Bay Area Air Quality Management District

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

Permit Evaluation and Statement of Basis

MAJOR FACILITY REVIEW PERMIT
MINOR REVISION

for

Kirby Canyon Landfill
Facility #A1812

Facility Address:
910 Coyote Creek Golf Drive
Morgan Hill, CA

Mailing Address:
P.O. Box 1870
Morgan Hill, CA 95038

Application #: 14076

September 2006

Application Engineer: Robert Hull

Title V – Minor Revision

A. Background

The Kirby Canyon Landfill (S-1) is an active 311-acre Class III landfill located approximately 15 miles south of downtown San Jose, adjacent to U.S. Highway 101. The facility accepts non-hazardous residential, commercial, industrial, and inert wastes. The landfill has an estimated closure date of June 2018. This landfill is equipped with an active gas collection system (a system of pipes and blowers) that includes approximately 36 vertical gas collection wells. The wells are perforated sections of the pipes that are buried in the refuse at various locations. The blowers collect landfill gas by creating a vacuum in the buried refuse that draws landfill gas into the perforated pipes. The blowers vent the collected landfill gas to an enclosed flare (A-11).

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 Emission Guidelines for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart Cc) requires the owner or operator of a landfill that is subject to this part and that has a design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70.

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

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

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit. The facility number for the Kirby Canyon Landfill is A1812.

The Kirby Canyon Landfill was issued an initial Title V permit on July 10, 2003 and Minor Permit Revisions on January 12, 2005 and July 13, 2006. This application is also for a Minor Permit Revision to add a diesel powered portable air compressor to the permit.

B. Summary of Proposed Permit Revision

Kirby Canyon Landfill was issued a BAAQMD Permit to Operate the following equipment on May 15, 2006 under Permit Application #14010: (see attached Engineering Evaluation Report)

S-8: Portable Diesel IC Engine – Air Compressor; John Deere Model 4045D, 80 BHP

The purpose of this Minor Permit Revision is to incorporate this source and its applicable requirements into the Title V permit.

C. Emissions Increase

Based on assumptions made during the evaluation, the Portable Diesel IC Engine S-8 will potentially increase emissions at the facility as follows:

- NOx = 0.580 tons/yr
- CO = 0.263 tons/yr
- POC = 0.031 tons/yr
- PM10 = 0.027 tons/yr
- SO_2 = 0.014 tons/yr

D. Monitoring Analysis

Portable Diesel IC Engine – Compressor S-8
The Portable Diesel I.C. Engine S-8 is subject to the requirements of BAAQMD Regulation 6 "Particulate Matter and Visible Emissions" BAAQMD Regulation 9, Rule 1 "Inorganic Gaseous Pollutants – Sulfur Dioxide" and the CARB ATCM For Diesel Particulate Matter From Portable Engines.

<u>Particulate Matter and Visible Emissions:</u>
BAAQMD Regulation 6-310 limits PM emissions to 0.15 gr/dscf. If it is assumed that the diesel engine exhaust gases contain 15% excess oxygen under normal operating conditions, the Regulation 6-310 limit can be compared to the CARB certified PM emission factor for S-8 (0.24 g/bhp-hr) as follows:

From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O_2 this factor becomes:

9,190 x [21%/(21% - 15%)] = 32,165 dscf (combustion products)/MMBTU

The conversion of 0.15 gr/dscf @ 15% O_2 to lb/MMBTU is then:

(32,165 dscf/MMBTU) x (0.15 gr/dscf) x (lb/7,000 gr) = 0.689 lb/MMBTU

Based on the fuel consumption rate for S-8 (i.e. 0.45 MMBTU/hr), the certified PM emission rate in terms of fuel consumption is 0.09 lb/MMBTU. Since the PM emission rate is well below the converted Regulation 6-310 emission rate in each case, compliance is assumed.

Compliance with the Ringelmann 2.0 limit of Regulation 6-303.1 is expected based on the CARB certified Diesel PM emissions for this engine model.

Added monitoring is not necessary to reasonably assure compliance with the applicable Regulation 6 requirements.

