT against the manufacturer guaranteed emission factors is as follows:

POLLUTANT	BACT LEVEL (g/bhp-hr)	CARB Order (g/bhp-hr)
NOx	6.9 (Level 2)	6.26
CO	2.75 (Level 2)	1.04
PM10	0.15 (TBACT)	0.075
POC	1.5 (Level 2)	0.075
SO2	Diesel less than 0.05% sulfur	500 ppm CARB Diesel

Although only NOx and CO have maximum daily emissions exceeding 10 lb/day, BACT is achieved for all of the pollutants. **As required, the engine complies with BACT for NOx, CO, and TBACT for PM10.**

For source S-10, PM BACT is required since the maximum calculated emissions are 23 lb/highest day. The District BACT/TBACT Manual identifies BACT2 for a number of sources as the use of a water spray or adequate material moisture for solid material handling sources. We conclude that the use of a water spray particulate suppressant constitutes BACT for this operation.

2. **Offset Requirements:** §2-2-303: Emission offsets of 5.6 tpy are required for NOx, and will be supplied from the small facilities bank account.

3. **Prevention of Significant Deterioration:** §2-2-304: District PSD requirements do not apply since this is not a major modification as defined in 40CFR part 51 (NSR) and 52 (PSD).

Renewal of Title V Permit

Regulation 3 – Fees

ACME Fill Corporation has complied with fee requirements for this permit application.

F. Particulate Matter and Visible Emissions, Regulation 6

1. Section 301 prohibits for more than 3 minutes per hour, visible emissions as dark or darker than Ringelmann 1 or equivalent opacity. S-9 and S-10 (with water spray) are expected to comply with this requirement.
2. Section 305 prohibits emissions of visible particles from causing a nuisance on property other than the operators. S-9 and S-10 are both expected to easily comply with this standard.
3. Section 310 limits the particulate concentration in exhaust gases to 0.15 gr/dscf. At the estimated 5,333 cfm, on a highest day emissions basis, the resulting concentration in the exhaust would be 0.0005 grain/dscf. Hence this application complies with this requirement.

G. NSPS/NESHAPS

There is no New Source Performance Standard or National Emission Standards for Hazardous Air Pollutants that applies to this source.

H. CEQA

This project is considered to be ministerial under the District's CEQA Regulation 2-1-311. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors and therefore is not discretionary as defined by CEQA.

8. CONDITIONS

S-9 IC Engine, Diesel, 860 hp, 1649 Cu Inch (powering S-10 Waste Recycler)
S-10 Waste Recycler, Track Mounted-portable, Peterson Pacific HC 5410, 80 ton/hr

1. The total hours of operation of S-9 engine powering S-10 waste recycler shall not exceed 1,200 hours during any consecutive 12-month period.
[Basis: Cumulative Increase]
2. To demonstrate compliance with part 1, above, the Permit Holder shall keep daily records showing the hours of operation. These daily records shall be totaled on a monthly basis and shall be kept on-site and made available for District inspection for a period of at least 5 years from the date on which the record was made.
(Basis: Cumulative Increase)
- 3a. The Permit Holder shall not burn diesel fuel with a sulfur content in excess of 0.5% by weight.
(Basis: BAAQMD 9-1-304)
- 3b. To demonstrate compliance with this limit, every delivery of diesel fuel received shall be accompanied by either 1) a vendor certification of sulfur content or 2) a written certification stating the diesel meets the CARB 500 ppmw maximum sulfur content standard, or 3) test results showing sulfur content from a District-approved test. Records of the certifications or test results shall be kept on-site and made available for District inspection for a period of

