

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103; Davis, CA 95618

Stationary Natural Gas Fired Internal Combustion Engine Emission Evaluation

ENGINEER: Eugene Rubin

FACILITY NAME: Recology Hay Road

LOCATION: The equipment will be located at 6426 Hay Road in Vacaville. The equipment will not be located within 1,000 feet of a K-12 school and is not subject to the requirements of H&S 42301.6.

PROPOSAL: The applicant is install a propane fired IC engine powering a generator. The generator will provide power to the truck tipper. This installation will result in the removal of the engine operating under P-5-11(a).

This evaluation will serve as both the District emission evaluation and the Title V Statement of Basis (see Rule 3.8 discussion below).

This evaluation reflects only the requirements pertaining to C-13-66. Emission units that are not affected by this proposal were evaluated in the original (or any subsequent) Title V Statement of Basis and will not be evaluated here.

PROCESS: Limited use propane-fired IC engine powering a generator

FLOW DIAGRAM: None required.

EQUIPMENT: 145 BHP propane fired Power Solutions Inc IC engine, Model No. 5.7LTCAC Serial No. TBD, Model Year TBD

CONTROL EQUIPMENT: Automatic air/fuel ratio controller and catalytic converter

APPLICATION DATA:

<u>Operational Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Max. Daily Operation =	16 hours/day	TD	Applicant
Max. 1st Quarter Operation =	1,460 hours/quarter	T1	Applicant
Max. 2nd Quarter Operation =	1,460 hours/quarter	T2	Applicant
Max. 3rd Quarter Operation =	1,460 hours/quarter	T3	Applicant
Max. 4th Quarter Operation =	1,460 hours/quarter	T4	Applicant
Max. Yearly Operation =	5,840 hours/year	Ty	Applicant

<u>Engine Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Max. Continuous Engine HP =	145 BHP	HP	Applicant
Exhaust Flow Rate =	876 ACFM	EF	Applicant
Exhaust Temperature =	1,710 Degrees Rankine (F+460)	ET	Applicant
Exhaust O2 =	0.3 %	EO	Applicant
Design Type =	4 cycle (stroke)	-	Applicant
Fuel Consumption	14.3 gallons/hour	FC	Applicant

ASSUMPTIONS:

<u>Propane Fuel Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Higher Heating Value =	0.0905 MMBTU/gallon	HHV	District
Propane Conversion factor =	35.78 cubic feet/gallon	PF	Holt of California *

* Conversion factor provided by Holt of California on (07/24/2001).

<u>Misc. Data</u>	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
Exhaust Moisture =	10.0 %	EM	District
Standard Temperature =	528 Degrees Rankine (68° F)	ST	District

Molar Volume =	385 SCF/lb-mole	MV	District
Molecular Weight VOC =	16 lb/lb-mole	MWvoc	District
Molecular Weight CO =	28 lb/lb-mole	MWco	District
Molecular Weight NO2 =	46 lb/lb-mole	MWno2	District
Power Conversion =	1.34 kW/HP	KW	District
Weight Conversion =	453.6 grams/lb	WT	District

EMISSION FACTORS:	<u>Units</u>	<u>Formula Symbol</u>	<u>Reference</u>
VOC =	0.007 g/KW-hr *	EFvoc	Applicant
CO =	0.890 g/KW-hr	EFco	Applicant
NOx =	0.121 g/KW-hr	EFnox	Applicant
SOx =	0.058 g/BHP-hr	EFsox	CAPCOA (05/19/1995)
TSP/PM10 =	0.043 g/BHP-hr **	EFpm	CAPCOA (05/19/1995)

* Measured as methane.

** All particulate matter is assumed to be less than 1 micrometer aerodynamic diameter.

CALCULATIONS:

1. Determine Standard Exhaust Flow:

Dry Standard Exhaust Flow Rate, SCFM = EF * ST / ET * (100%-EM) = 243.4 DSCFM

2. Determine Pollutant Emission Concentrations at 15% Excess Oxygen in Exhaust (Rule Compliance):

EFvoc@15 = [VOC lb/day] * (1 hr/60 min) * (24 hr/1 day) * (1/SCFM) * (MV/MW) * (10^6) = 3 ppm @ 15% O2
 EFco@15 = [CO lb/day] * (1 hr/60 min) * (24 hr/1 day) * (1/SCFM) * (MV/MW) * (10^6) = 239 ppm @ 15% O2
 EFnox@15 = [NOx lb/day] * (1 hr/60 min) * (24 hr/1 day) * (1/SCFM) * (MV/MW) * (10^6) = 20 ppm @ 15% O2

3. Determine Exhaust Concentrations at Actual Flow Conditions (Reference Only):

<u>Units</u>	
VOC = EFvoc@15 * (20.9% - EO) / (20.9% - 15%) =	11.0 ppmv @ actual flow rate
CO = EFco@15 * (20.9% - EO) / (20.9% - 15%) =	835.4 ppmv @ actual flow rate
NOx = EFnox@15 * (20.9% - EO) / (20.9% - 15%) =	68.9 ppmv @ actual flow rate

4. Determine the Maximum Engine Fuel Usage Limits:

Max. Daily Fuel Use = TD * FC =	229 gallons
1st Quarter Fuel Use = T1 * FC =	20,851 gallons
2nd Quarter Fuel Use = T2 * FC =	20,851 gallons
3rd Quarter Fuel Use = T3 * FC =	20,851 gallons
4th Quarter Fuel Use = T4 * FC =	20,851 gallons
Max. Yearly Fuel Use, FY = TY * FC =	83,404 gallons

3. Determine Yearly MMBTU Combusted in Engine for Toxics:

MMBTU/year (current evaluation) = FY * HHV = 7548 MMBTU/year

EMISSION CALCULATIONS:

1. Determine the Combustion Emissions:

VOC Combustion Emissions:

Max. Daily VOC Emissions = TD * HP * EFvoc * KW / WT =	0.0 lb/day
1st Quarter VOC Emissions = T1 * HP * EFvoc * KW / WT =	4 lb/quarter
2nd Quarter VOC Emissions = T2 * HP * EFvoc * KW / WT =	4 lb/quarter
3rd Quarter VOC Emissions = T3 * HP * EFvoc * KW / WT =	4 lb/quarter
4th Quarter VOC Emissions = T4 * HP * EFvoc * KW / WT =	4 lb/quarter
Max. Yearly VOC Emissions = TY * HP * EFvoc * KW / WT * (1 ton/2,000 lb) =	0.01 tons/year