SO_2 Emissions

Regulation 9-1-304 requires all liquid fuels to have a sulfur content ≤0.5% (wt). In addition, Section 93116.3(a) of the CARB ATCM For Portable Diesel Engines requires the use of CARB Diesel Fuel (or verified alternative) for all portable diesel engines ≥50 bhp. The use of CARB Diesel Fuel (sulfur content <0.05% wt.) will be made a condition of the permit for S-8. Vendor fuel sulfur content certifications will be required to demonstrate compliance with this limit. (see Condition #23022 in Section E, below)

NMHC, NOx, CO, and Diesel PM

Section 93116.3(b)(2) of the ATCM For Portable Diesel Engines requires emissions from engines that have not been permitted or registered prior to January 1, 2006 to meet the most stringent of the federal or California emission standards for newly manufactured nonroad engines. For S-8, the applicable tier II (≥50 - <100 hp) standards compare to the CARB certified emissions (Executive Order U-R-004-0231) as follows:

Pollutant	Tier II Standard (g/bhp-hr)	CARB Certified Emissions for S-8 (g/bhp-hr)
NOx + NMHC	5.6	5.37
CO	3.7	3.31
PM	0.30	0.24

Since the certified emissions from S-8 meet the applicable Tier II standards, a demonstration of compliance with ATCM Section 93116.3(b)(2) is fulfilled and no additional monitoring is required.

Facility-Wide NOx Limit

Using the traditional permitting methodology of calculating a cumulative emissions increase for the new source and providing offsets as required by Regulation 2-2-302 (including reimbursement of offsets previously provided by the Small Facility Banking Account), it was concluded that Kirby Canyon would need to provide 27.107 tons of NOx offsets in order to obtain a permit for the Portable Diesel IC Engine – Compressor S-8. As this seems excessive for the addition of a small source, an alternative permitting strategy is proposed as follows:

> The Kirby Canyon Landfill is currently permitted for NOx emissions up to 40.9 tons/yr. This total assumes that the Landfill Gas Flare A-11 and the Landfill Gas Fired IC Engines S-5, S-6, and S-7 all operate continuously at maximum capacity. However, in reality there is not currently enough landfill gas generated to fire all 3 engines and the flare at the same time.
>
> The landfill gas collection system currently collects approximately 1,200 cfm of landfill gas, which is then combusted in the Flare A-11 (Capacity = 1,480 cfm). The (3) LFG IC Engines were issued an Authority to Construct on 9/17/04 (Application #9220), but have not yet started operating. These engines each have a landfill gas capacity of 345.3 cfm, for a total of 1,036 cfm. Therefore, the combined capacity of the flare and engines is 2,516 cfm, more than twice the amount that is currently processed.

Based on the underutilized capacity of the landfill gas combustion devices, it is clear that facility NOx emissions are well below the permitted total. It is therefore recommended that a facility-wide NOx limit be imposed, rather than requiring NOx offsets at this time. It is anticipated that Kirby Canyon could easily operate under a facility-wide NOx limit of 40.9 tons/yr for some time to come. Of course if this limit were ever exceeded, Kirby Canyon would be required to provide all required offsets.

Changes to monitoring to implement a facility-wide NOx limit will be made by adding a new permit condition requiring NOx emissions tracking for each source at the facility on a monthly basis. The text of the proposed new permit condition is given in Section E below.

E. New Permit Conditions

Condition #23022
Portable Diesel IC Engine: S-8

1. Only CARB Diesel Fuel (<0.05% sulfur by weight) or approved alternative shall be combusted at S-8. The maximum sulfur content of the fuel shall be demonstrated by vendor certification. [basis: CCR Section 93116.3(a)]

2. Operation of the Portable Diesel Engine S-8 at the Kirby Canyon Landfill shall not exceed 1,290 hours during any consecutive 12-month period. [basis: Toxic Risk Management, Offsets]

3. S-8 shall be equipped with a non-resettable totalizing meter that measures and records the hours of operation for the engine. This meter shall have a minimum display capability of 9,999 hours.
   [Basis: Toxic Risk Management, Offsets]

