YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court, Suite 103; Davis, CA 95618

Diesel Fired Emergency Internal Combustion Engine Emission Evaluation

ENGINEER: Eugene Rubin

ATC # C-13-42
SIC Code # 8221
UTM E 608.8 km
UTM N 4266.2 km

COMPANY NAME: University of California, Davis

ENGINE LOCATION: The engine will be located at various locations on the University of California Main Campus and the Research Park Drive Facilities in Davis, CA. The engine 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 proposing to install a diesel fired emergency internal combustion (IC) engine. This engine will be replacing the existing generator operating at Domestic Well 6A operating under P-95-94(a).

The facility is currently operating under Title V Operating Permit F-00454-21, effective September 25, 2012. This evaluation will serve as both the District emission evaluation and the Title V Statement of Basis. This evaluation reflects only the requirements pertaining to C-13-42. Emission units that are not affect by this proposal were evaluated in the original Statement of Basis or the subsequent iterations and will not be reviewed in this evaluation.

The changes to the Title V permit will include changes evaluated under ATC C-13-42, C-13-72, C-13-76 and C-13-84.

PROCESS: The engine is used to power an emergency generator.

FLOW DIAGRAM: None required.

IDENTIFICATION: P-28-13 (reserved)

EQUIPMENT: 314 BHP diesel fired Cummins IC engine, Model No. QSB7-G6, Serial No. TBD, Model Year 2012, EPA Certified Interim Tier IV Engine

CONTROL EQUIPMENT: Aftercooler, turbocharger, non-selective catalyst, and diesel particulate filter.

APPLICATION DATA:

Operating Schedule		Units	Formula Symbol	Reference
Max. Daily Operation =	24	hours/day	Td	Applicant
Max. 1st Quarter Operation =	200	hours/quarter	T1	Applicant
Max. 2nd Quarter Operation =	200	hours/quarter	T2	Applicant
Max. 3rd Quarter Operation =	200	hours/quarter	T3	Applicant
Max. 4th Quarter Operation =	200	hours/quarter	T4	Applicant
Max. Yearly Operation =	200	hours/year	Ty	Applicant

Engine Data		Units	Formula Symbol	Reference
Maximum BHP Rating =	314	BHP	HP	Manufacturer's Data
Exhaust Volume =	1,428	ACFM	EV	Manufacturer's Data
Exhaust Temperature =	1,409	Degrees Rankine (F+460)	ET	Manufacturer's Data
Hourly Fuel Consumption =	15.4	Gallons	FT	Manufacturer's Data

ASSUMPTIONS:

		Units	Formula Symbol	Reference
Sulfur Content of Fuel =	0.0015	%	SC	CARB Certified Diesel
Standard Temperature =	528	Degrees Rankine (F+460)	ST	STAPPA-ALAPCO, Pg. 1-7 (5/30/91)
Moisture Content =	10	%	PM	STAPPA-ALAPCO, Pg. 1-7 (5/30/91)
BTU Content =	19,300	BTU/lb	BC	AP-42, Table 3.4-1(a) (10/96)
Density =	7.1	lb/gallon	DE	AP-42, Table 3.4-1(a) (10/96)

Diesel Particulate Control		Units	Formula Symbol	Reference
Particulate Controls =	yes			Applicant
Baseline Reduction =	85	%	CE	Manufacturer's Data

EMISSION FACTORS:		Units	Formula Symbol	Reference
VOC =	0.01	g/bhp-hr	EFvoc	US EPA Tier 4 Interim Cert
CO =	0.00	g/bhp-hr	EFco	US EPA Tier 4 Interim Cert
NOx =	1.04	g/bhp-hr	EFnox	US EPA Tier 4 Interim Cert
SOx =	0.0055	g/bhp-hr	EFsox	AP-42, Table 3.4-1 (10/96) *
PM10 =	0.00	g/bhp-hr	EFpm	US EPA Tier 4 Interim Cert**

* Only the emission factor listed in Table 3.4-1 is used since it assumes all fuel bound sulfur is converted to SOx.
** All particulate matter is assumed to be less than 1 micrometer aerodynamic diameter (AP-42, Section 3.3).

CALCULATIONS:

1. Determine the Permitted Diesel Fuel Limits:

Daily Diesel Limit = Td * FT =	370 gallons
1st Quarter Diesel Limit = T1 * FT =	3,080 gallons
2nd Quarter Diesel Limit = T2 * FT =	3,080 gallons
3rd Quarter Diesel Limit = T3 * FT =	3,080 gallons
4th Quarter Diesel Limit = T4 * FT =	3,080 gallons
Yearly Diesel Limit = Ty * FT =	3,080 gallons

2. Determine Dry Standard Cubic Feet of Exhaust:

		Formula Symbol
DSCFM Exhaust = EV * ST/ET * (100%-PM) =	481.6 dscfm	SCFM

3. Determine Yearly MMBtu combusted in Engine for Toxics:

Yearly MMBtu = Ty * FT * DE * BC * (1 MMBtu/1,000,000 Btu) =	422.1 MMBtu/year

EMISSION CALCULATIONS:

1. Determine VOC Emissions:

Max Daily VOC Emissions = Td * HP * EFvoc * (1 lb/453.6 g) =	0.1 lb/day
1st Quarter VOC Emissions = T1 * HP * EFvoc * (1 lb/453.6 g) =	1 lb/quarter
2nd Quarter VOC Emissions = T2 * HP * EFvoc * (1 lb/453.6 g) =	1 lb/quarter
3rd Quarter VOC Emissions = T3 * HP * EFvoc * (1 lb/453.6 g) =	1 lb/quarter
4th Quarter VOC Emissions = T4 * HP * EFvoc * (1 lb/453.6 g) =	1 lb/quarter
Max Yearly VOC Emissions = Ty * HP * EFvoc * (1 lb/453.6 g) * (1 ton/2,000 lb) =	0.00 tons/year

2. Determine CO Emissions:

Max. Daily CO Emissions = Td * HP * EFco * (1 lb/453.6 g) =	0.0 lb/day
1st Quarter CO Emissions = T1 * HP * EFco * (1 lb/453.6 g) =	0 lb/quarter
2nd Quarter CO Emissions = T2 * HP * EFco * (1 lb/453.6 g) =	0 lb/quarter
3rd Quarter CO Emissions = T3 * HP * EFco * (1 lb/453.6 g) =	0 lb/quarter
4th Quarter CO Emissions = T4 * HP * EFco * (1 lb/453.6 g) =	0 lb/quarter
Max. Yearly CO Emissions = Ty * HP * EFco * (1 lb/453.6 g) * (1 ton/2,000 lb) =	0.00 tons/year

3. Determine NOx Emissions:

Max. Hourly NOx Emissions = HP * EFnox * (1 lb/453.6 g) =	0.7 lb/hour
Max. Daily NOx Emissions = Td * HP * EFnox * (1 lb/453.6 g) =	17.3 lb/day
1st Quarter NOx Emissions = T1 * HP * EFnox * (1 lb/453.6 g) =	145 lb/quarter
2nd Quarter NOx Emissions = T2 * HP * EFnox * (1 lb/453.6 g) =	145 lb/quarter
3rd Quarter NOx Emissions = T3 * HP * EFnox * (1 lb/453.6 g) =	145 lb/quarter
4th Quarter NOx Emissions = T4 * HP * EFnox * (1 lb/453.6 g) =	145 lb/quarter
Max. Yearly NOx Emissions = Ty * HP * EFnox * (1 lb/453.6 g) * (1 ton/2,000 lb) =	0.07 tons/year

4. Determine SOx Emissions:

Max. Hourly SOx Emissions = HP * EFsox * (1 lb/453.6 g) =	0.0	lb/hour
Max. Daily SOx Emissions = Td * HP * EFsox * (1 lb/453.6 g) =	0.1	lb/day
1st Quarter SOx Emissions = T1 * HP * EFsox * (1 lb/453.6 g) =	1	lb/quarter
2nd Quarter SOx Emissions = T2 * HP * EFsox * (1 lb/453.6 g) =	1	lb/quarter
3rd Quarter SOx Emissions = T3 * HP * EFsox * (1 lb/453.6 g) =	1	lb/quarter
4th Quarter SOx Emissions = T4 * HP * EFsox * (1 lb/453.6 g) =	1	lb/quarter
Max. Yearly SOx Emissions = Ty * HP * EFsox * (1 lb/453.6 g) * (1 ton/2,000 lb) =	0.00	tons/year