CO Combustion Emissions:

Max. Daily CO Emissions = TD * HP * EFco * KW / WT =	6.1 lb/day
1st Quarter CO Emissions = T1 * HP * EFco * KW / WT =	557 lb/quarter
2nd Quarter CO Emissions = T2 * HP * EFco * KW / WT =	557 lb/quarter
3rd Quarter CO Emissions = T3 * HP * EFco * KW / WT =	557 lb/quarter

$$\begin{aligned} 4\text{t Quarter CO Emissions} &= T4 * HP * EF_{CO} * KW / WT = && 557 \text{ lb/quarter} \\ \text{Max. Yearly CO Emissions} &= TY * HP * EF_{CO} * KW / WT * (1 \text{ ton}/2,000 \text{ lb}) = && 1.11 \text{ tons/year} \end{aligned}$$

NOx Combustion Emissions:

$$\begin{aligned} \text{Max. Daily NOx Emissions} &= TD * HP * EF_{NOx} * KW / WT = && 0.8 \text{ lb/day} \\ 1\text{st Quarter NOx Emissions} &= T1 * HP * EF_{NOx} * KW / WT = && 75 \text{ lb/quarter} \\ 2\text{nd Quarter NOx Emissions} &= T2 * HP * EF_{NOx} * KW / WT = && 75 \text{ lb/quarter} \\ 3\text{rd Quarter NOx Emissions} &= T3 * HP * EF_{NOx} * KW / WT = && 75 \text{ lb/quarter} \\ 4\text{t Quarter NOx Emissions} &= T4 * HP * EF_{NOx} * KW / WT = && 75 \text{ lb/quarter} \\ \text{Max. Yearly NOx Emissions} &= TY * HP * EF_{NOx} * KW / WT * (1 \text{ ton}/2,000 \text{ lb}) = && 0.15 \text{ tons/year} \end{aligned}$$

SOx Combustion Emissions:

$$\begin{aligned} \text{Max. Daily SOx Emissions} &= TD * HP * EF_{SOx} * KW / WT = && 0.3 \text{ lb/day} \\ 1\text{st Quarter SOx Emissions} &= T1 * HP * EF_{SOx} * KW / WT = && 27 \text{ lb/quarter} \\ 2\text{nd Quarter SOx Emissions} &= T2 * HP * EF_{SOx} * KW / WT = && 27 \text{ lb/quarter} \\ 3\text{rd Quarter SOx Emissions} &= T3 * HP * EF_{SOx} * KW / WT = && 27 \text{ lb/quarter} \\ 4\text{t Quarter SOx Emissions} &= T4 * HP * EF_{SOx} * KW / WT = && 27 \text{ lb/quarter} \\ \text{Max. Yearly SOx Emissions} &= TY * HP * EF_{SOx} * KW / WT * (1 \text{ ton}/2,000 \text{ lb}) = && 0.05 \text{ tons/year} \end{aligned}$$

TSP/PM10 Combustion Emissions:

$$\begin{aligned} \text{Max. Daily TSP/PM Emissions} &= TD * HP * EF_{PM} * KW / WT = && 0.2 \text{ lb/day} \\ 1\text{st Quarter TSP/PM Emissions} &= T1 * HP * EF_{PM} * KW / WT = && 20 \text{ lb/quarter} \\ 2\text{nd Quarter TSP/PM Emissions} &= T2 * HP * EF_{PM} * KW / WT = && 20 \text{ lb/quarter} \\ 3\text{rd Quarter TSP/PM Emissions} &= T3 * HP * EF_{PM} * KW / WT = && 20 \text{ lb/quarter} \\ 4\text{t Quarter TSP/PM Emissions} &= T4 * HP * EF_{PM} * KW / WT = && 20 \text{ lb/quarter} \\ \text{Max. Yearly TSP/PM Emissions} &= TY * HP * EF_{PM} * KW / WT * (1 \text{ ton}/2,000 \text{ lb}) = && 0.04 \text{ tons/year} \end{aligned}$$

2. Determine Particulate Matter Emission Concentration:

$$\text{PM Conc.} = [\text{PM lb/day}] * (7,000 \text{ grains/lb}) * (1 \text{ day}/1,440 \text{ min}) * (1/\text{SCFM}) = 0.004 \text{ gr/DSCF}$$

3. Determine SOx Emission Concentration:

$$\text{SOx \%} = [\text{SOx lb/day}] * MV * (\text{lb-mole}/64 \text{ lb}) * (1 \text{ day}/1,440 \text{ min}) * (1/\text{SCFM}) * 100\% = 0.001 \%$$

RULE & REGULATION COMPLIANCE EVALUATION:

District Rule 2.3-Ringelmann

The version of the rule used in this evaluation is the rule adopted on October 1, 1971, and is part of the California State 'Implementation Plan (SIP). The source is currently in compliance with the requirements of the rule.

- 1. Requirement:** The Permit Holder shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
- As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart as published by the United States Bureau of Mines; or
 - Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection a. of this condition. [District Rule 2.3]

Subsuming Demonstration: The requirements of the rule are subsumed by a Rule 3.4 (New Source Review) condition.

- Subsuming Condition:** The Permit Holder shall not discharge into the atmosphere any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
- As dark or darker in shade than No. 1 on the Ringelmann Chart; or
 - Greater than 20% opacity. [District Rule 3.4]

District Rule 2.5-Nuisance

The operation is expected to comply with the rule requirement of no discharge which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or the public. A condition will not be placed on the ATC, but will be added to the PTO upon implementation.

District Rule 2.11-Particulate Matter

This rule was updated 1/13/10 and has been approved as part of the SIP. As shown below, the source is in compliance with the requirements of the rule.

1. Requirement:

Emission Rate (gr/dscf)
0.004

Allowable Rate (gr/dscf)
0.1

Compliance
Yes

District Rule 2.12, Section A-Sulfur Compounds

This rule was updated 1/13/10 and has been approved as part of the SIP. As shown below, the source is in compliance with the requirements of the rule.

1. Requirement:

Emission Rate (% SOx as SO2)
0.001

Allowable Rate (% SOx as SO2)
0.2

Compliance
Yes

District Rule 2.32-Stationary Internal Combustion Engines

This rule was adopted 10/10/01 and is included in the SIP. As shown below, the source is in compliance with the requirements of the rule.