4. The following monthly records shall be maintained for the Portable Diesel Engine S-8 in a District-approved log. Records shall be kept for at least 5 years and shall be made available for District inspection upon request:
   a. Total hours of operation.
   b. Fuel usage.
   c. Vendor fuel certification.
   [Basis: CCR Section 93116.3(a), Toxic Risk Management, Offsets, Regulation 1-441]

In order to monitor the facility-wide NOx limit as discussed above, the following permit condition will be added to the Title V permit:

Condition #23024
Facility-Wide NOx Limit

1. Emissions of Nitrogen Oxides (NOx) from all permitted sources at the Kirby Canyon Recycling and Disposal Facility shall not exceed 40.90 tons during any consecutive 12-month period. [Basis: Cumulative Increase]

2. In order to demonstrate compliance with this limit the facility shall keep the following records in a District approved log. Records shall be kept for at least 5 years and shall be made available for District inspection upon request: [Basis: Cumulative Increase]

   a. A list of the NOx emission factors for each permitted source. The currently permitted emission factors for NOx sources at this facility are as follows:

A-11:	Landfill Gas Flare	0.06 lb/MMBTU
S-3:	Diesel IC Engine –Flare Generator	4.16 lb/hr
S-4:	Diesel IC Engine – Trash Pump	1.92 lb/hr
S-5:	LFG IC Engine Generator #1	1.52 lb/hr
S-6:	LFG IC Engine Generator #2	1.52 lb/hr
S-7:	LFG IC Engine Generator #3	1.52 lb/hr
S-8:	Portable Diesel IC Engine – Compressor	0.90 lb/hr

   The facility may petition for a change of NOx emission factors based on actual test data, where a lower NOx emission factor has been clearly demonstrated during at least two consecutive District approved source tests.

   b. The fuel consumption or hours of operation (as appropriate) for each NOx source on a monthly basis
   c. Calculated NOx emissions (tons) for each NOx source and total facility NOx emissions on a monthly basis.

3. Any exceedance of the NOx limit in part 1 will subject the facility to the requirements of Regulation 2, Rule 2 “New Source Review”. [Basis: Regulation 2-1-234.2]

F. Recommendation

Issue a Minor Permit Revision to the Title V permit for Kirby Canyon Landfill as shown in the Proposed Major Facility Review Permit and described in this evaluation.

By:_____

Ted Hull
Senior Air Quality Engineer

H:\Engineering\TITLE V Permit Appls\1 ALL T5 Application Files here\A1812\14076-MINOR\Workingdocs\A1812BSOB.doc

ATTACHMENT:

BAAQMD Engineering Evaluation Report

Portable Diesel IC Engine – Air Compressor

ENGINEERING EVALUATION REPORT
KIRBY CANYON RECYCLING AND DISPOSAL FACILITY
APPLICATION NUMBER 014010

BACKGROUND:
The Kirby Canyon Recycling and Disposal Facility (P# 1812) has applied for a permit to operate a new portable diesel IC engine as follows:

S-8: Portable Diesel IC Engine – Air Compressor; John Deere Model 4045D, 80 BHP

This source will be used as a source of compressed air in conjunction with various operations at various locations throughout the facility.

EMISSION CALCULATIONS:
The John Deere Model 4045D engine is included in EPA Nonroad Diesel Engine Family 5JDXL04.5043 and has been certified by CARB under Executive Order U-R-004-0231. CARB lists the certified emission factors for the engine family as follows:

- NOx + NMHC: 5.37 g/bhp-hr
- CO: 2.31 g/bhp-hr
- PM: 0.24 g/bhp-hr

When NOx and NMHC are given as a combined value, it is the District's policy to assume that 5% of the total value is POC, with the remainder being NOx. (Ref. Memo from Henry Leung to Steve Hill, June 28, 2004)

Since SO_2 emissions are directly related to the amount of sulfur in the fuel, the SO_2 emission factor based on the use of California low sulfur fuel can be derived as follows:

Given the following California diesel fuel characteristics:

Heating Value	137,000 BTU/gallon
Specific Weight	6.11 lbs/gallon
Maximum Sulfur Content	0.05% (wt)

and assuming that all sulfur in the fuel is converted to SO2 at a ratio of one-to-one...