5. Determine PM10 Emissions:

Max. Hourly PM10 Ems. = HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0.0	lb/hour
Max. Daily PM10 Ems. = Td * HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0.0	lb/day
1st Quarter PM10 Ems. = T1 * HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0	lb/quarter
2nd Quarter PM10 Ems. = T2 * HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0	lb/quarter
3rd Quarter PM10 Ems. = T3 * HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0	lb/quarter
4th Quarter PM10 Ems. = T4 * HP * EFpm * (1 lb/453.6 g) * (100%-CE) =	0	lb/quarter
Yearly PM10 Ems. = Ty * HP * EFpm * (1 lb/453.6 g) * (1 ton/2,000 lb) * (100%-CE) =	0.00	tons/year

6. Determine Particulate Matter Emission Concentration:

PM Conc. = [PM lb/hr] * (7,000 grains/lb) * (1 hr/60 min) * (1/SCFM) =	0.000	gr/dscf

7. Determine SOx Emission Concentration:

SOx % = [SOx lb/hr] * (385 scf/lb-mole) * (lb-mole/64 lb) * (1 hr/60 min) * (1/SCFM) * 100% =	0.0001	%

8. Determine Particulate Matter Emission Rate:

			Formula Symbol
PM Emission Rate = Ty * HP * EFpm * (1 year/8,760 hrs) * (1 hr/3,600 sec) * (100%-CE) =	0.0000	grams/sec	ER

RULE & REGULATION COMPLIANCE EVALUATION:

District Rule 2.3-Ringelmann
This rule specifies the allowable opacity limit for all sources operating in the District.

Compliance Status: The rule applies to any visible emissions at the stationary source. The version of the rule used in this evaluation is the rule adopted on January 13, 2010 and included in the current California State Implementation Plan (SIP). The source is currently in compliance with the requirements of the rule.

Requirement: A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one hour which is:
a. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or
b. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection 301.2 a. of this rule.

Permit Condition: 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 hour which is:
a. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart; or
b. Greater than 20% opacity. [District Rule 2.3/C-13-42]

District Rule 2.5-Nuisance
This rule requires that sources are not a public nuisance.

Compliance Status: The rule applies to all emission units at the stationary source. The source is currently in compliance with the requirements of the rule.

Permit Condition: The Permit Holder shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such persons or the public or which cause to have a natural tendency to cause injury or damage to business or property.

A condition will not be placed on the ATC, but will be added to the PTO upon implementation.

[The permit condition is federally enforceable because it derives from District Rule 2.5 - Nuisance which is currently part of the SIP. The District is taking steps to remove District Rule 2.5 from the SIP. Once the U.S. Environmental Protection Agency (EPA) has taken final action to remove District Rule 2.5 from the SIP, this permit condition will become State-enforceable only.]

District Rule 2.11-Particulate Matter
This rule specifies the allowable particulate matter (PM) emission concentration at standard conditions. For the purpose of this evaluation, the PM emissions are considered to be 100% PM10 (PM with an aerodynamic diameter of 10 microns or less).

Compliance Status: The proposed IC engine is subject to this rule. The version of the rule used in this evaluation is the rule adopted on January 13, 2010 and included in the current SIP.

Requirement: A person shall not release or discharge into the atmosphere, from any single source operation, dust fumes or total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions.

As shown above in Emission Calculations #6, the PM concentration is expected to be in compliance with this requirement.

Emission Concentration (gr/dscf)	Allowable (gr/dscf)	Compliance
0.000	0.1	Yes

The requirements of the SIP can be subsumed by the Authority of District Rule 3.4, New Source Review. P-28-13 is also subject to the federally applicable PM emission limit of negligible (Neg.) lbs/day (established by Rule 3.4, Section 409.2).

Permit Condition: PM10 emissions shall not exceed Neg. lb/day, Neg. lb/1st, 2nd, 3rd, and 4th calendar quarter, and Neg. tons/year. [District Rule 3.4/C-13-42]

District Rule 2.12-Section A-Sulfur Compounds
This rule specifies the allowable sulfur dioxide and particulate matter combustion contaminant emission rates at standard conditions. For the purposes of this evaluation, the sulfur oxide (SOx) emissions are considered to be 100% SO2.

Compliance Status: The proposed IC engine is subject to this rule. The rule applies to any source operation which emits, or may emit sulfur gaseous emissions and particulate matter combustion contaminants. The version of the rule used in this evaluation is the rule adopted on January 13, 2010 and included in the current SIP. The proposed engine is currently in compliance with the requirements of the rule.

Requirement: A person shall not discharge into the atmosphere from any single source of emission whatsoever, any one or more of the following contaminants, in any state or combination thereof, in excess of the following concentrations at the point of discharge:
A. Sulfur compounds calculated as sulfur dioxide (SO2) 0.2%, by volume at standard conditions.
B. Particulate Matter Combustion Contaminants: 0.1 grains per cubic foot of gas calculated to 12 percent of carbon dioxide (CO2) at standard conditions.

As shown above in Emission Calculations #7, the sulfur concentration (in percent) is expected to be in compliance with the requirement. Compliance with the particulate limit is demonstrated in Calculation #6 (See 2.11).

Emission Concentration (% SOx as SO2)	Allowable (% SOx as SO2)	Compliance
0.0001	0.2	Yes

The requirements of the SIP can be subsumed by the Authority of District Rule 3.4, New Source Review. P-28-13 is also subject to the federally applicable SOx emission limit of 0.1 lbs/day (established by Rule 3.4, Section 409.2).

Permit Condition: SOx emissions shall not exceed 0.1 lb/day, 1 lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

District Rule 2.16 - Fuel Burning Heat or Power Generators
This rule specifies the allowable sulfur dioxide, nitrogen oxides calculated as nitrogen dioxide, and combustion particulate limits for non-mobile fuel burning equipment for a heat or power generating unit in the District.

Compliance Status: The IC engine is subject to this rule. The version of the rule used in this evaluation is the rule adopted on October 1, 1971 and included in the current SIP. The proposed engine is currently in compliance with the requirements of the rule.

Requirement: A person shall not build, expand, or operate any non-mobile fuel burning equipment for a heat or power generator unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:
1. 200 pounds per hour of sulfur compounds, calculated as sulfur dioxide (SO2);
2. 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO2);
3. 40 pounds per hour of combustion particulate derived from the fuel. [SIP approved version of District Rule 2.16]

Pollutant	Allowable		Actual		Compliance
SOx	**200**	lb/hr	0.0	lb/hr	**Yes**
NOx	**140**	lb/hr	0.7	lb/hr	**Yes**
PM	**40**	lb/hr	0.0	lb/hr	**Yes**

Subsuming Demonstration: The requirements of the SIP can be subsumed by the Authority of District Rule 3.4, New Source Review. P-28-13 is also subject to the federally applicable SOx emission limit of 0.1 lbs/day, NOx emission limit of 17.3 lbs/day and particulate emission limit of negligible lbs/day (established by Rule 3.4, Section 409.2).

Permit Condition: SOx emissions shall not exceed 0.1 lb/day, 1 lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

Permit Condition: NOx emissions shall not exceed 17.3 lb/day, 145 lb/1st, 2nd, 3rd, and 4th calendar quarter, and 0.07 tons/year. [District Rule 3.4/C-13-42]

Permit Condition: PM10 emissions shall not exceed negligible lb/day, negligible lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

District Rule 2.32-Stationary Internal Combustion Engines
The purpose of the rule is to limit emissions of nitrogen oxides (NOx) and carbon monoxides (CO) from stationary internal combustion engines. The rule applies to any stationary internal combustion engines rated at more than 50 brake horsepower, operated on any gaseous fuel, including liquid petroleum gas, or diesel fuel. The rule shall not apply to engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Compliance Status: The IC engine is subject to this rule. The version of the rule used in this evaluation was adopted on October 10, 2001 and is part of the current SIP. The engine will have limited hours per year for maintenance operations and 200 hours per year for total use, and is therefore exempt from the rule (except Section 503) pursuant to Section 110.3. Section 503 requires that the source maintain a log of the engine's operating hours and that the log be retained for two years.