Renewal of Title V Permit

- at least 5 years from the date on which the record was made. (Basis: BAAQMD 2-6-409.2, 2-6-501)
4. The exhaust of S-9 diesel engine shall be observed for visible smoke during all periods of operation. If persistent smoke is detected, the Permit Holder shall take necessary corrective action to stop the emissions.
(Basis: BAAQMD 6-301, 2-1-403)
 5. S-10 Waste Recycler shall not operate unless the integral water spray system and/or water spray truck A-1 is operated as needed to prevent visible dust emissions. (Basis: BAAQMD 2-1-403)
 6. Visible particulate emissions from S-10 shall not exceed Ringelmann 1.0 during any consecutive 3 minutes in any hour or result in fallout on adjacent property in such quantities as to cause a public nuisance.
(Basis: BAAQMD 1-301, 6-301, 6-305)
 7. All incoming green waste (i.e. yard trimmings, green leaves, tree limbs, brush) shall be processed within 14 days with the volume not to exceed 1,500 cubic yards at any one time unless an odor nuisance is created. If an odor nuisance is created, the incoming green waste shall be processed within 72 hours from the time it is received to prevent wood decomposition and odors. Breakdown relief from this part is available provided all the breakdown criteria and requirements of Regulation 1 are met.
(Basis: BAAQMD 1-301, 1-430, 1-432, 1-433)
 8. Continuous observation of S-10 waste recycler for for visible emissions is required during all periods of operation. If visible emissions exceeding Ringelmann 1.0 are detected, the operator of the source shall take the necessary corrective action to stop the emissions.
(Basis: BAAQMD 2-1-403, 6-301)
 9. In addition to the records required in parts 2 and 3 above, the Permit Holder shall keep monthly records, in a District-approved logbook, of the diesel fuel usage. The logbook shall be kept on-site and made available for District inspection for a period of at least 5 years from the date on which the record was made. (Basis: BAAQMD 1-441)

9. RECOMMENDATIONS

Issue permit to operate for S-9 and S-10 subject to Condition # 21474.

by: _____
Randy E. Frazier, P.E.
19 May 2004

Statement of Basis:
Application # 16969

Site A1464, Acme Fill Corporation,
950 Waterbird Way, Martinez, CA 94553

Renewal of Title V Permit

APPENDIX F

ENGINEERING EVALUATION FOR APPLICATION # 23071

Renewal of Title V Permit

Engineering Evaluation

Acme Fill Corporation Plant No. 1464 Application No. 23071

Equipment Location: 950 Waterbird Way
Martinez, California 94553

Acme Fill Corp. has applied for an authority to construct for changes to the permit conditions for their existing landfill gas (LFG) collection and control system for source

S-1 Landfill with Gas Collection System and

S-200 Leachate Treatment Facility

Background for S-1 Landfill

Regarding S-1 Landfill, the proposed modifications to permit conditions #19906 consist of installation of up to 10 new vertical landfill gas (LFG) extraction wells in the East Parcel of the existing landfill.

The landfill gas collection system currently is permitted for a total of 60 Vertical wells and 28 Horizontal Collectors. All 60 existing vertical extraction wells are dedicated landfill wells.

Acme landfill stopped receiving municipal waste in 1996. The East Parcel receives construction waste. The North and South Parcels are certified closed.

Total Number of existing Vertical Wells:	60
<u>Total Number of new Vertical Wells</u>	<u>10</u>
Total Revised Number of Vertical Wells	70
Total Number of Horizontal Collectors:	28

Other revisions to these permit conditions resulting from the current Title V Renewal application, #16969 include the following:

1. In Part 1, increasing the total tons in place to 11.348 million tons in place, consistent with the Regional Water Quality Control Board order for landfilling operations. This order is based on final fill height criteria, not tons in place.
2. In Part 8, allowing the use of a portable analyzer, such as the Gas Tech GT Land Surveyor, in place of Draeger tubes for monitoring landfill gas H₂S content.
3. In Part 10, specifying the compounds to be measured in the annual landfill gas characterization test.

Renewal of Title V Permit

Background for S-200 Leachate Activated Sludge Treatment Facility

Background - Leachate Treatment:

The Landfill Leachate Activated Sludge Treatment Facility was permitted with Application #8603 in July 20, 1992. This source includes the following process equipment: One Flow Equalization tank (13,000 gal), Secondary Treatment: One Contact Tank (3000 gal), and Two Aeration Tanks (each 13,000 gal), One Secondary Clarifier, Sludge Handling Processes: One Sludge Thickening Tank (700 gal), One Slurry Tank with Mixer, and One Mechanical Filter Press, and One Sodium Hydroxide (25%) Storage (6500 gal). Cycled collection pumps draw intermittent pulses of leachate from 23 sump and well locations to an equalization tank, where it is mixed with the return activated sludge (RAS), and the organics are sorped to the active biomass. The mixed liquor then flows into a series of two aeration tanks where the bacteria degrade the organics and ammonia. From the aeration tanks, the mixed liquor flows to a clarifier, where the biomass (RAS) is separated from the effluent leachate. A small slipstream of the RAS is sent to a thickening tank where excess leachate is decanted off and the waste activated sludge (WAS) is transferred to a slurry tank, and then to a filter press for final dewatering. The filter cake is packaged in drums and sent out for disposal.