SO_2 = (1 gallon fuel/0.137 MMBTU)(6.11 lb fuel/gallon fuel)(0.0005 lb S/lb fuel)(lb-mole S/32 lb S)(lb-mole SO2/lb-mole S)(64 lb SO2/lb-mole SO2)
= 0.045 lb SO_2/MMBTU

The IC Engine S-8 consumes a maximum of 3.3 gallons of fuel per hour (0.45 MMBTU/hr). Therefore, potential SO_2 emissions will be 0.02 lb/hr (0.12 g/bhp-hr).

In summary, the emissions factors for the IC Engine S-10 are as follows:

- NOx: 5.10 g/bhp-hr
- CO: 2.31 g/bhp-hr
- POC: 0.27 g/bhp-hr
- PM: 0.24 g/bhp-hr
- SO_2: 0.12 g/bhp-hr

Kirby Canyon requested 2,080 hours of operation per year for S-8. However the results of a health risk assessment for this equipment indicates that the maximum acceptable annual operation is 1,290 hours (see attached Health Risk Screening Analysis). Therefore, operation of S-8 will be limited to 1,290 hours/year.

Assuming the following operating conditions for S-8:

Brake Horsepower	Maximum Hours of Operation
80	1,290 hours/yr

The highest estimated emissions for each engine will be as follows:

NOx = (5.10 g/bhp-hr)(103,200 bhp-hr/yr)(lb/453.6 g)
= 1,160 lb/yr

CO = (2.31 g/bhp-hr)(103,200 bhp-hr/yr)(lb/453.6 g)
= 526 lb/yr

POC = (0.27 g/bhp-hr)(103,200 bhp-hr/yr)(lb/453.6 g)
= 61.4 lb/yr

PM = (0.24 g/bhp-hr)(103,200 bhp-hr/yr)(lb/453.6 g)
= 54.6 lb/yr

SO_2 = (0.12 g/bhp-hr)(103,200 bhp-hr/yr)(lb/453.6 g)
= 27.3 lb/yr

CUMULATIVE EMISSIONS:

	(lbs/day)		**(tons/yr)**
NOx	= 3.2	NOx	= 0.580
CO	= 1.4	CO	= 0.263
POC	= 0.2	POC	= 0.031
PM10	= 0.2	PM10	= 0.027
SO_2	= 0.08	SO_2	= 0.014

TOXIC RISK ASSESSMENT:

Summary

Based on the certified PM emission factors, emissions of Diesel Exhaust Particulate Matter for the Portable Diesel Engine S-8 will be as high as 54.6 lb/yr if operated as stated above. Since this is above the screening level of 0.64 lb/yr, a risk screen is required.

The attached Health Risk Screening Analysis estimates the incremental health risk resulting from toxic air contaminant (TAC) emissions from the operation of the Portable Diesel Engine S-8 at this facility. Based on an operation schedule that would allow up to 2,080 hours per year of operation, the results from the health risk screening analysis estimate that the maximum cancer risk is 1.6 in a million. In accordance with the District's Regulation 2-5, this risk level is not considered acceptable because the engine does not meet current TBACT requirements. For sources that do not meet TBACT the maximum acceptable risk is 1.0 in a million. An acceptable level of risk for this engine can be achieved if the annual operation is limited to 1,290 hours or less. Therefore, the annual operation of S-9 will be limited to 1,290 hours.

Dispersion Modeling

The ISCST3 air dispersion model was used to estimate annual average ambient air concentrations. The model was run with Screen3 meteorological data because actual data was not available for this site.

Elevated terrain was considered in the model using inputs from the USGS Morgan Hill sub-area digital elevation map (NAD27 format). Model runs were made with rural dispersion coefficients to match the general openness of the area. Stack parameters for the analysis were based on information provided by the applicant. Because the source is portable, multiple screening runs were made to determine the source location that would create the highest impacts to exposed receptor locations. Final model runs were made using the "worst case" source location. Building downwash is not a factor and was not used in the model.