Requirement: An owner or operator claiming an exemption under Section 110.2 or 110.3 of this Rule shall maintain a log of operating hours for each engine. The log of operating hours shall be retained for two years and be made available to the Air Pollution Control Officer upon request.

Subsuming Demonstration: Title 17 CCR Section 93115-Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines, requires the owner or operator to maintain logs (see below). The District Rule 3.8, Federal Operating Permits requirement of Section 302.6.b requires records be retained for a period of five (5) years. The log and record-keeping requirements of Rule 2.32 will be subsumed by ATCM, Rule 3.4 and 3.8 requirements.

Permit Condition: The Permit Holder shall not operate the IC engine more than 200 hours per calendar year. [District Rule 3.4, §110.2/C-13-42]

Permit Condition: The Permit Holder shall maintain a monthly log of usage that shall list and document the nature of use for each of the following:
a. Emergency use hours of operation;
b. Maintenance and testing hours of operation;
c. Hours of operation for emission testing to show compliance with Title 17 CCR, Section 93115.6(a)(3) and 93115.6(b)(3);
d. Initial start-up hours; and
e. Fuel use through the retention of fuel purchase records which indicate that the fuel used in the IC engine is CARB certified diesel fuel or an approved ATCM compliant alternative fuel. [District Rule 3.4, §402 and Title 17 CCR, Section 93115.10(f)(1)/C-13-42]

Permit Condition: The Permit Holder shall retain the log for a minimum of 60 months (5 years) from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site and made immediately available to the District staff upon request. Log entries made from 25 to 60 months from most recent entry shall be made available to District staff within 5 working days from request. [District Rule 3.8, §302.6, District Rule 3.4 and Title 17 CCR, Section 93115.10(f)(2)/C-13-42]

District Rule 3.1-General Permit Requirements

The purpose of this rule is to provide an orderly procedure for the review of new sources of air pollution and of the modification and operation of existing sources through the issuance of permits.

Compliance Status: The source has satisfied the provisions of General Permit Requirements. The rule applies to all emission units at the stationary source. The version of the rule used in this evaluation was adopted on February 23, 1994 and is part of the current SIP. The General Permit Requirements are shown below.

Permit Condition: 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 as specified in Section 401 of District Rule 3.1. [District Rule 3.1, §301.1]

Permit Condition: 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 Air Pollution Control Officer. [District Rule 3.1, §302.1]

Permit Condition: 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 Air Pollution Control Officer or the Hearing Board. [District Rule 3.1, §302.2]

Permit Condition: To assure compliance with all applicable regulations, the Air Pollution Control Officer may impose written conditions on any authorization to construct or permit to operate. The Air Pollution Control Officer may, after 30-day notice to the permittee, add or amend written conditions on any permit upon annual renewal to ensure compliance with and enforceability of any applicable rule or regulation. Additional provisions, as required by Title V of the Federal Clean Air Act, for the reopening of permits are specified in Rule 3.8, FEDERAL OPERATING PERMITS. Commencing work or operation under such a revised permits shall be deemed acceptance of all of the conditions so specified. [District Rule 3.1, §402]

Permit Condition: 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

This rule applies to all new stationary sources and emissions units and all modifications to existing stationary sources and emissions units which are subject to Rule 3.1, General Permit Requirements, and which, after construction or modification, emit or may emit any affected pollutants. This rule shall not apply to prescribed burning of forest, agriculture or range land, road construction or any other non-point source common to timber harvesting or agricultural practices. The purpose of this rule is to provide for the review of new and modified stationary air pollution sources and to provide mechanisms, including emission offsets, by which authorities to construct to such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

Compliance Status: The source has satisfied the provisions of New Source Review. The New Source Review requirements will be imposed on the Authority to Construct (ATCs) issued to the source. The version of the rule used in this evaluation was adopted on August 13, 1997 and is part of the current SIP.

PROPOSED EMISSION SUMMARY FOR NEW OR MODIFIED PERMIT

	Daily	*Yearly*	
VOC	0.1 lb	0.00 tons	Use for annual billing
CO	0.0 lb	0.00 tons	Use for annual billing
NOx	17.3 lb	0.07 tons	Use for annual billing
SOx	0.1 lb	0.00 tons	Use for annual billing
PM10	0.0 lb	0.00 tons	Use for annual billing

	Quarterly			
	1st	2nd	3rd	4th
VOC (lb)	1	1	1	1
CO (lb)	0	0	0	0
NOx (lb)	145	145	145	145
SOx (lb)	1	1	1	1

PM10 (lb)	0	0	0	0

Previous quarterly potential to emit for modified permit*

	1st	2nd	3rd	4th
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 emissions unit, therefore the previous potential to emit (PTE) is zero.

Historic potential emissions for modified permit*

	1st	2nd	3rd	4th
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 emissions unit, therefore the historic PTE is zero.

Pollutant	Trigger (lb/day)	BACT Proposed (lb/day)	Quarterly Increase	BACT Trigger
VOC	10	0	Yes	No
CO	250	0	No	No
NOx	10	17	Yes	Yes
SOx	80	0	Yes	No
PM10	80	0	Yes	No

OFFSETS

Quarterly permitted emissions for other permits at the stationary source*

	1st	2nd	3rd	4th
VOC (lb)	13,219	13,318	13,430	13,450
CO (lb)	207,696	209,617	211,794	212,064
NOx (lb)	51,157	51,306	51,724	52,020
SOx (lb)	7,548	7,555	7,563	7,564
PM10 (lb)	11,787	11,859	11,953	11,980

* Per Policy 28, the calculated PTE for all other permitted units not including emergency use IC engines (see QPTE sheet).

Quarterly permitted emissions for the stationary source including proposed emissions*

	1st	2nd	3rd	4th
VOC (lb)	13,219	13,318	13,430	13,450
CO (lb)	207,696	209,617	211,794	212,064
NOx (lb)	51,157	51,306	51,724	52,020
SOx (lb)	7,548	7,555	7,563	7,564
PM10 (lb)	11,787	11,859	11,953	11,980

* Per Policy 28, since the proposed IC engine is to be used for emergency purposes, the unit's proposed PTE will not be included in the facility's total quarterly PTE calculations.

Offset triggers

	1st	2nd	3rd	4th
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 *

	1st	2nd	3rd	4th
VOC (lb)	1	1	1	1
CO (lb)	0	0	0	0

NOx (lb)	145	145	145	145
SOx (lb)	0	0	0	0
PM10 (lb)	0	0	0	0

* The engine meets the requirements of District Rule 3.4, Section 110 and is exempt from the above calculated offset requirements.

MAJOR MODIFICATION

Facility Total Potential to Emit*	***Major Source Thresholds***
28.97 TPY VOC	25 TPY VOC
424.42 TPY CO	100 TPY CO
156.05 TPY NOx	25 TPY NOx
7.74 TPY SOx	100 TPY SOx
22.74 TPY PM10**	100 TPY PM10

* See QTPE sheet.

* 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.

Last five year emission aggregate*	***Major Modification Thresholds***
5.55 TPY VOC	25 TPY VOC
7.9 TPY CO	100 TPY CO
16.51 TPY NOx	25 TPY NOx
0.54 TPY SOx	40 TPY SOx
8.91 TPY PM10	25 TPY PM10

* See five year activity sheet.