1. Requirement: The engine must comply with 90 ppm NOx and 2,000 ppm CO at 15% O2. (Section 301.4)

Streamlined Demonstration: The applicant has proposed lower emission rates in order to comply with the provisions of Rule 3.4

Streamlined Condition: Emission rates shall not exceed the following:

- a. VOC (measured as methane) - 3 ppmv @ 15% O2;
- b. CO - 239 ppmv @ 15% O2; and
- c. NOx (as NO2) - 20 ppmv @ 15% O2. [District Rule 3.4]

2. Requirement: The operator shall submit an engine operator inspection plan which includes basic engine information, control equipment, location of engine, inspection procedures, and maintenance procedures. (Section 302)

Permit Condition: There is no permit condition required, since the operator has already complied with this provision by providing information with the application.

3. Requirement: A non-resettable, totalizing fuel flow meter shall be installed and utilized to measure the quantity of propane combusted in the engine. [District Rule 2.32, §304.1/C-13-66]

4. Requirement: the engine shall be source tested at least once every 24 months for NOx and CO using the test methods approved in the rule. (Section 303)

Subsuming Demonstration: The applicant is required to source test more frequently to comply with the provisions of Rule 3.4.

Subsuming Conditions:

(ATC Only/Not Federally Enforceable) The Permit Holder shall perform a source test within 45 days of the unit's initial startup and at least once every 12 months thereafter to demonstrate compliance with VOC, CO and NOx emission limits. [District Rules 2.32 and 3.4/Not Federally Enforceable]

(PTO & Title V/Federally Enforceable) The Permit Holder shall perform a source test at least once every 12 months to demonstrate compliance with VOC, CO and NOx emission limits. [District Rules 2.32 and 3.4/C-13-66]

5. Requirement: The Permit Holder shall monitor and record the cumulative quarterly and annual propane fuel usage from the totalizing meter. The records shall be updated quarterly and made available to the District upon request. Historic annual data for the two (2) previous calendar years shall be kept and made available to the District upon request.

Streamlined Demonstration: The Rule 3.8 recordkeeping requirement of 5 years is more stringent than the Rule 2.32 requirement of 2 years. That portion of the requirement will be subsumed by the condition below.

Streamlined Condition: The Permit Holder shall maintain all records on site for a period of five (5) years from the date of entry and these records shall be made readily available to District personnel upon request. [District Rule 3.8, §302.6(b)/C-13-66]

District Rule 3.1-General Permit Requirements

This rule was adopted 2/23/94 and is included in the SIP. The source is in compliance with the requirements of the rule.

1. Requirement: No person shall build, erect, alter, or replace any facility, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants, without first obtaining an authorization to construct from the Air Pollution Control Officer (APCO) as specified in Section 401 of District Rule 3.1. [District Rule 3.1, §301.1]

2. Requirement: No person shall operate any facility, article, machine, equipment, or other contrivance, for which an authorization to construct is required by District Rules and Regulations without first obtaining a written permit from the APCO. [District Rule 3.1, §302.1]

3. Requirement: No person shall operate any facility, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, without obtaining a permit from the APCO or the Hearing Board. [District Rule 3.1, §302.2]

4. Requirement: The owner or operator of any facility, article, machine, equipment, or other contrivance for which a permit to operate is in effect shall notify the District office whenever a breakdown, malfunction, or operational upset condition exists which would tend to increase emissions of air pollutants or whenever any operating condition contrary to any provision of the permit to operate exists. Such notice shall be given to the District no later than four hours after occurrence during regular workday hours or no later than two hours of the District workday following an occurrence not during regular District workday hours. The notice shall provide the District information as to causes and corrective action being taken, with a schedule for return to required operating conditions. [District Rule 3.1, §405.3]

District Rule 3.4-New Source Review

The source has satisfied the provisions of New Source Review and the applicable requirements are contained in ATC C-13-66 (see

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	<u>Daily</u>	<u>Yearly</u>	
VOC	0.0 lb	0.01 tons	Use for annual billing
CO	6.1 lb	1.11 tons	Use for annual billing
NOx	0.8 lb	0.15 tons	Use for annual billing
SOx	0.3 lb	0.05 tons	Use for annual billing
PM10	0.2 lb	0.04 tons	Use for annual billing

	<u>Quarterly</u>			
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	4	4	4	4
CO (lb)	557	557	557	557
NOx (lb)	75	75	75	75
SOx (lb)	27	27	27	27
PM10 (lb)	20	20	20	20

	<u>Previous quarterly potential to emit for modified permit*</u>			
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* This is a new permit unit. Therefore the previous potential to emit is 0.

	<u>Historic potential emissions for modified permit*</u>			
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	0	0	0	0
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* This is a new permit unit. Therefore the historic potential to emit is 0.

BACT

<u>Pollutant</u>	<u>Trigger (lb/day)</u>	<u>Proposed (lb/day)</u>	<u>Quarterly Increase</u>	<u>BACT</u>
VOC	10	0.0	Yes	No
CO	250	6.1	Yes	No
NOx	10	0.8	Yes	No
SOx	80	0.3	Yes	No
PM10	80	0.2	Yes	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source *

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	26,188	26,406	26,625	26,625
CO (lb)	19,699	19,918	20,694	20,137
NOx (lb)	4,925	4,980	5,034	5,034
SOx (lb)	13,600	13,600	13,600	13,600
PM10 (lb)	2,057	2,075	2,094	2,094

* See attached Quarterly PTE sheet, excluding emergency IC engines (per Policy 28).

Quarterly permitted emissions for the stationary source including proposed emissions *

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	26,192	26,410	26,629	26,629
CO (lb)	20,256	20,475	21,251	20,694
NOx (lb)	5,000	5,055	5,109	5,109
SOx (lb)	13,627	13,627	13,627	13,627
PM10 (lb)	2,077	2,095	2,114	2,114

* Per Policy 28, the facility's quarterly PTE excluding emergency IC engines.