Requested Revisions to Permit Conditions #19908 are as follows:

1. Acme is requesting to reduce the sampling frequency from quarterly to semiannual or annual in Condition #19908, Part 2. Acme has completed quarterly leachate influent and effluent testing for several years and observed very little variation in the results. Calculated emissions of benzene and VOC from the leachate treatment plant have historically been significantly below the emission limits in the conditions.
2. Acme is requesting increased capacity in the leachate flow rate from 36,000 to 72,000 gallons per day. The current Wastewater Discharge Permit Contract between Acme and Central Contra Costa Sanitary District, effective April 11, 2007, allows for the discharge of up to 50 gallons per minute or 72,000 gallons per day during the wet season months of November through May. The increased flow rate is only authorized from the East Parcel, and is to address seepages that may occur during extremely wet winters. If Acme were to increase flows due to rainfall leachate seepage, the leachate would be very dilute and consist mainly of rainwater. Since the increased leachate flow would be due to rainfall seepage, the emissions are not expected to increase.

Emissions Discussion

S-1 Landfill

Acme landfill stopped receiving decomposable municipal waste in 1996. The peak landfill gas generation rate occurred in 1995. The additional height increase in the East Parcel is due to construction waste, so we do not expect increased fugitive landfill gas emissions at this facility.

Since any potential incremental increase in landfill gas collection due to the construction waste would not exceed the permitted A-2 LFG flare capacity or of the other sources burning this fuel, there will be no emission increase above permitted levels resulting from this project. Therefore all emissions from the Acme Landfill have already been accounted for in previous permit applications, and there are no emissions increase associated with this application.

Renewal of Title V Permit

S-200 Leachate Treatment Facility

The increase in permitted leachate throughput is intended to accommodate increased leachate seepage due to rainfall. No increase in emissions is expected, and the emission limits previously set in Application 8603 will remain the same.

The leachate flow rate varies from day to day depending on the rain into the parcel. The North parcel is now closed, so only the East Parcel may receive rainwater, and add to leachate seepage.

The lab results from the 1/4/2011 Influent Grab Composite sample shows the following:

Benzene	50	µg/L
Chlorobenzene	2.8	µg/L
Ethylbenzene	3.6	µg/L
1,4-Dichlorobenzene	2.6	µg/L
<u>Total</u>	<u>50.9</u>	<u>µg/L</u>

The leachate throughput on this day was reported to be 8,600 gallons.

Benzene Emissions

$(50 \text{ µg/L}) (8,600 \text{ gal/day}) (1\text{E-}6 \text{ g/ µg}) (3.786 \text{ L/gal}) / (453.6 \text{ g/lb}) = 0.0036 \text{ lb/day}$

Assuming 75% biodegradation: $x (0.25) = 0.0009 \text{ lb/day}$

Therefore, the leachate emissions calculated from the sample data meet the current Benzene emission limit of 0.05 lb/day. We would expect the Benzene concentration to be much more dilute if significant rainwater seeped into the leachate. However, if the Benzene concentration remained at 50 µg/L, with a leachate throughput of 72,000 gal/day, the emissions would still comply with the current condition limit of 0.05 lb/day: Uncontrolled = 0.03 lb/day. With biodegradation of 75% = 0.0075 lb/day

VOC Emissions

The highest constituent in the influent grab composite is Benzene.

For VOC concentration of 59 µg/L, the Total VOC Uncontrolled = 0.004 lb/day.

With 75% biodegradation VOC emissions = 0.0011 lb/day, which meets the VOC limit in Condition 1b of 0.63 lb/day.

If the leachate flow rate was 72,000 gal/day and the leachate emissions increased proportionally, the leachate emissions after biodegradation would be 0.0089 lb/day – well below the current permit limit of 0.63 lb/day.

Application 8603 was permitted based on Average Leachate VOC Concentration of 10,406.6 µg/L, and a maximum leachate flow rate of 36,000 gallons per day.

NSR and PSD are not applicable to this application.

Statement of Compliance

Renewal of Title V Permit

There are no new District or Federal regulations triggered by the proposed landfill gas collection system modification. However, changing the number of gas collection wells at the landfill requires that Permit Condition #19906 be changed to reflect the correct configuration of the Gas Collection System.