Result: The proposed modification is not a major modification

PUBLIC NOTICE

"Increase in historic potential to emit"	***Exemption level for notification***
1 lb VOC/quarter	7,500 lb VOC/quarter
0 lb CO/quarter	49,500 lb CO/quarter
145 lb NOx/quarter	7,500 lb NOx/quarter
1 lb SOx/quarter	13,650 lb SOx/quarter
0 lb PM10/quarter	13,650 lb PM10/quarter

Result: Public notice is not required

Permit Condition: VOC emissions shall not exceed 0.1 lb/day, 1 lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

Permit Condition: CO emissions shall not exceed negligible lb/day, negligible lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

Permit Condition: NOx emissions shall not exceed 17.3 lb/day, 145 lb/1st, 2nd, 3rd, and 4th calendar quarter, and 0.07 tons/year. [District Rule 3.4/C-13-42]

Permit Condition: SOx emissions shall not exceed 0.1 lb/day, 1 lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

Permit Condition: PM10 emissions shall not exceed negligible lb/day, negligible lb/1st, 2nd, 3rd, and 4th calendar quarter, and negligible tons/year. [District Rule 3.4/C-13-42]

Permit Condition: The maximum amount of diesel consumption shall not exceed 370 gallons/day, 3,080 gallons/1st, 2nd, 3rd, and 4th calendar quarter, and 3,080 gallons/year. [District Rule 3.4/C-13-42]

Permit Condition: The Permit Holder shall only refuel the IC engine with CARB certified diesel fuel. [District Rule 3.4, Title 17 CCR, Section 93115.5 and 40 CFR Part 60.4207/C-13-42]

Permit Condition: The Permit Holder shall not operate the IC engine more than 50 hours per calendar year for maintenance and testing purposes, and such operation shall be scheduled in cooperation with the District so as to limit air quality impact. [District Rule 3.4,

§110.1,Title 17 CCR, Section 93115.6(a)(3)(A) and 40 CFR Part 60.4211/C-13-42]

Permit Condition: The Permit Holder shall not operate the IC engine more than 200 hours per calendar year. [District Rule 3.4, §110.2/C-13-42]

Permit Condition: The Permit Holder shall not operate the IC engine for the supplying of power to a serving utility for distribution on the grid. [District Rule 3.4, §110.3/C-13-42]

Permit Condition: The Permit Holder's operation of the IC engine for reasons other than maintenance purposes shall be limited to actual interruptions of electrical power by the serving utility. [District Rule 3.4, §110.4/C-13-42]

Permit Condition: The Permit Holder shall install and maintain a non-resettable hour meter with a minimum display capability of 9,999 hours. [District Rule 3.4, Title 17 CCR, Section 93115.10(d)(1) and 40 CFR Part 60.4209/C-13-42]

Permit Condition: The Permit Holder shall maintain a monthly log of usage that shall list and document the nature of use for each of the following:
a. Emergency use hours of operation;
b. Maintenance and testing hours of operation;
c. Hours of operation for emission testing to show compliance with Title 17 CCR, Section 93115.6(a)(3) and 93115.6(b)(3);
d. Initial start-up hours; and
e. Fuel use through the retention of fuel purchase records which indicate that the fuel used in the IC engine is CARB certified diesel fuel or an approved ATCM compliant alternative fuel. [District Rule 3.4 and Title 17 CCR, Section 93115.10(f)(1)/C-13-42]

Permit Condition: The Permit Holder shall maintain the engine and control device according to the manufacturer's instructions or alternate procedures approved by the manufacturer. [District Rule 3.4 and 40 CFR Parts 60.4206 and 60.4211/C-13-42]

Permit Condition: The Permit Holder shall retain the log for a minimum of 60 months (5 years) from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site and made immediately available to the District staff upon request. Log entries made from 25 to 60 months from most recent entry shall be made available to District staff within 5 working days from request. [District Rule 3.4, 3.8, §302.6 and Title 17 CCR, Section 93115.10(f)(2)/C-13-42]

District Rule 3.8-Federal Operating Permits
This rule implements the requirements of Title V of the Federal Clean Air Act as amended in 1990 (CAA) 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.

Compliance Status: The Rule was originally adopted on January 26, 1994. The most recent revision dates April 11, 2001 and is part of the current SIP. The source is currently in compliance with the requirements of the rule.

Per Section 102, this rule applies to all major sources, acid rain units subject to Title IV of the Federal Clean Air Act (CAA), solid waste incinerators, and any other sources specifically designated by the rule or US EPA.

The facility is a federal major source due to potential to emit over 25 tons VOC per year, 100 tons CO per year, and 25 tons NOx per year. The facility has an existing Title V Permit. Revisions to the Title V permit will be processed immediately following the approval of this application. The proposed revisions to the Title V permit will concurrently undergo a 30-day public comment period and a 45-day EPA comment period. Enhanced NSR has been requested by the applicant, as allowed by District Rule 3.4. The requirements of this ATC will be incorporated into the Title V permit upon written request from the applicant after all noticing has been done and the project is completed.

The facility's Title V Permit will be issued with all applicable operating, monitoring, and recordkeeping requirements. Per Section 302.6, the source will be required to maintain all required records for a period of five (5) years.

Title V General Requirements - Permit Conditions
The following conditions will not be placed on the ATC or PTO. These requirements will be included in the Title V Operating Permit only.

Permit Condition -Right of Entry:
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]

Permit Condition -Compliance with Permit Conditions:
The Permit Holder shall comply with all Title V permit conditions. [District Rule 3.8, §302.11a]

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

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]

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]

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

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]

Permit Condition -Emergency Provisions:
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; and
In any enforcement proceeding, the Permit Holder has the burden of proof for establishing that an emergency occurred. [District Rule 3.8, §302.12]

Permit Condition -Severability:
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]

Compliance Certification:
Requirement: Section 302.14(a) of Rule 3.8 requires "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. 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."

Streamlining Demonstration: As shown in the following permit conditions, the standard annual compliance certification reporting language of Rule 3.8 (Federal Operating Permits), will be streamlined under the provisions of Rule 3.4 to include specific reporting and submittal dates:

Permit Condition -Compliance Certification:
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.

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]

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]
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]

Permit Condition -Permit Life:
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]

Permit Condition -Payment of Fees:
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]

Permit Condition -Permit Revision Exemption:
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]

Permit Condition -Application Requirements:
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]

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]

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 federal requirements that will apply;
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]

Permit Condition -Permit Reopening for Cause:
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 remaining authorized life of the permit is 3 years or greater, no later than 18 months after the promulgation of such requirement (where less than 3 years remain in the authorized life of the permit, the APCO shall incorporate the requirements into the permit to operate upon renewal); or
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]

Permit Condition -Recordkeeping:
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]

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]

Permit Condition -Reporting Requirements:
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]

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 the report will be due on January 31 of the following calendar year.

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]

District Rule 3.20-Ozone Transport Mitigation
This emissions unit is exempt from Rule 3.4, Sections 302 and 303. Therefore, per Section 110.3 of this rule, this application is exempt from the requirements of this rule.

Title 17 CCR Section 93115-Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines
This state regulation requires that any new stationary emergency diesel fired engine installed after January 1, 2005 have a PM emission factor less than or equal to 0.15 g/bhp-hr. As proposed, the engine meets this requirement.

The regulation also requires that the engine comply with the following:
- The engine owner or operator will only refuel the engine with California Air Resources Board certified diesel fuel.
- The engine shall not operate more than 50 hours per year for maintenance and testing purposes.
- A non-resettable hour meter shall be installed with a minimum display capability of 9,999 hours.
- The owner or operator is required to maintain a monthly log that lists the following information: emergency hours of operation, maintenance and testing hours of operation, emission testing hours of operation, initial startup hours, and fuel use through fully documented purchase records.
- The log shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on site and made immediately available to the District. Log entries made from 24 to 36 months from the most recent entry shall be made available to District staff within 5 working days from the request.

NSPS Applicability-40 CFR, Part 60, Subpart IIII, Standards of Performance For Stationary Compression Ignition Internal Combustion Engines
This subpart sets standards for the manufacturers of specified stationary compression ignition engines and owners and operators of stationary compression ignition engines that commence construction or modify or reconstruct their engine after July 11, 2005.