Offset triggers

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	7,500	7,500	7,500	7,500
CO (lb)	49,500	49,500	49,500	49,500
NOx (lb)	7,500	7,500	7,500	7,500
SOx (lb)	13,650	13,650	13,650	13,650
PM10 (lb)	13,650	13,650	13,650	13,650

Quantity of offsets required*

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
VOC (lb)	4	4	4	4
CO (lb)	0	0	0	0
NOx (lb)	0	0	0	0
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* ATC C-13-66 triggers VOC offsets in the above listed quantities. To date the sum of PM10 offsets (including this project) that have been set "equal to zero" under the guidance of Policy 21 are: 4 lb/1st quarter, 4 lb/2nd quarter, 4 lb/3rd quarter, and 4 lb/4th quarter. Per Policy 21, the source will not be required to provide offsets for ATC C-13-66 because the per-quarter quantities of PM10 offsets that have been set "equal to zero" for the entire facility are below 50 lbs. The source will be required to provide offsets for this process at such a time as the quantity of offsets set to zero exceeds 50 lb in any quarter.

MAJOR MODIFICATION

Facility Total Potential to Emit

52.94 TPY VOC
41.08 TPY CO
10.27 TPY NOx

Major Source Thresholds

25 TPY VOC
100 TPY CO
25 TPY NOx

27.26 TPY SOx	100 TPY SOx
4.22 TPY PM10*	100 TPY PM10

* As of December 14, 2009 the District is required to evaluate emissions of PM2.5 under Appendix S to 40 CFR 51. Under Appendix S, the major source threshold for PM2.5 is 100 tpy, the same as the major source threshold for PM10. Since PM2.5 is a subset of PM10, and this facility is not a major source for PM10, it is not a major source for PM2.5 either.

** See Quarterly PTE worksheet (dated 07/17/2013).

Last five year emission aggregate

5.56 TPY VOC
 42.56 TPY CO
 10.35 TPY NOx
 27.48 TPY SOx
 3.43 TPY PM10

Major Modification Thresholds

25 TPY VOC
 100 TPY CO
 25 TPY NOx
 40 TPY SOx
 25 TPY PM10

* See Last 5-Year Emission Aggregate worksheet (dated 01/27/2012).

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"

4 lb VOC/quarter
 557 lb CO/quarter
 75 lb NOx/quarter
 27 lb SOx/quarter
 20 lb PM10/quarter

Exemption level for notification

7,500 lb VOC/quarter
 49,500 lb CO/quarter
 7,500 lb NOx/quarter
 13,650 lb SOx/quarter
 13,650 lb PM10/quarter

Result: Public notice is not required

1. Requirement: The VOC emissions from the tipper engine shall not exceed Neg. lb/day, 4 lb/1st calendar quarter, 4 lb/2nd calendar quarter, 4 lb/3rd calendar quarter, 4 lb/4th calendar quarter, and 0.01 tons/calendar year. [District Rule 3.4 and 40 CFR 60.4234/ C-13-66]

2. Requirement: The CO emissions from the tipper engine shall not exceed 6.1 lb/day, 557 lb/1st calendar quarter, 557 lb/2nd calendar quarter, 557 lb/3rd calendar quarter, 557 lb/4th calendar quarter, and 1.11 tons/calendar year. [District Rule 3.4 and 40 CFR 60.4234/ C-13-66]

3. Requirement: The NOx emissions from the tipper engine shall not exceed 0.8 lb/day, 75 lb/1st calendar quarter, 75 lb/2nd calendar quarter, 75 lb/3rd calendar quarter, 75 lb/4th calendar quarter, and 0.15 tons/calendar year. [District Rule 3.4 and 40 CFR 60.4234/ C-13-66]

4. Requirement: The SOx emissions from the tipper engine shall not exceed 0.3 lb/day, 27 lb/1st calendar quarter, 27 lb/2nd calendar quarter, 27 lb/3rd calendar quarter, 27 lb/4th calendar quarter, and 0.05 tons/calendar year. [District Rules 2.11 and 3.4/ C-13-66]

5. Requirement: The PM10 emissions from the tipper engine shall not exceed 0.2 lb/day, 20 lb/1st calendar quarter, 20 lb/2nd calendar quarter, 20 lb/3rd calendar quarter, 20 lb/4th calendar quarter, and 0.04 tons/calendar year. [District Rules 2.11 and 3.4/ C-13-66]

6. Requirement: The amount of propane combusted in the engine shall not exceed 229 gallons/day, 20,851 gallons/1st calendar quarter, 20,851 gallons/2nd calendar quarter, 20,851 gallons/3rd calendar quarter, 20,851 gallons/4th calendar quarter, and 83,404 gallons/year. [District Rule 3.4/ C-13-66]

7. Requirement: Emission rates shall not exceed the following:
 a. VOC (measured as methane) - 3 ppmv @ 15% O2;
 b. CO - 239 ppmv @ 15% O2; and
 c. NOx (as NO2) - 20 ppmv @ 15% O2. [District Rule 2.32 and District Rule 3.4/C-12-11]

8. Requirement: The Permit Holder shall install and maintain such facilities as are necessary for sampling and testing purposes. The number, size, and location of sampling ports shall be in accordance with Air Resources Board Test Method 1. The location and access to

the sampling platform shall be in accordance with the General Industry Safety Orders of the State of California. [District Rule 3.4/C-13-66]

9. Requirement:

(ATC Only/Not Federally Enforceable) The Permit Holder shall perform a source test within 45 days of the unit's initial startup and at least once every 12 months thereafter to demonstrate compliance with VOC, CO and NOx emission limits. [District Rules 2.32 and 3.4/Not Federally Enforceable]

(PTO & Title V/Federally Enforceable) The Permit Holder shall perform a source test at least once every 12 months to demonstrate compliance with VOC, CO and NOx emission limits. [District Rules 2.32 and 3.4/C-13-66]

10. Requirement: Source testing shall be conducted using the following test methods:

- a. VOC - EPA Method 18;
- b. CO - EPA Method 10, or CARB Method 100;
- c. NOx (as NO2) - EPA Method 7E, or CARB Method 100; and
- d. Stack gas oxygen - EPA Method 3A, or CARB Method 100. [District Rule 2.32, §502 and District Rule 3.4/C-13-66]

11. Requirement: The District must be notified prior to any emissions testing event (source test or screening analysis), and a protocol must be submitted for approval 14 days prior to testing. The results of an emissions testing event shall be submitted to the District within 60 days of the test date. The protocol and report shall be mailed to the attention of the Supervising Air Quality Engineer. [District Rule 3.4]

District Rule 3.8-Federal Operating Permits

This rule implements the requirements of Title V of the Federal CAA as amended in 1990 for permits to operate. Title V provides for the establishment of operating permit programs for sources which emit regulated air pollutants, including attainment and non-attainment pollutants.