Since the applicant indicated that the exhaust from the engine is released horizontally, the stack diameter and exit velocity used in the model were adjusted in accordance with the EPA recommended procedures. The model was run with and without the horizontal release adjustment. Stack tip downwash was turned off for the adjusted run due to the large virtual stack size. Both the adjusted and unadjusted runs yielded the same results.

Health Risk

Estimates of residential risk assume exposure to annual average TAC concentrations occur 24 hours per day, 350 days per year, for a 70-year lifetime. Risk estimates for offsite workers assume exposure occurs 8 hours per day, 245 day per year, for 40 years. Risk estimates for students assume a higher breathing rate, and exposure is assumed to occur 10 hours per day, 36 weeks per year, for 9 years.

BACT REVIEW:

BACT review is triggered for the Portable Diesel IC Engine S-8 because the highest day emissions of NOx may be more than 10 pounds. The NOx emissions data presented in this application meets BACT "achieved in practice" for Diesel IC Engines. (see BAAQMD BACT Guideline for Compression IC Engines, Document #96.1.1, Revision 5, 01/11/02)

TBACT review is triggered because Diesel Exhaust Particulate matter emissions exceed the risk screen trigger. In accordance with the District's risk management policy, TBACT for a Diesel IC Engine is a PM emission rate up to 0.15 g/bhp-hr (based on ISO 8178 test methodology). Based on the certified PM emission factors for this engine family, S-8 does not meet TBACT. Therefore, the increased cancer risk for this project must be limited to 1.0 in a million.

OFFSETS REVIEW:

In accordance with Regulation 2-2-302, before the District may issue an authority to construct or permit to operate for a new or modified source at a facility that emits or will be permitted to emit more than 35 tons per year of POC or NOx on a pollutant specific basis, emissions offsets shall be provided for the emissions from the new or modified source and any pre-existing cumulative increase, minus any onsite contemporaneous emission reduction credits determined in accordance with Regulation 2-2-605, at a 1.15 to 1.0 ratio; additionally, the applicant must reimburse the District Small Facility Banking Account for any unreimbursed offsets previously provided by the District at a 1.0 to 1.0 ratio. The Kirby Canyon Recycling and Disposal Facility has the following permitted emissions:

Permitted Facility Emissions

Emissions Source	Annual Emissions (tons/yr)				
	NOx	CO	POC	PM	SO_2
A-11 Flare[1]	11.826	39.420	2.499	3.351	2.759
S-1 Landfill	0.000	0.000	14.253	36.482	0.000
S-3 Diesel Eng[2]	6.498	1.396	0.525	0.460	0.429
S-4 Diesel Eng[2]	2.623	0.646	0.243	0.213	0.198
S-5 LFG IC Eng[3]	6.651	23.279	2.217	0.555	2.217
S-6 LFG IC Eng[3]	6.651	23.279	2.217	0.555	2.217
S-7 LFG IC Eng[3]	6.651	23.279	2.217	0.555	2.217
	40.900	**111.299**	**24.171**	**42.171**	**10.037**

1. Flare emissions are based on a maximum landfill gas combustion rate of 1,480 scfm, the design capacity of the flare.
2. Based on a permitted limit of 3,120 hours of operation per year for each diesel IC engine.
3. Based on maximum potential operation.