Compliance Status: This subpart applies to manufacturers, owners and operators of specified stationary compression engines. This is an application for an emergency stationary compression engine manufactured after April 1, 2006 and is not a fire pump engine. The source is currently in compliance with the requirements of the Subpart.

Requirement: The engine has a displacement less than 10 liters per cylinder, therefore per §60.4205(b) the engine is subject to the emissions standards outlined in §60.4202. As demonstrated below the engine meets this requirement.

	Emission Rate (g/bhp-hr)	Allowable Rate (g/bhp-hr)*	Compliance
NMHC + NOx	1.05	4.80	Yes
CO	0.00	2.61	Yes
PM	0.00	0.15	Yes

*CFR 89.112

Streamlining Demonstration: The Interim Tier IV standard for this engine class and category is 0.14 g/bhp-hr for VOC, 1.5 g/bhp-hr NOx, 2.61 g/bhp-hr for CO and 0.015 g/bhp-hr for PM. Subpart IIII emission standards are subsumed by the federally enforceable District Rule 3.4 requirement of an EPA certified Interim Tier IV engine for P-28-13. The District Rule 3.4 requirements are equivalent to the emission standards outlined in Subpart IIII.

Permit Condition: An emergency internal combustion engine, Cummins IC engine, Model No.QSB7-G , 314 Brake Horsepower, to power an emergency generator [District Rule 3.4/C-13-42]

Requirement: In addition the subpart requires the owner/operator to comply with the following for this engine class and category:
- The engine and any control device must be maintained according to the manufacturer's instructions or procedures approved by the manufacturer (§60.4206 and §60.4211).
- The engine diesel fuel must meet the requirements of 40 CFR 80.510 for nonroad diesel fuel (§60.4207).
- The engine must be installed with a non-resettable hour meter prior to start-up (§60.4209).

- Maintenance and readiness testing is limited to 100 hours per year (§60.4211).

Subsuming Demonstration: The state requirements for diesel and maintenance testing are more stringent than the federal limit. Therefore, the federal requirement will be met by:
a. The District Rule 3.4 requirement for the EPA certified Tier;
b. The Permit Holder shall maintain the engine and control device according to the manufacturer's instructions or alternate procedures approved by the manufacturer;
c. The Permit Holder shall only refuel the IC engine with CARB certified diesel fuel;
d. The Permit Holder shall install and maintain a non-resettable hour meter with a minimum display capability of 9,999 hours;
e. The Permit Holder shall not operate this internal combustion engine more than 50 hours per calendar year for maintenance and testing purposes, and such operation shall be scheduled in cooperation with the District so as to limit air quality impact.

Permit Condition: The Permit Conditions satisfying these requirements are listed in Section 3.4.

Permit Condition: The Permit Holder shall comply with the applicable requirements of 40 CFR Part 60, Subpart IIII. [40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ]

NSPS Applicability-40 CFR, Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines
The provisions of this subpart apply to owners or operators of stationary reciprocating internal combustion engines at major or area sources of Hazardous Air Pollutants (HAP).

Compliance Status: This subpart applies to engines operating at any stationary source. This is an application for a new compression emergency engine at an area source. Engines constructed or reconstructed after June 12, 2006 meet the rule requirements by demonstrating compliance with Subpart IIII. The source is currently in compliance with the requirements of the Subpart.

Requirement: An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;
(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;
(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions. [40 CFR 63.6590]

Permit Condition: The Permit Holder shall comply with the applicable requirements of 40 CFR Part 60, Subpart IIII. [40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ]

District Risk Management Plan and Risk Assessment Guidelines (RMPRAG)
Because this project is concurrent with C-13-72, and C-13-75 the combined risk will be evaluated. 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, and because the engine was installed after March 3, 2004, the risk from diesel particulate will also be quantified.

C-13-42: Emergency IC engine

1. HAP Emissions - Excluding Diesel Particulate:

Pollutants	Emission Factor * (lb/MMBtu)	Emissions (lb/year)	Screening Level (lb/year)	Less Than Screening
Benzene	9.33E-04	0.39	6.70	Yes
Toluene	4.09E-04	0.17	38,600.00	Yes
Xylenes	2.85E-04	0.12	57,900.00	Yes
Propylene	2.58E-03	1.09	52.00	Yes

1,3-Butadiene	3.91E-05	0.02	1.10	Yes
Formaldehyde	1.18E-03	0.50	33.00	Yes
Acetaldehyde	7.67E-04	0.32	72.00	Yes
Acrolein	9.25E-05	0.04	3.90	Yes
Benz[a]anthracene	1.68E-06	0.00	0.04	Yes
Benzo[b]fluoranthene	9.91E-08	0.00	0.04	Yes
Benzo[a]pyrene	1.55E-07	0.00	0.04	Yes
Dibenz[a,h]anthracene	5.83E-07	0.00	0.04	Yes
Indeno[1,2,3 -cd]pyrene	3.57E-07	0.00	0.04	Yes
Naphthalene	8.48E-05	0.04	270.00	Yes

* Based on AP-42, Table 3.3-2 (10/96).

Since the emissions from the above HAPs are below the screening levels, no further toxic review is required of them.

2. Diesel Particulate Cancer Risk Calculation:

Dispersion Data	Units	Formula Symbol	Reference
Residential Emission Concentration, X/Q =	582.3 $\mu g/m^3$	CR	Screen3
Worksite Emission Concentration, X/Q =	582.3 $\mu g/m^3$	CW	Screen3

* Conservatively, the District will use the unit's maximum dispersion concentration to evaluate both the residential and worksite receptor risks. As documented, the maximum concentration occurs at 43 meters from the source.

Individual Cancer Risk (ICR)	Units	Formula Symbol	Reference
Diesel Particulate Unit Risk Factor =	3E-04 (unit-less)	UR	OEHHA
Dispersion Annualizing Factor *=	0.10 (unit-less)	AF	District
Residential, ICR =	0.012 in a million	ICR	ER*UR*CR*AF
Worksite, ICR =	0.008 in a million	ICW	(46/70)*ER*UR*CW*AF
Maximum, ICR =	0.012 in a million	Max Risk	Max (ICR, ICW)

* The Screen3 dispersion concentration for both the residential and the worksite receptors are annualized by a factor of 0.10.

3. Evaluation of Best Available Control Technology for Toxic Air Contaminants* (T-BACT):

Is T-BACT Required (Max Risk > 1 in a million):	No
Has T-BACT been proposed for the project:	Yes
Based on the T-BACT proposal and the maximum ICR value calculated, the project is:	**Approvable**

* Effective March 3, 2004, the District determined that T-BACT for a diesel fired emergency engine is either: 1) the engine manufacturer's PM10 emission certification equal to or less than 0.15 gr/hp-hr; or 2) the use of a particulate control device (e.g. Diesel Particulate Filter (DPF), etc.) to reduce an engine's particulate matter exhaust emissions to or less than 0.15 g/bhp-hr

As proposed the project meets the requirements of the District's RMPRAG Policy, therefore no further toxics review is required.