1. Requirement: The Permit Holder shall maintain all records on site for a period of five (5) years from the date of entry and these records shall be made readily available to District personnel upon request. [District Rule 3.8, §302.6(b)/C-12-11]

2. Requirement: The permit shall require that the source allow the entry of the District, ARB, or U.S. EPA officials for the purpose of inspection and sampling, including:

- a. Inspection of the stationary source, including equipment, work practices, operations, and emissions-related activity;
- b. Inspection and duplication of records required by the permit to operate; and
- c. Source sampling or other monitoring activities. [District Rule 3.8, §302.10]

3. Requirement: The Permit Holder shall comply with all Title V permit conditions. [District Rule 3.8, §302.11a]

4. Requirement: The permit does not convey property rights or exclusive privilege of any sort. [District Rule 3.8, §302.11b]

5. Requirement: Non-compliance with any permit condition is grounds for permit termination, revocation and reissuance, modification, enforcement action, or denial of permit renewal. [District Rule 3.8, §302.11c]

6. Requirement: The Permit Holder shall not use the "need to halt or reduce a permitted activity in order to maintain compliance" as a defense for non-compliance with any permit condition. [District Rule 3.8, §302.11d]

7. Requirement: A pending permit action or notification of anticipated non-compliance does not stay any permit condition. [District Rule 3.8, §302.11e]

8. Requirement: Within a reasonable time period, the Permit Holder shall furnish any information requested by the APCO, in writing, for the purpose of determining:

- a. Compliance with the permit; or
- b. Whether or not cause exists for a permit or enforcement action. [District Rule 3.8, §302.11f]

9. Requirement: Within two weeks of an emergency event, the owner or operator shall submit to the District a properly signed contemporaneous log or other relevant evidence demonstrating that:

- a. An emergency occurred;
- b. The Permit Holder can identify the cause(s) of the emergency;
- c. The facility was being properly operated at the time of the emergency;

- d. All steps were taken to minimize the emissions resulting from the emergency; and
- e. Within two working days of the emergency event, the Permit Holder provided the District with a description of the emergency and any mitigating or corrective actions taken.

In any enforcement proceeding, the Permit Holder has the burden of proof for establishing that an emergency occurred. [District Rule 3.8, §302.12]

10. Requirement: If any provision, clause, sentence, paragraph, section or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgment shall not affect or invalidate the remainder of these conditions. [District Rule 3.8, §302.13]

11. Requirement: The Responsible Official shall submit a compliance certification to the U.S. EPA and the APCO every twelve (12) months unless required more frequently by an applicable requirement. The twelve (12) month period will begin on January 1 and end on December 31, and will be due by January 31 for the previous reporting year, unless otherwise approved in writing by the District. All compliance reports and other documents required to be submitted to the District by the responsible official shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [District Rule 3.8, §302.14(a)]

12. Requirement: The compliance certification shall identify the basis for each permit term or condition (e.g., specify the emissions limitation, standard, or work practice) and a means of monitoring compliance with the term or condition consistent with Sections 302.5, 302.6, and 302.7 of Rule 3.8. [District Rule 3.8, § 302.14b]

13. Requirement: The compliance certification shall include a statement of the compliance status, whether compliance was continuous or intermittent, and method(s) used to determine compliance for the current time period and over the entire reporting period. [District Rule 3.8, § 302.14c]

14. Requirement: The compliance certification shall include any additional inspection, monitoring, or entry requirement that may be promulgated pursuant to Sections 114(a) and 504(b) of the Federal Clean Air Act. [District Rule 3.8, § 302.14d]

15. Requirement: The Title V permit shall expire five years from the date of issuance. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted. [District Rule 3.8, §302.15]

16. Requirement: An owner or operator shall pay the appropriate Title V permit fees on schedule. If fees are not paid on schedule, the permit is forfeited. Operation without a permit subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to Section 502(a) of the CAA. [District Rule 3.8, §302.16]

17. Requirement: No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes, for changes that are provided for in the permit. [District Rule 3.8, §302.22]

18. Requirement: An owner or operator shall submit a standard District application for renewal of the Title V permit, no earlier than 18 months and no later than six months before the expiration date of the current permit to operate. [District Rule 3.8, §402.2]

19. Requirement: An owner or operator shall submit a standard District application for each emissions unit affected by a proposed permit revision that qualifies as a significant Title V permit modification. The application shall be submitted after obtaining any required preconstruction permits. Upon request by the APCO, the owner or operator shall submit copies of the latest preconstruction permit for each affected emissions unit. The emissions unit(s) shall not commence operation until the APCO approves the permit revision. [District Rule 3.8, §402.3]

20. Requirement: An owner or operator shall submit a standard District application for each emissions unit affected by the proposed permit revision that qualifies as a minor permit modification. The application shall be submitted after obtaining any required preconstruction permits. The emissions unit(s) shall not commence operation until the APCO approves the permit revision. In the application, the owner or operator shall include the following:

- a. A description of the proposed permit revision, any change in emissions, and additional applicable
- b. Proposed permit terms and conditions; and
- c. A certification by a responsible official that the permit revision meets criteria for use of minor permit modification procedures and a request that such procedures be used. [District Rule 3.8, §402.4]

21. Requirement: Circumstances that are cause for reopening and revision of a permit include, but are not limited to, the following:

- a. The need to correct a material mistake or inaccurate statement;

- b. The need to revise or revoke a permit to operate to assure compliance with applicable federal requirements;
- c. The need to incorporate any new, revised, or additional applicable federal requirements, if the
- d. Additional requirements promulgated pursuant to Title IV as they become applicable to any acid rain unit governed by the permit. [District Rule 3.8, §413.1]

22. Requirement: The Permit Holder shall record maintenance of all monitoring and support information required by any applicable federal requirement, including:

- a. Date, place, and time of sampling;
- b. Operating conditions at the time of sampling;
- c. Date, place, and method of analysis; and
- d. Results of the analysis. [District Rule 3.8, §302.6a]

23. Requirement: The Permit Holder shall retain records of all required monitoring data and support information for a period of at least five years from the date of sample collection, measurement, report, or application. [District Rule 3.8, §302.6b]

24. Requirement: Any deviation from permit requirements, including that attributable to upset conditions (as defined in the permit), shall be promptly reported to the APCO. For the purpose of this condition prompt means as soon as reasonably possible, but no later than 10 days after detection.[District Rule 3.8, §302.7a]

25. Requirement: A semi-annual monitoring report shall be submitted at least once every six (6) consecutive calendar months and shall identify any deviation from permit requirements, including that previously reported to the APCO pursuant to Section 302.7(a) of Rule 3.8. Unless otherwise approved in writing by the District, the following shall apply:

- a. The first six (6) month monitoring period will begin on January 1 and end on June 30, and the report will be due by July 31 of the reporting year; and
- b. The second six (6) month period will begin on July 1 and end on December 31, and will be due on January 31 of the following calendar year.