There are no new District or Federal regulations triggered by the proposed change in conditions for the Leachate Treatment Facility. Permit condition #19908 will be changed to reflect the increased throughput capacity for leachate and the change in sampling frequency from quarterly to semi-annually; however, the emission limits for this source will not change. The revision in monitoring frequency, Part 2a of Condition #19908, will not become effective until the Title V Permit Renewal Application #16969 has completed public comment and is approved.

CEQA

The increase in landfill extraction wells is categorically exempt under the District's CEQA Regulation 2-1-312.1 and 312.2, because the Gas Collection and Control System is part of the abatement system. There is no adverse environmental impact due to the increased collection of landfill gas for abatement, nor the proposed changes in conditions.

Regarding the leachate treatment facility, there will be no physical modification to this facility and no anticipated increase in emissions above the currently permitted levels. The engineering evaluation for this project uses fixed standards and objective measurements. There is no adverse environmental impact due to the increased leachate rainfall seepage and the associated proposed changes in conditions.

Recommendations - Modified Permit Conditions

Acme Landfill (BAAQMD Plant #A1464).

Recommend approval for Source S-1 Landfill, Part 4 of Condition #19906 to be changed to account for the current and potential future LFG extraction wells and associated systems. Other changes to the permit conditions resulting from the current Title V Renewal application, #16969 are also shown below.

Recommend approval for S-200 Leachate Treatment Facility, Part 2 of Condition # 19908 to be changed to allow semi-annual sampling for benzene and total VOC concentrations, and approval for revisions to Part 3 to increase the leachate influent flow rate from 36,000 gallons per day to 72,000 gallons per day. The revision to Parts 2a and 2c to allow a semi-annual monitoring frequency, followed by annual monitoring frequency, must go through the Title V Permit Renewal Public Comment period before it is finally effective.

Date April 27, 2011

Judith Cutino, PE
Senior Air Quality Engineer

Renewal of Title V Permit

Permit Conditions
P#1464 Acme Landfill

Condition # 19906

**For S - 1 Acme Landfill with Gas Collection System,
70 Vertical Wells, 28 horizontal collectors**

1. The permit holder shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
 - a. Total waste accepted and placed at the landfill shall not exceed 1,500 tons in any single day.
(Basis: Regulation 2-1-301)
 - b. The total cumulative amount of all wastes placed in the landfill shall not exceed 11.2348 million tons. Exceedance of the cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source Review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.2, that the limit should be higher.
(Basis: Regulation 2-1-301)
 - c. The maximum design capacity of the landfill (total volume of all wastes and cover materials placed in the landfill, excluding final cover) shall not exceed 22.522 million cubic yards.
(Basis: Regulation 2-1-301)
2. Water and/or dust suppressants shall be applied to all unpaved roadways and active soil removal and fill areas associated with this landfill as necessary to prevent visible particulate emissions. Paved roadways at the facility shall be kept sufficiently clear of dirt and debris as necessary to prevent visible particulate emissions from vehicle traffic or wind.
(basis: Regulations 2-1-403, 6-1-301, and 6-1-305)
3. All collected landfill gas shall be vented to the properly operating Landfill Gas Flare (A-2) and/or to any of the following sources:
 - a) S-1, S-2, S-3, S-4, microturbine generators at Bulldog Gas & Power (BAAQMD plant 13782).
 - b) S-7 boiler, S-8 boiler, S-9 Sewage Sludge Incinerator, S-10 Sewage Sludge Incinerator or S-188 cogeneration turbine at Central Contra Costa Sanitary District (BAAQMD Plant 907).

Renewal of Title V Permit

Raw landfill gas shall not be vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 or to inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303.
(basis: Regulation 8-34-301)

4. The permit holder shall apply for and receive a Change of Conditions before altering the landfill gas collection system described below. Increasing or decreasing the number of gas collection system components and changing the locations of these components are considered to be alterations that are subject to this requirement. (basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, and 8-34-305)

a) The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Component locations, depths, and lengths are described in detail in Permit Applications #2273 and #23071. The authorized number of landfill gas collection system components is the baseline count listed below plus any components installed pursuant to Part 4b, as evidenced by start-up notification letters submitted to the District.

Required Components

Total Number of Vertical Wells: 60
Total Number of Horizontal Collectors: 28

- b) The Permit Holder has been authorized to perform the landfill gas collection system alterations listed below pursuant to Permit Application #23071. At least three days prior to initiating operation of a new component, the Permit Holder shall submit a start-up notice to the District that contains the component ID number and the anticipated initial start-up date for each new component.