C-13-72: 3.9 MMBTU/hr boiler

Natural Gas Combustion	Emission Factor* lb/MMScf	Yearly Emissions (lb/year)	Yearly Emissions (g/s)	Screening Level (lb/year)	Less Than Screening
Arsenic	2.0E-04	0.0031	4.46E-08	0.024	Yes
Benz[a]anthracene	1.8E-06	0.0000	4.02E-10	0.04	Yes
Benzene	2.1E-03	0.0326	4.69E-07	6.70	Yes
Benzo[a]pyrene	1.2E-06	0.0000	2.68E-10	0.04	Yes
Benzo[b]fluoroanthene	1.8E-06	0.0000	4.02E-10	0.04	Yes
Benzo[k]fluoroanthene	1.8E-06	0.0000	4.02E-10	0.04	Yes
Dibenz[a,h]anthracene	1.2E-06	0.0000	2.68E-10	0.04	Yes
Beryllium	1.2E-05	0.0002	2.68E-09	0.015	Yes
Cadmium	1.1E-03	0.0171	2.46E-07	0.046	Yes
Copper	8.5E-04	0.0132	1.90E-07	463.0	Yes
Dichlorobenzene	1.2E-03	0.0186	2.68E-07	68.0	Yes
Formaldehyde	7.5E-02	1.1640	1.67E-05	33.0	Yes
Lead	5.0E-04	0.0078	1.12E-07	29.00	Yes
Manganese	3.8E-04	0.0059	8.48E-08	77.0	Yes
Mercury	2.6E-04	0.0040	5.80E-08	57.9	Yes
n-Hexane	1.8E+00	27.9360	4.02E-04	83,000	Yes

Naphthalene	6.1E-04	0.0095	1.36E-07	270.0	Yes
Nickel	2.1E-03	0.0326	4.69E-07	0.73	Yes
Selenium	2.4E-05	0.0004	5.36E-09	96.5	Yes
Toluene	3.4E-03	0.0528	7.59E-07	38,600	Yes
Zinc	2.9E-02	0.4501	6.47E-06	6,760	Yes

* AP-42, Section 1.4 (7/98)

Since the emissions from the above HAPs are below the screening levels, no further toxic review is required of them.

C-13-75: 180 MMBTU/hr boiler modification

- This modification does not result in an increase in natural gas or diesel throughput, therefore, it is expected that there is no increase in HAP emissions. No further toxics review is required.

Combined project

Compounds	C-13-42 lb/year	C-13-72 lb/year	Total (lb/year)	Screening Level (lb/year)	Less Than Screening
1,3-Butadiene	0.0200	0.0000	0.0200	1.10	Yes
Acetaldehyde	0.3200	0.0000	0.3200	72	Yes
Acrolein	0.0390	0.0000	0.0390	3.9	Yes
Arsenic	0.0000	0.0031	0.0031	0.024	Yes
Benz[a]anthracene	0.0000	0.0000	0.0000	0.04	Yes
Benzene	0.3900	0.0326	0.4226	6.70	Yes
Benzo[a]pyrene	0.0000	0.0000	0.0000	0.04	Yes
Benzo[b]fluoroanthene	0.0000	0.0000	0.0000	0.04	Yes
Benzo[k]fluoroanthene	0.0000	0.0000	0.0000	0.04	Yes
Dibenz[a,h]anthracene	0.0000	0.0000	0.0000	0.04	Yes
Beryllium	0.0000	0.0002	0.0002	0.015	Yes
Cadmium	0.0000	0.0171	0.0171	0.046	Yes
Copper	0.0000	0.0132	0.0132	463.0	Yes
Dichlorobenzene	0.0000	0.0186	0.0186	68.0	Yes
Formaldehyde	0.5000	1.1640	1.6640	33.0	Yes
Lead	0.0000	0.0078	0.0078	29.00	Yes
Manganese	0.0000	0.0059	0.0059	77.0	Yes
Mercury	0.0000	0.0040	0.0040	57.9	Yes
n-Hexane	0.0000	27.9360	27.9360	83,000	Yes
Naphthalene	0.0400	0.0095	0.0495	270.0	Yes
Nickel	0.0000	0.0326	0.0326	0.73	Yes
Propylene	1.0900	0.0000	1.0900	52.00	Yes
Selenium	0.0000	0.0004	0.0004	96.5	Yes
Toluene	0.1700	0.0528	0.2228	38,600	Yes
Xylenes	0.1200	0.0000	0.1200	57,900	Yes
Zinc	0.0000	0.4501	0.4501	6,760	Yes

The combined projects do not require further toxics review.

COMMENTS:

The application does not trigger offset or public notice requirements.

BACT is triggered for NOx emissions. Per BACT Determination 685-1 the equipment as proposed meets the BACT requirements for this class and category of source.

As discussed above, the application also meets the T-BACT requirements for this class and category of source.

Since the source has proposed the use of a CARB verified DPF, the District will not require that the source perform an emissions test to verify compliance with the 85% reduction in baseline PM levels. The District is granting the source this emissions testing exemption because the technology verification process has already evaluated the device's performance (including durability and emission reduction) and identified the engine operating criteria and conditions

necessary for the device to achieve the required PM emission reductions.

Copies of the ATC, Title V Statement of Basis Addendum/Evaluation, and proposed Title V permit changes will be mailed to the California Air Resources Board (ARB) and the United States Environmental Protection Agency (US EPA) Region IX.

RECOMMENDATIONS: Submit for public and regulatory review.

Engineer: _____ **Date:** 8/27/13

Reviewed by: _____ **Date:** 8/29/2013

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

C-13-42: University of California Davis

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	1.00000
STACK HEIGHT (M)	=	2.3165
STK INSIDE DIAM (M)	=	0.1006
STK EXIT VELOCITY (M/S)	=	84.8209
STK GAS EXIT TEMP (K)	=	782.5944
AMBIENT AIR TEMP (K)	=	293.1500
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 1.316 M**4/S**3; MOM. FLUX = 6.819 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	28.64	1.64	1.60	NO
100.	505.3	4	8.0	8.0	2560.0	5.61	8.25	4.75	NO
200.	351.8	4	3.5	3.5	1120.0	9.84	15.71	8.77	NO
300.	263.3	4	2.5	2.5	800.0	12.85	22.81	12.46	NO
400.	210.0	4	2.0	2.0	640.0	15.48	29.69	15.73	NO
500.	177.1	4	1.5	1.5	480.0	19.87	36.49	18.97	NO
600.	149.4	4	1.5	1.5	480.0	19.87	43.01	21.80	NO
700.	133.0	4	1.0	1.0	320.0	28.64	49.76	25.18	NO
800.	120.1	4	1.0	1.0	320.0	28.64	56.08	27.82	NO
900.	107.8	4	1.0	1.0	320.0	28.64	62.34	30.41	NO
1000.	105.6	6	1.0	1.0	10000.0	29.35	34.75	15.95	NO
1100.	107.9	6	1.0	1.0	10000.0	29.35	37.76	16.71	NO
1200.	108.9	6	1.0	1.0	10000.0	29.35	40.75	17.46	NO
1300.	108.9	6	1.0	1.0	10000.0	29.35	43.73	18.19	NO
1400.	108.1	6	1.0	1.0	10000.0	29.35	46.69	18.91	NO
1500.	106.7	6	1.0	1.0	10000.0	29.35	49.64	19.62	NO
1600.	104.9	6	1.0	1.0	10000.0	29.35	52.56	20.31	NO
1700.	102.8	6	1.0	1.0	10000.0	29.35	55.48	20.99	NO
1800.	100.5	6	1.0	1.0	10000.0	29.35	58.38	21.66	NO
1900.	98.03	6	1.0	1.0	10000.0	29.35	61.27	22.32	NO
2000.	95.49	6	1.0	1.0	10000.0	29.35	64.14	22.97	NO
2100.	92.71	6	1.0	1.0	10000.0	29.35	67.00	23.52	NO
2200.	89.99	6	1.0	1.0	10000.0	29.35	69.85	24.05	NO
2300.	87.34	6	1.0	1.0	10000.0	29.35	72.69	24.58	NO
2400.	84.77	6	1.0	1.0	10000.0	29.35	75.51	25.10	NO