26. Requirement: All reports of deviation from permit requirements shall include the probable cause of the deviation and any preventive or corrective action taken. [District Rule 3.8, §302.7c]

27. Requirement: Each monitoring report shall be accompanied by a written statement from the responsible official that certifies the truth, accuracy, and completeness of the report. [District Rule 3.8, §302.7e]

District Rule 3.20-Ozone Transport Mitigation

As documented above, the facility total PTE is above 10 tons per year for VOC or NOx, and therefore the post-project Stationary Source Potential to Emit (SSPE) will be calculated.

Annual permitted emissions for the stationary source including proposed emissions

VOC	105,880 lbs
NOx	20,540 lbs

Annual permitted emissions for equipment which is exempt from Rule 3.4*

VOC	20 lbs
NOx	271 lbs

Post -project Stationary Source Potential to Emit (SSPE)

VOC	105,860 lbs
NOx	20,269 lbs

Because the post-project SSPE is greater than 10 tons (20,000) lbs per year for VOC or NOx, per Section 301.1, calculations shall be performed to determine the quantity of mitigation required, if any.

Pre -project Stationary Source Potential to Emit (SSPE)

VOC	106,037 lbs
NOx	20,689 lbs

Quantity of offsets required by Rule 3.4

VOC	0 lbs
NOx	0 lbs

Quantity of Mitigation required by Rule 3.20

VOC	0 lbs
NOx	0 lbs

NSPS Applicability-40 CFR, Part 60, Subpart JJJJ, Standards of Performance For Stationary Spark Internal Combustion Engines

This subpart applies to manufacturers, owners and operators of specified stationary spark ignition internal combustion engines. This is an application for a stationary spark ignition engine, 25 > HP < 130, manufactured in 2010/2011. Per §60.4233 the engine is subject to the emissions standards outlined in Table 1. As demonstrated below the engine meets this requirement.

1. Requirement: Part 60.4234

<u>Manufacturers Emission Rate (g/bhp-hr)</u>		<u>Allowable Rate (g/bhp-hr)</u>	<u>Compliance</u>
HC + NOx =	0.10	7	Yes
CO =	0.66	289	Yes

Subsuming Demonstration: As shown in the calculations section , above, the emission factors used to calculate the daily emission limits are more stringent than the Subpart JJJJ requirement, therefore the conditions are subsumed by the requirements of District Rule 3.4 conditions.

Subsuming Conditions:

The VOC emissions from the tipper engine shall not exceed Neg. lb/day, 4 lb/1st calendar quarter, 4 lb/2nd calendar quarter, 4 lb/3rd calendar quarter, 4 lb/4th calendar quarter, and 0.01 tons/calendar year. [District Rule 3.4 and 40 CFR Part 60.4234/ C-13-66]

The CO emissions from the tipper engine shall not exceed 6.1 lb/day, 557 lb/1st calendar quarter, 557 lb/2nd calendar quarter, 557 lb/3rd calendar quarter, 557 lb/4th calendar quarter, and 1.11 tons/calendar year. [District Rule 3.4 and 40 Part 60.4234/C-13-66]

The NOx emissions from the tipper engine shall not exceed 0.8 lb/day, 75 lb/1st calendar quarter, 75 lb/2nd calendar quarter, 75 lb/3rd calendar quarter, 75 lb/4th calendar quarter, and 0.15 tons/calendar year. [District Rule 3.4 and 40 CFR 60.4234/C-13-66]

2. Requirement: The Permit Holder shall maintain records of: maintenance for the engine and control device according to the manufacturers emission related instructions, notifications submitted to comply with the subpart, and documentation from the manufacturer that the engine is certified to meet the applicable emission standards. [40 CFR 60.4243 and 60.4245/C-13-66]

3. Requirement: The air to fuel ratio controller must be maintained and operated appropriately to ensure proper operation of the engine and control device [40 CFR 60.4243(g)].

NESHAP Applicability-40 CFR, Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines

This subpart applies to engines operating at any stationary source. This is an application for a new spark ignition engine with a rating of less than 500 BHP, therefore the engine will comply with this section by meeting the requirements of 40 CFR Part 60 JJJJ. Per Section 63.6590, no further requirements apply for such engines under this part.

District Risk Management Plan and Risk Assessment Guidelines

As required by the District's RMPRAG Policy, the project's health risk will be reviewed. The review will evaluate the Hazardous Air Pollutant (HAP) emissions. The rich burn engine is equipped with a catalytic convertor which is expected to control both the HAPs and the criteria pollutant emissions. The District estimates that the control efficiency for HAPs will be at least 80% (equivalent to the control efficiency for CO).

Estimated Control Efficiency = 80%

Pollutants	Uncontrolled Emission Factor * (lb/MMBtu)	Controlled Yearly Emissions ** (lb/year)	Screening Level (lb/year)	Less Than Screening
1,2-Dichloroethane	1.13E-05	0.0171	9.70	Yes
1,3-Butadiene	6.63E-04	0.0000	1.10	Yes
Acetaldehyde	2.79E-03	0.0000	72.0	Yes
Acrolein	2.63E-03	0.0000	3.90	Yes

Benzene	1.58E-03	0.0000	6.70	Yes
Carbon tetrachloride	1.77E-05	0.0000	4.60	Yes
Chlorobenzene	1.29E-05	0.0000	13,500	Yes
Chloroform	1.37E-05	0.0000	36.0	Yes
Ethylbenzene	2.48E-05	0.0000	193,000	Yes
Ethylene dibromide	2.13E-05	0.0000	2.70	Yes
Formaldehyde	2.05E-02	0.0172	33.0	Yes
Methyl alcohol (methanol)	3.06E-03	0.0000	120,000	Yes
Methylene chloride	4.12E-05	0.0000	190.0	Yes
PAH, Unspeciated ***	4.39E-05	0.0000	0.043	Yes
PAH, Benzo(a)pyrene	0.00E+00	0.0000	0.043	Yes
PAH, Naphthalene ***	9.71E-05	0.0108	270.0	Yes
Styrene	1.19E-05	0.0013	135,000	Yes
Toluene	5.58E-04	0.0621	38,600	Yes
Vinyl chloride	7.18E-06	0.0008	2.50	Yes
Xylenes	1.95E-04	0.0000	57,900	Yes

* Uncontrolled HAP emission factors from AP-42, Section 3.2 (07/2000).