- Install up to 10 New Vertical Wells

5. The vertical well portion of the landfill gas collection system described in Part 4.a. shall be operated continuously. Wells shall not be shut off, disconnected or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34 Sections 113, 116, 117, and 118. (basis: Regulation 8-34-301.1)

The horizontal collector system may be operated on

Renewal of Title V Permit

a non-continuous basis subject to the following criteria:

- a. Acme Fill shall install and maintain a District-approved vacuum/pressure gauge on each leg of the horizontal collector system.
 - b. Acme Fill shall monitor and record the pressure of each horizontal leg at a frequency of at least one time every calendar month.
 - c. When a positive pressure in a horizontal collector leg is noted, the isolation valve shall be opened, and the vapor depleted until the oxygen content at the collector leg increases to at least 5 percent or when the collector leg methane content decreases to 20 percent or less. Upon reaching either of these levels, the horizontal collector leg may be isolated from the vacuum system. (Basis: Regulation 8-34-404)
 - d. Acme Fill shall renew the non-continuous operation petition at a frequency of at least once every 3 years. (Basis: Regulation 8-34-404.5)
6. The Heat Input to the A-2 Landfill Gas Flare shall not exceed 1375 million BTU per day nor 412,560 million BTU per year. In order to demonstrate compliance with this part, the Permit Holder shall calculate and record on a monthly basis the maximum daily and total monthly heat input to the flare based on the landfill gas flow rate recorded pursuant to [Part 10](#), the average methane concentration in the landfill gas based on the most recent source test, and a high heating value for methane of 1013 BTU/scf. (basis: Regulation 2-1-301)
7. The combustion zone temperature of A-2 shall be maintained at a minimum of 1400 degrees Fahrenheit, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO will revise this minimum temperature limit in accordance with the administrative permit amendment procedures of Regulation 2-6-416 such that the minimum combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F. (basis: Toxic Risk Management Policy and Regulation 8-34-301.3)

Renewal of Title V Permit

8. Hydrogen sulfide in the collected landfill gas shall be monitored as a surrogate for sulfur dioxide in the control system exhaust. The concentration of hydrogen sulfide in the collected landfill gas shall not exceed 1300 ppmv (dry). In order to demonstrate compliance with this part, the Permit Holder shall measure the hydrogen sulfide content in collected landfill gas on a quarterly basis using a ~~Draeger tube~~ [District-approved analyzer](#). The landfill gas sample shall be taken from the main landfill gas header. The Permit Holder shall follow the manufacturer's recommended procedures for using the ~~Draeger tube analyzer~~ and interpreting the results. The Permit Holder shall conduct the first ~~Draeger tube analyzer~~ test no later than 3 months after the issue date of the MFR Permit and quarterly thereafter. (basis: Regulation 9-1-302)

9. In order, to demonstrate compliance with Regulation 8, Rule 34, Sections 301.3 and 412, [and Regulation 9-1-302](#), the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-2). The annual source test shall determine the following:
- a) Landfill gas flow rate to the flare (dry basis).
 - b) Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), total hydrocarbons (THC), methane (CH₄), and total non-methane organic compounds (NMOC) in the landfill gas;
 - c) Stack gas flow rate from the flare (dry basis).
 - d) Concentrations (dry basis) of NO_x, CO, SO₂, THC, CH₄, NMOC, Benzene, Formaldehyde, Vinyl Chloride, and O₂ in the flare stack gas.
 - e) The NMOC destruction efficiencies achieved by the flare.
 - f) the average combustion zone temperature in the flare during the test period.

Each annual source test shall be conducted ~~no sooner than 9 months and~~ no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement

Renewal of Title V Permit

Division within 45 days of the test date.
(basis: Regulations 8-34-301.3, ~~and 8-34-412,~~ and 9-1-302.)

10. The Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by ~~p~~Part 9 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in ~~p~~Part 9b, the landfill gas shall be analyzed for the following all the ~~Compounds listed in the most recent version of EPA's~~ ~~AP-42 Table 2.4-1.~~

- Carbon disulfide
- Chlorobenzene
- 1,4 Dichlorobenzene
- 1,1 Dichlorobenzene
- Dichloromethane (Methylene Chloride)
- Ethyl Benzene
- Hexane
- Hydrogen sulfide
- Isopropyl alcohol (2-Propanone)
- 2-Butanone (MEK)
- Tetrachloroethylene (Perchloroethylene)
- Trichloroethylene
- Vinyl Chloride
- Toluene
- Benzene
- m,p-Xylene
- o-Xylene

All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. After conducting three annual landfill gas characterization tests, the Permit Holder may request to remove specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site.
(basis: AB-2588 Air Toxics Hot Spots Act, Toxic Risk Management Policy and Regulation 8-34-412, and 9-1-302)

11. In order to demonstrate compliance with the above conditions, the Permit Holder shall maintain the following records in a District approved logbook.