2500.	82.29	6	1.0	1.0	10000.0	29.35	78.33	25.62	NO
2600.	79.89	6	1.0	1.0	10000.0	29.35	81.13	26.12	NO
2700.	77.58	6	1.0	1.0	10000.0	29.35	83.93	26.62	NO
2800.	75.35	6	1.0	1.0	10000.0	29.35	86.71	27.10	NO
2900.	73.22	6	1.0	1.0	10000.0	29.35	89.48	27.59	NO
3000.	71.16	6	1.0	1.0	10000.0	29.35	92.25	28.06	NO
3500.	62.07	6	1.0	1.0	10000.0	29.35	105.93	29.99	NO
4000.	54.75	6	1.0	1.0	10000.0	29.35	119.42	31.79	NO
4500.	48.78	6	1.0	1.0	10000.0	29.35	132.73	33.48	NO
5000.	43.84	6	1.0	1.0	10000.0	29.35	145.88	35.07	NO
5500.	39.69	6	1.0	1.0	10000.0	29.35	158.88	36.58	NO
6000.	36.18	6	1.0	1.0	10000.0	29.35	171.75	38.03	NO
6500.	33.17	6	1.0	1.0	10000.0	29.35	184.50	39.41	NO
7000.	30.57	6	1.0	1.0	10000.0	29.35	197.14	40.74	NO
7500.	28.35	6	1.0	1.0	10000.0	29.35	209.68	41.88	NO
8000.	26.41	6	1.0	1.0	10000.0	29.35	222.12	42.98	NO
8500.	24.69	6	1.0	1.0	10000.0	29.35	234.47	44.04	NO
9000.	23.16	6	1.0	1.0	10000.0	29.35	246.73	45.07	NO
9500.	21.79	6	1.0	1.0	10000.0	29.35	258.91	46.06	NO
10000.	20.56	6	1.0	1.0	10000.0	29.35	271.01	47.02	NO
15000.	12.85	6	1.0	1.0	10000.0	29.35	388.50	55.42	NO
20000.	9.302	6	1.0	1.0	10000.0	29.35	501.01	60.79	NO
25000.	7.224	6	1.0	1.0	10000.0	29.35	609.80	65.31	NO
30000.	5.870	6	1.0	1.0	10000.0	29.35	715.63	69.27	NO
40000.	4.277	6	1.0	1.0	10000.0	29.35	920.26	74.89	NO
50000.	3.345	6	1.0	1.0	10000.0	29.35	1117.45	79.57	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

43.	582.3	3	10.0	10.0	3200.0	4.95	5.86	3.57	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
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CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	582.3	43.	0.

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT

1947 Galileo Court Suite 103, Davis, CA 95616

New Source Review

Quarterly Potential To Emit Determination

NSR Version 8/13/98

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

Engineer: Eugene Rubin

SIC Code # 8221

Facility Name: University of California, Davis (UCD)

Location: Main UCD Campus

Date of Initial Quarterly PTE Determination: 04/13/1998
Date of Previous Quarterly PTE Determination: 08/08/2013
Date of Current Quarterly PTE Determination: 08/21/2013

CURRENT APPLICATIONS: **ATC's** C-13-42, C-13-72, C-13-75 **PTO's**

Process Description	Current Permits	VOC Emissions					CO Emissions					NOx Emissions					SOx Emissions					PM10 Emissions				
		QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)
Gasoline Storage & Dispensing	P-1-81(a3)	475	475	475	475	0.95	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
Cooling Towers	P-101-02	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	154	156	156	158	0.30
Boiler, NG Fired	P-101-03	5	5	5	5	0.01	29	29	29	29	0.06	53	53	54	54	0.11	1	1	1	1	0.00	7	7	8	8	0.01
Landfill Gas Collection & SVE	P-14-98	6,069	6,157	6,225	6,225	12.31	902	912	922	922	1.82	907	917	927	927	1.83	47	47	48	48	0.09	0	0	0	0	0.00
Boiler (2.1 MMBtu/hr)	P-16-08	25	25	26	26	0.05	90	91	92	92	0.18	132	133	135	135	0.27	3	3	3	3	0.01	34	35	36	35	0.07
Wastewater Treatment Plant (WWTP)	P-22-00(a)	78	78	78	78	0.16	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
Boiler, NG Fired	P-26-03	124	63	64	127	0.19	466	236	238	477	0.71	511	258	261	522	0.78	3	1	1	3	0.00	32	16	16	33	0.05
Boiler, NG Fired	C-13-72	28	14	14	29	0.04	429	217	219	438	0.65	511	258	251	522	0.78	3	2	2	3	0.00	39	20	20	40	0.06
Boilers (10)	P-3-00	43	44	44	44	0.09	864	872	879	879	1.35	791	800	808	808	1.60	5	5	5	5	0.01	60	61	61	61	0.12
Gasoline Storage & Dispensing	P-42-76(a3)	220	220	220	220	0.44	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
Boilers, NG Fired	P-44-11	11	8	8	11	0.02	99	49	49	99	0.15	49	24	24	49	0.07	1	1	1	1	0.00	15	8	8	15	0.02
Boiler - Steam Generation	P-44-96	33	34	34	34	0.07	145	147	148	148	0.29	691	699	707	707	1.40	5	5	5	5	0.01	83	84	85	85	0.17
Boiler - Steam Generation	P-45-96	14	15	15	15	0.03	62	63	63	63	0.13	297	300	304	304	0.60	2	2	2	2	0.00	36	36	37	37	0.07
Boiler - Steam Generation	P-47-96	39	39	40	40	0.08	170	172	174	174	0.34	810	819	828	828	1.64	5	5	5	5	0.01	97	98	99	99	0.20
Boiler - Steam Generation	P-48-96	13	13	13	13	0.03	54	55	55	55	0.11	259	262	265	265	0.52	2	2	2	2	0.00	32	32	32	32	0.06
Boiler	P-5-00	12	12	12	12	0.02	69	69	69	69	0.14	328	328	328	328	0.66	2	2	2	2	0.00	39	39	39	39	0.08
Boiler -Natural Gas for Steam	P-52-00	24	24	24	24	0.05	150	152	154	154	0.31	602	608	615	615	1.22	3	3	3	3	0.01	33	33	34	34	0.07
Boiler	P-54-00(a)	36	36	36	36	0.07	287	290	293	293	0.58	236	236	241	241	0.49	4	4	4	4	0.01	49	50	50	50	0.10
Woodworking (Silo)	P-54-90(a)	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	34	34	35	35	0.07
Boilers - Natural Gas	P-54-96	17	17	17	17	0.03	68	69	70	71	0.14	324	328	331	331	0.66	2	2	2	2	0.00	39	39	40	40	0.08
Boilers - Natural Gas	P-55-00	13	13	13	13	0.03	69	70	71	71	0.14	330	334	338	338	0.67	2	2	2	2	0.00	40	40	41	41	0.08
Boiler - Steam Generation	P-62-96	23	24	24	24	0.05	101	102	103	103	0.20	480	485	490	490	0.97	3	3	3	3	0.01	58	58	59	59	0.12
Boilers	P-63-06(a)	78	79	79	79	0.16	248	251	254	254	0.50	251	254	256	256	0.51	2	2	2	2	0.00	21	21	21	21	0.04
Boilers	P-64-03(a)	19	19	19	19	0.04	1,015	1,027	1,038	1,038	2.06	104	105	107	107	0.21	2	2	2	2	0.00	26	26	27	27	0.05
Boiler, NG Fired	P-65-03	27	27	28	28	0.05	218	221	223	223	0.44	119	121	122	122	0.24	3	3	3	3	0.01	37	38	38	38	0.08
Boilers	P-67-00(a)	28	29	29	29	0.06	433	438	443	443	0.88	516	522	527	527	1.05	3	3	3	3	0.01	39	40	40	40	0.08
Boiler #2	P-67-98	81	82	83	83	0.20	8,292	8,384	8,476	8,476	16.80	1,022	1,033	1,044	1,044	2.10	38	38	38	38	0.10	388	393	397	397	0.80
Incinerator Vet. Lab.	P-81-89(a)	34	34	34	34	0.07	84	84	84	84	0.17	1,053	1,053	1,053	1,053	2.10	3	3	3	3	0.01	87	87	87	87	0.18
Boiler (180 MMBtu/hr)	P-83-06	1,667	1,686	1,704	1,704	3.38	1,517	1,533	1,549	1,549	3.07	2,565	2,591	2,617	2,617	5.20	253	256	258	258	0.51	2,943	2,974	3,000	3,000	5.96
Boiler (180 MMBtu/hr)	C-13-75	1,667	1,686	1,704	1,704	3.38	1,517	1,533	1,549	1,549	3.07	2,565	2,591	2,617	2,617	5.20	253	256	258	258	0.51	2,943	2,974	3,000	3,000	5.96
Gasoline Storage & Dispensing	P-84-93(a1)	3	3	3	3	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00
Boiler	P-89-00	154	156	158	158	0.31	8,380	8,473	8,565	8,565	16.88	1,384	1,398	1,407	1,407	2.25	261	261	261	261	0.16	242	244	246	246	0.45
Boiler #1	P-90-00	559	563	567	567	0.88	81,719	82,613	83,506	83,506	163.74	13,587	13,697	13,807	13,807	21.93	2,601	2,603	2,605	2,605	1.55	1,721	1,730	1,739	1,739	2.11
Boiler, NG Fired	P-90-02	11	12	12	12	0.02	199	202	204	204	0.40	98	99	100	100	0.20	2	2	2	2	0.00	21	21	21	21	0.04
Boiler #2	P-91-00	558	563	567	567	0.86	81,719	82,613	83,506	83,506	163.74	13,587	13,697	13,807	13,807	21.93	2,601	2,603	2,605	2,605	1.55	1,721	1,730	1,739	1,739	2.11
Boiler, NG Fired	P-91-02	11	12	12	12	0.02	199	202	204	204	0.40	98	99	100	100	0.20	2	2	2	2	0.00	21	21	21	21	0.04
Woodworking (Physical Plant)	P-95-80(a1)	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	407	412	416	416	0.83
Boiler #3	P-96-00	1,077	1,089	1,101	1,101	2.18	20,285	20,418	20,551	20,551	28.40	9,973	10,052	10,131	10,131	15.83	1,683	1,689	1,690	1,690	1.02	1,992	2,009	2,025	2,025	3.26
Paint Booth	P-96-80(a1)	1,715	1,715	1,715	1,715	3.37	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	54	54	54	54	0.11
Woodworking (art building)	C-13-84	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	1,215	1,229	1,242	1,242	2.46
Pre-project SSPE (lb/year)						52,520										174,480										
Post-project SSPE (lb/year)						52,220										174,480										
Pre-project Policy 28 PTE		13,315	13,367	13,480	13,548	26.28	207,733	209,836	211,813	212,103	404.11	51,157	51,308	51,731	52,020	87.24	7,548	7,554	7,562	7,564	5.08	10,565	10,626	10,707	10,731	17.81
Post-project Policy 28 PTE		13,219	13,318	13,430	13,450	26.11	207,606	209,617	211,794	212,064	404.05	51,157	51,306	51,724	52,020	87.24	7,548	7,555	7,563	7,564	5.08	10,787	11,859	11,953	11,980	20.28
Emergency IC Engine (440 BHP)	P-1-00	2	2	2	2	0.00	163	163	163	163	0.08	1,275	1,275	1,275	1,275	0.64	36	36	36	36	0.02	62	62	62	62	0.03
Emergency IC Engine (560 BHP)	P-100-94(a)	282	282	282	282	0.14	748	748	748	748	0.37	3,472	3,472	3,472	3,472	1.74	45	45	45	45	0.02	246	246	246	246	0.12
Emergency IC Engine (750 BHP)	P-101-94(a)	119	119	119	119	0.06	417	417	417	417	0.21	3,767	3,767	3,767	3,767	1.88	61	61	61	61	0.03	40	40	40	40	0.02
Emergency IC Engine (1,200 BHP)	P-102-03	108	108	108	108	0.05	179	179	179	179	0.09	3,508	3,508	3,508	3,508	1.75	97	97	97	97	0.05	25	25	25	25	0.01
Emergency IC Engine (643 BHP)	P-102-94(a)	94	94	94	94	0.05	680	680	680	680	0.34	3,086	3,086	3,086	3,086	1.54	52	52	52	52	0.03	283	283	283	283	0.14
Emergency IC Engine (228 BHP)	P-103-94(a)	115	115	115	115	0.06	305	305	305	305	0.15	1,414	1,414	1,414	1,414	0.71	18	18	18	18	0.01	100	100	100	100	0.05
Emergency IC Engine (227 BHP)	P-107-95(a)	17	17	17	17	0.01	167	167	167	167	0.08	636	636	636	636	0.32	18	18	18	18	0.01	25	25	25	25	0.01
Emergency IC Engine (68 BHP)	P-108-01	34	34	34	34	0.02	91	91	91	91	0.05	207	207	207	207	0.10	6	6	6	6	0.00	30	30	30	30	0.01