Since NOx emissions are currently above 35 tons per year, any new emissions and pre-existing cumulative emissions increase must be offset by Kirby Canyon at a ratio of 1.15 to 1.0. In addition Kirby Canyon must reimburse the District Small Facility Banking Account for all offsets previously provided. The BAAQMD has previously provided offsets to the facility as follows:

Offsets Provided by BAAQMD

Application #	NOx (tons/yr)	POC (tons/yr)
12951	0.000	0.394
8255	6.487	0.000
9220	19.953	6.651
	26.440	**7.045**

Required Offsets

It is estimated that the permitting of the Portable Diesel IC Engine S-8 will require Kirby Canyon to provide NOx offsets as shown below:

Required Offsets

Pollutant	Cumulative Emissions Increase (tons/yr)	Contemp. ERCs (tons/yr)	Net Emissions Increase (tons/yr)	Offset Ratio	Offsets Required (tons/yr)	Previously Supplied Offsets* (tons/yr)	Net Offsets Required (tons/yr)
NOx	0.580	0.000	0.580	1.15:1.0	0.667	26.440	**27.107**

Alternative to Providing Offsets

Using the traditional permitting methodology of calculating a cumulative emissions increase for the new source and providing offsets as required by Regulation 2-2-302 (including reimbursement of offsets previously provided by the Small Facility Banking Account), it was concluded that Kirby Canyon would need to provide 27.107 tons of NOx offsets in order to obtain a permit for the Portable Diesel IC Engine – Compressor S-8. As this seems excessive for the addition of a small source, it is recommended that an alternative permitting strategy be sought.

Although the Kirby Canyon Landfill is currently permitted for NOx emissions up to 40.9 tons/yr, this total assumes that the Landfill Gas Flare A-11 and the Landfill Gas Fired IC Engines S-5, S-6, and S-7 all operate continuously at maximum capacity, whereas in reality, there is not currently enough landfill gas to fire all 3 engines and the flare at the same time.

The landfill gas collection system currently collects approximately 1,200 cfm of landfill gas, which is then combusted in the Flare A-11 (Capacity = 1,480 cfm). The (3) LFG IC Engines were issued an Authority to Construct on 9/17/04 (Application #9220), but have not yet started operating. These engines each have a landfill gas capacity of 345.3 cfm, for a total of 1,036 cfm. Therefore, the combined capacity of the flare and engines is 2,516 cfm, more than twice the amount that is currently processed.

Based on the underutilized capacity of the landfill gas combustion devices, it is clear that facility NOx emissions are well below the permitted total. It is therefore recommended that a facility-wide NOx limit be imposed, rather than requiring NOx offsets at this time. It is anticipated that Kirby Canyon could easily operate under a facility-wide NOx limit of 40.9 tons/yr for some time to come. Of course if this limit were ever exceeded, Kirby Canyon would be required to provide all required offsets.

STATEMENT OF COMPLIANCE:

The Portable Diesel I.C. Engine S-8 is subject to the requirements of Regulation 6 “Particulate Matter and Visible Emissions” and Regulation 9, Rule 1 “Inorganic Gaseous Pollutants – Sulfur Dioxide”.

Particulate Matter and Visible Emissions
BAAQMD Regulation 6-310 limits PM emissions to 0.15 gr/dscf. If it is assumed that the diesel engine exhaust gases contain 15% excess oxygen under normal operating conditions, the Regulation 6-310 limit can be compared to the AP-42 PM emission factor as follows:

From 40 CFR 60, Appendix A, Method 19, Table 19-1, a stoichiometric dry gas combustion factor of 9,190 dscf/MMBTU is given for distillate oil combustion. At 15% excess O_2 this factor becomes:

9,190 x [21%/(21% - 15%)] = 32,165 dscf (combustion products)/MMBTU

The conversion of 0.15 gr/dscf @ 15% O_2 to lb/MMBTU is then:

(32,165 dscf/MMBTU) x (0.15 gr/dscf) x (lb/7,000 gr) = 0.689 lb/MMBTU

Based on the fuel consumption rate for S-8 (i.e. 0.45 MMBTU/hr), the PM emission rate in terms of fuel consumption is 0.09 lb/MMBTU. Since the PM emission rate is well below the converted Regulation 6-310 emission rate in each case, compliance is assumed.

Compliance with the Ringelmann 2.0 limit of Regulation 6-303.1 can be demonstrated by casual observation.

SO2 Emissions
Section 93116.3(a) of the CARB ATCM For Portable Diesel Engines requires the use of CARB Diesel Fuel (or verified alternative) for all portable diesel engines ≥50 bhp. The use of CARB Diesel Fuel will be made a condition of the permit for S-8. Vendor fuel sulfur content certifications will be required to demonstrate compliance with this limit.