** Controlled HAP Emission Calculation: [HAP, lb/yr] = [HAP, lb/MMBtu] * [MMBtu/yr] * (100% - CE)

*** Although not indicated in Table 3.2-3 (HAPs data for rich burn natural gas fired engines) naphthalene is a listed PAH, as indicated in Table 3.3-2 (HAPs data for diesel engines). Therefore, the PAH emission factor has been adjusted so that the emission factor of naphthalene is subtracted from the unspciated PAH emission factor of Table 3.2-2. Conservatively, the District will assume that the remaining PAH is all benzo(a)pyrene. Benzo(a)pyrene was chosen since it has the highest of any PAH listed in Office of Environmental Health Hazard Assessments (OEHHAs) reference exposure levels (REL) table.

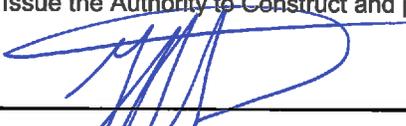
Because the emissions associated with the increase in propane combustion do not exceed any trigger levels. The project meets the De Minimus Level criteria of the RMPRAG. Therefore it is expected that there is no significatn increase in risk. No further air toxics review is

COMMENTS:

- BACT is not triggered
- NSR public notice is not required
- Offsets are not required
- Rule 3.20 mitigation is not required
- Title V public and regulatory notice is required for this administrative amendment

RECOMMENDATIONS:

Issue the Authority to Construct and prepare the amended Title V Permit.

Engineer:  _____

Date: 7/23/13

Reviewed by:  _____

Date: 7/23/2013

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618

**New Source Review
Last Five Year Activity**

Evaluator: Eugene Rubin

SIC Code # 4953

Facility Name: Recology Hay Road ^a

Date of Initial Determination: 4/23/2002

Date of Previous Determination: 4/5/2013

Location: 6426 Hay Road; Vacaville, CA

Date of Current Determination: 7/17/2013

Process	Issued Permits	Date PTO Issued	ATC	Date ATC Issued	VOC (tpy)	CO (tpy)	NOx (tpy)	SOx (tpy)	PM10 (tpy)
Gasoline Storage and Dispensing	P-28-98	7/27/1998	C-98-25	3/29/1998	0.01	0.00	0.00	0.00	0.00
Limited Use Diesel IC Engine (140 BHP)	P-34-00 ^b	6/21/2000	C-99-34	11/15/1999	-	-	-	-	-
Limited Use Diesel IC Engine (140 BHP)	P-35-00	-	C-99-33	11/16/1999	0.08	2.68	1.32	0.05	0.04
Limited Use Diesel fired IC Engine (250 BHP)	P-36-00	6/21/2000	C-99-25	11/16/1999	0.32	13.30	6.56	0.05	0.89
Emergency Diesel IC Engine (80 BHP)	P-37-00	6/21/2000	C-99-24	11/15/1999	0.02	0.05	0.25	0.02	0.02
Limited Use Diesel fired IC Engine (115 B HP)	P-24-00 ^b	6/21/2000	C-00-08	3/28/2000	-	-	-	-	-
Contaminated Soil Usage	P-64-00	12/15/2000	C-99-134	6/27/2000	13.00	0.00	0.00	0.00	0.82
Fugitive Landfill Gas Emissions	P-85-06	6/7/2007	C-05-88	3/2/2007	11.40	0.00	0.00	0.00	0.00
Emergency IC Engine (147 BHP)	P-86-06	6/7/2007	C-06-119	3/2/2007	0.01	0.03	0.13	0.01	0.00
Fugitive Landfill Gas Emissions	P-85-06(a1)	5/12/2009	C-08-41 ^c	12/12/2008	34.39	0.00	0.00	0.00	0.00
Fugitive Landfill Gas Emissions	P-85-06(a4)	5/18/2011	C-10-34 ^d	11/8/2010	35.53	39.95	9.99	14.39	3.36
Non Hazardous liquid waste	P-81-10	PENDING	C-10-42	12/6/2010	0.00	0.00	0.00	0.00	0.00
Propane IC Engine Powering a Tipper	P-5-11	7/13/2011	C-10-58	3/7/2011	0.10	2.61	0.36	0.10	0.07
Gasoline Storage and Dispensing	P-28-98(a)	8/11/2011	C-10-117	6/17/2011	0.04	0.00	0.00	0.00	0.00
Propane IC Engine Powering a Tipper	P-5-11(a)	3/7/2012	C-12-11	1/27/2012	0.00	0.00	0.00	0.00	0.00
Fugitive Landfill Gas Emissions	P-85-06(a5)	-	C-13-02	PENDING	39.82	39.95	9.99	27.38	3.36
Propane IC Engine Powering A Tipper	-	-	C-13-66	PENDING	0.00	0.00	0.00	0.00	0.00
TOTAL ^e					5.56	42.56	10.35	27.48	3.43

^a. Formerly Norcal Waste Systems Hay Road Landfill, Inc.

^b. Administrative permit holder name change from "Norcal Waste Systems Hay Road Landfill, Inc." to "Jepson Prairie Organics Compost" processed on 09/22/2006. The emissions from these permits are no longer associated with Norcal Waste's operation.

^c. The VOC emissions change associated with this permit was due to a calculational change required by EPA, therefore, this is not a creditable increase.

^d. ATC C-10-34 modified PTO P-85-06(a1) superseded ATC C-10-07.

^e. All decreases in PTE are treated as zero net change and not included in the Total 5-Year Aggregate summation.