- a) Record of the total amount of waste received at S-1 on a daily basis. Summarize the daily waste acceptance records for each calendar month.

- b) For each area or cell that is not controlled by a landfill gas collection system, maintain a

Renewal of Title V Permit

record of the date that waste was initially placed in the area or cell. Record the cumulative amount of waste placed in each uncontrolled area or cell on a monthly basis.

- c) If the Permit Holder plans to exclude an uncontrolled area or cell from the collection system requirement, the Permit Holder shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
- d) Record of the dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. Record the dates, locations, and type of any dust suppressant applications. Record the dates and description of all paved roadway cleaning activities. All records shall be summarized on monthly basis.
- e) Record the initial operation date for each new landfill gas well and collector.
- f) Maintain an accurate map of the landfill which indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to [pPart 5](#). Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.
- g) Record the operating times and the landfill gas flow rate to the A-2 Landfill Gas Flare on a daily basis. Summarize these records on a monthly basis. Calculate and record the heat input to A-2, pursuant to [pPart 6](#).
- h) On a monthly basis, record the pressures of all horizontal collector legs and the date and time the gauge readings were taken.
- i) Horizontal collector operation: Record the dates and times of commencement or discontinuation of landfill gas production from a respective collector leg and the basis for the action.
- j) Maintain continuous records of the combustion zone temperature for the A-2 Landfill Gas Flare during all hours of operation.

Renewal of Title V Permit

- k) Maintain records of all test dates and test results performed to maintain compliance with pParts 8, 9, and 10, above or to maintain compliance with any applicable rule or regulation.

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

12. The permit holder shall submit to the APCO annual reports in two semi-annual increments. The reporting period for the first increment of the Regulation 8-34-411 annual report that is submitted subsequent to the issuance of the MFR Permit for this site shall be December 1, 2002 through September 30, 2003. The reporting periods and report submittal due dates for all subsequent increments of the Regulation 8-34-411 report shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. (Basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))

Condition # 19908

For S-200 Leachate Treatment Facility

1. Emissions from this source shall not exceed the following limits:
 - a. 0.63 pounds of volatile organic compounds in any consecutive 24 hour period (Basis: 8-2-301, 8-47) and
 - b. 0.05 pounds of benzene in any consecutive 24 hour period. (Basis: Toxic Risk Management)

2. To determine compliance with pPart 1, above, the following procedures shall apply:
 - a. Influent and effluent leachate samples shall be collected and analyzed quarterly semi-annually for benzene

Renewal of Title V Permit

and total VOC concentrations according to the following source test methods:
(Basis: Regulation 1-441)

Stream Name	VOC Test Method	Benzene Test Method
Leachate Influent	EPA SW 8240	EPA SW 8020
Leachate Effluent	EPA SW 8240	EPA SW 8020

b. Emissions shall be calculated by applying 75% biodegradation efficiency (as demonstrated in startup source tests of July 20, 21, 22, 1993) to influent VOC and benzene concentrations.

c
~~If requested by Acme Landfill, the District may review and adjust the influent and effluent leachate sampling frequencies required under this part.~~ If after 3 years of semi-annual monitoring, the emissions from S-200 are less than 80% of the emissions limits in Part 1, then the monitoring frequency in Part 2a shall change to annually, and the annual test shall occur during the season with the highest historical concentrations.

3. The leachate influent flow rate to S-200 shall not exceed ~~36,000~~ 72,000 gallons per day.
(Basis: Cumulative Increase)

4. To demonstrate compliance with the above ~~p~~Parts, the following records shall be kept on site and made available for District inspection for a period of 5 years from the date on which a record was made.
(Basis: Regulation 1-441)

Daily Operating Records

- a. The days of operation.
- b. The influent leachate flow rate.
- c. The air flow rate to each aeration tank.

Monitoring Records

- d. Calculated emissions for benzene and Total VOC's expressed as pounds per day.