Other Requirements

CARB ATCM For Diesel Particulate Matter From Portable Engines
In accordance with ATCM Section 93116.3(b)(2)(A): Portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2006 shall meet the most stringent of the federal or California emission standard for nonroad engines. For engines with a rated output between 50 and 100 horsepower, the Tier II/Tier III PM standard through 2008 is 0.30 g/bhp-hr. Based on the CARB certified emissions data discussed above, S-8 complies with the diesel PM requirement.

PSD, NSPS, and NESHAPs do not apply. This application is exempt from the requirements of a CEQA review because the permitting of “Internal Combustion Engines” as outlined in Permit Handbook Chapter 2.3 is a ministerial operation.

PERMIT CONDITIONS:

Portable Diesel IC Engine: S-8

1. Only CARB Diesel Fuel (<0.05% sulfur by weight) or approved alternative shall be combusted at S-8. The maximum sulfur content of the fuel shall be demonstrated by vendor certification. [basis: CCR Section 93116.3(a)]

2. Operation of the Portable Diesel Engine S-8 at the Kirby Canyon Landfill shall not exceed 1,290 hours during any consecutive 12-month period. [basis: Toxic Risk Management, Offsets]

3. S-8 shall be equipped with a non-resettable totalizing meter that measures and records the hours of operation for the engine. This meter shall have a minimum display capability of 9,999 hours. [Basis: Toxic Risk Management, Offsets]

4. The following monthly records shall be maintained for the Portable Diesel Engine S-8 in a District-approved log. Records shall be kept for at least 5 years and shall be made available for District inspection upon request:
   d. Total hours of operation.
   e. Fuel usage.
   f. Vendor fuel certification.
   [Basis: CCR Section 93116.3(a), Toxic Risk Management, Offsets, Regulation 1-441]

Facility-Wide NOx Limit

1. Emissions of Nitrogen Oxides (NOx) from all permitted sources at the Kirby Canyon Recycling and Disposal Facility shall not exceed 40.90 tons during any consecutive 12-month period. [Basis: Cumulative Increase]

2. In order to demonstrate compliance with this limit the facility shall keep the following records in a District approved log. Records shall be kept for at least 5 years and shall be made available for District inspection upon request: [Basis: Cumulative Increase]

   a. A list of the NOx emission factors for each permitted source. The currently permitted emission factors for NOx sources at this facility are as follows:

A-11:	Landfill Gas Flare	0.06 lb/MMBTU
S-3:	Diesel IC Engine –Flare Generator	4.16 lb/hr
S-4:	Diesel IC Engine – Trash Pump	1.92 lb/hr
S-5:	LFG IC Engine Generator #1	1.52 lb/hr
S-6:	LFG IC Engine Generator #2	1.52 lb/hr
S-7:	LFG IC Engine Generator #3	1.52 lb/hr
S-8:	Portable Diesel IC Engine – Compressor	0.90 lb/hr

   The facility may petition for a change of NOx emission factors based on actual test data, where a lower NOx emission factor has been clearly demonstrated during at least two consecutive District approved source tests.

   d. The fuel consumption or hours of operation (as appropriate) for each NOx source on a monthly basis
   e. Calculated NOx emissions (tons) for each NOx source and total facility NOx emissions on a monthly basis.

3. Any exceedance of the NOx limit in part 1 will subject the facility to the requirements of Regulation 2, Rule 2 “New Source Review”. [Basis: Regulation 2-1-234.2]

RECOMMENDATIONS:

It is recommended that a Permit to Operate be issued to the Kirby Canyon Recycling and Disposal Facility for the following:

S-8: Portable Diesel IC Engine – Air Compressor; John Deere Model 4045D, 80 BHP

It is also recommended that a facility-wide NOx emissions limit of 40.90 tons/year be imposed as discussed herein, in lieu of requiring NOx offsets at this time.

By: _____
Ted Hull
Senior Air Quality Engineer