COMMENTS: These permits are sorted by the ATC issuance date. According to Rule 3.4, Section 221, a major modification is calculated based on all creditable increases and decreases from the source over the period of five consecutive years before the application, including the calendar year of the most recent application. The applicable period ranges from July 2008 to July 2013.

Engineer: _____

Date: 7/17/13

Reviewed by: Frank DeTrinis

Date: 7/19/2013

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618

New Source Review
Quarterly Potential To Emit Determination
NSR Version 08/13/1998

Evaluation to be used on existing permits to obtain their quarterly PTE.

Engineer: Eugene Rubin

Facility Name: Recology Hay Road (formerly Norcal Waste Systems Hay Road Landfill, Inc.)

Location: 6426 Hay Road, Vacaville, CA 95687

CURRENT APPLICATIONS:

ATC's
C-13-66

PTO's

SIC Code # 4953

Date of Initial Quarterly PTE Determination: 4/23/2002

Date of Previous Quarterly PTE Determination: 2/5/2013

Date of Current Quarterly PTE Determination: 1/17/2013

Process Description	VOC Emissions				CO Emissions				NOx Emissions				SOx Emissions				PM10 Emissions				
	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)
Propane IC Engine	49	49	49	49	1305	1305	1305	1305	179	179	179	179	27	27	27	27	20	20	20	20	0.06
P-5-11(a)	4	4	4	4	0.01	0.01	0.01	0.01	75	75	75	75	0.15	0.15	0.15	0.15	0	0	0	0	0.04
Gasoline Storage & Dispensing: Non-Retail	20	20	20	20	0.04	0.04	0.04	0.04	0	0	0	0	0.00	0.00	0.00	0.00	0	0	0	0	0.00
Petroleum Contaminated Soil Operations	6,500	6,500	6,500	6,500	13,000	13,000	13,000	13,000	0	0	0	0	0.00	0.00	0.00	0.00	0	0	0	0	0.82
Non-Hazardous Liquid Waste	1	1	1	1	0.00	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00	0.00	0	0	0	0	0.00
P-81-10	17,520	17,714	17,909	17,909	35.53	35.53	35.53	35.53	4,825	4,980	5,034	5,034	9.99	9.99	9.99	9.99	13,600	13,600	13,600	13,600	1,655
Landfill Fugitive Emissions	19,667	19,885	20,104	20,104	39.88	39.88	39.88	39.88	4,925	4,980	5,034	5,034	9.99	9.99	9.99	9.99	13,600	13,600	13,600	13,600	1,655
C-13-02	26,237	26,456	26,674	26,674	106,037	106,037	106,037	106,037	5,104	5,159	5,213	5,213	20,689	20,689	20,689	20,689	13,627	13,627	13,627	13,627	2,077
PRE-PROJECT SSPE ¹ (lbs)	26,192	26,410	26,629	26,629	105,860	105,860	105,860	105,860	5,000	5,055	5,109	5,109	20,273	20,273	20,273	20,273	13,627	13,627	13,627	13,627	2,077
POST-PROJECT SSPE ¹ (lbs)	26,192	26,410	26,629	26,629	105,860	105,860	105,860	105,860	5,000	5,055	5,109	5,109	20,273	20,273	20,273	20,273	13,627	13,627	13,627	13,627	2,077
Emergency IC Engine (150 BHP)	20	20	20	20	0.01	0.01	0.01	0.01	271	271	271	271	0.14	0.14	0.14	0.14	6	6	6	6	0.01
PRE-PROJECT TOTAL PTE ² (lbs)	26,257	26,476	26,694	26,694	106,037	106,037	106,037	106,037	5,375	5,430	5,484	5,484	20,689	20,689	20,689	20,689	13,639	13,639	13,639	13,639	2,082
POST-PROJECT TOTAL PTE ² (lbs)	26,212	26,430	26,649	26,649	105,860	105,860	105,860	105,860	5,271	5,326	5,380	5,380	20,273	20,273	20,273	20,273	13,639	13,639	13,639	13,639	2,083

1. Per the requirements of Rule 3.20, the facility's pre- and post-project Stationary Source Potential to Emit (SSPE) calculations do not include any emissions from permitted emergency equipment.

2. The facility's pre- and post-project Total Potential to Emit (PTE) calculations include all permitted equipment operating at the site.

Post-Project Stationary Source Potential to Emit (SSPE)

	Quarter #1 (lbs)	Quarter #2 (lbs)	Quarter #3 (lbs)	Quarter #4 (lbs)	Yearly (lbs/year)
VOC	26,192	26,410	26,629	26,629	105,860
CO	20,256	20,475	20,694	20,694	82,111
NOx	5,000	5,055	5,109	5,109	20,273
SOx	13,627	13,627	13,627	13,627	54,850
PM10	2,077	2,095	2,114	2,114	8,431

Post-Project Total Quarterly Potential to Emit (PTE)

	Quarter #1 (lbs)	Quarter #2 (lbs)	Quarter #3 (lbs)	Quarter #4 (lbs)	Yearly (tons)
VOC	26,212	26,430	26,649	26,649	52,94
CO	20,310	20,529	20,748	20,748	41,08
NOx	5,271	5,326	5,380	5,380	10,27
SOx	13,639	13,639	13,639	13,639	27,43
PM10	2,083	2,101	2,119	2,119	4,22

MITIGATION THRESHOLDS

Yearly (lbs/year)	Above	Below
20,000	-	-
20,000	-	-

SSPE Comparison to Rule 3.20 Triggers

Annual	Above	Below
20,000	-	-
20,000	-	-

OFFSET THRESHOLDS

Quarterly (lbs/qr)	Quarter #1	Quarter #2	Quarter #3	Quarter #4
7,500	Above	Above	Above	Above
49,500	Below	Below	Below	Below
7,500	Below	Below	Below	Below
13,650	Below	Below	Below	Below
13,650	Below	Below	Below	Below

PTE Comparison to NSR Triggers

Quarter #1	Quarter #2	Quarter #3	Quarter #4
Above	Above	Above	Above
Below	Below	Below	Below
Below	Below	Below	Below
Below	Below	Below	Below
Below	Below	Below	Below

COMMENTS: This quarterly PTE evaluation was updated for ATC C-13-66. The District will conservatively assume the higher emissions between C-13-02 and P-85-06(a)

Engineer:



Reviewed by:



Date:

7/17/13

Date:

7/19/2013