Emergency IC Engine (636 BHP)	P-108-95(a)	25	25	25	25	0.01	3,132	3,132	3,132	3,132	1.57	1,861	1,861	1,861	1,861	0.93	0	0	0	0	0.00	8	8	8	8	0.00
Emergency IC Engine (68 BHP)	P-109-01	34	34	34	34	0.02	91	91	91	91	0.05	207	207	207	207	0.10	6	6	6	6	0.00	30	30	30	30	0.01
Emergency IC Engine (111 BHP)	P-109-95(a)	5	5	5	5	0.00	662	662	662	662	0.33	393	393	393	393	0.20	0	0	0	0	0.00	2	2	2	2	0.00
Emergency IC Engine (400 BHP)	P-110-95(a)	16	16	16	16	0.01	2,016	2,016	2,016	2,016	1.01	1,198	1,198	1,198	1,198	0.60	0	0	0	0	0.00	5	5	5	5	0.00
Emergency IC Engine (1,135 BHP)	P-111-01	70	70	70	70	0.04	250	250	250	250	0.13	2,652	2,652	2,652	2,652	1.33	92	92	92	92	0.05	60	60	60	60	0.03
Emergency IC Engine (52 BHP)	P-112-95(a)	2	2	2	2	0.00	294	294	294	294	0.15	175	175	175	175	0.09	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (124 BHP)	P-113-95(a)	3	3	3	3	0.00	383	383	383	383	0.19	228	228	228	228	0.11	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (170 BHP)	P-114-02	30	30	30	30	0.01	100	100	100	100	0.05	450	450	450	450	0.22	14	14	14	14	0.01	24	24	24	24	0.01
Emergency IC Engine (111 BHP)	P-114-95(a)	5	5	5	5	0.00	595	595	595	595	0.30	354	354	354	354	0.18	0	0	0	0	0.00	2	2	2	2	0.00
Emergency IC Engine (755 BHP)	P-115-03	47	47	47	47	0.02	133	133	133	133	0.07	1,897	1,897	1,897	1,897	0.95	61	61	61	61	0.03	27	27	27	27	0.01
Emergency IC Engine (207 BHP)	P-117-03	16	16	16	16	0.01	306	306	306	306	0.15	628	628	628	628	0.31	17	17	17	17	0.01	81	81	81	81	0.04
Emergency IC Engine (64 BHP)	P-117-95(a)	4	4	4	4	0.00	446	446	446	446	0.22	265	265	265	265	0.13	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (764 BHP)	P-118-03	10	10	10	10	0.01	88	88	88	88	0.04	1,691	1,691	1,691	1,691	0.85	62	62	62	62	0.03	8	8	8	8	0.00
Emergency IC Engine (82 BHP)	P-118-95(a)	3	3	3	3	0.00	383	383	383	383	0.19	228	228	228	228	0.11	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (207 BHP)	P-119-03	16	16	16	16	0.01	306	306	306	306	0.15	628	628	628	628	0.31	17	17	17	17	0.01	81	81	81	81	0.04
Emergency IC Engine (82 BHP)	P-119-95(a)	3	3	3	3	0.00	435	435	435	435	0.22	259	259	259	259	0.13	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (1,120 BHP)	P-120-01	74	74	74	74	0.04	212	212	212	212	0.11	2,044	2,044	2,044	2,044	1.02	91	91	91	91	0.05	44	44	44	44	0.02
Emergency IC Engine (2,935 BHP)	P-120-03	324	324	324	324	0.16	647	647	647	647	0.32	7,765	7,765	7,765	7,765	3.88	237	237	237	237	0.12	130	130	130	130	0.06
Emergency IC Engine (52 BHP)	P-120-95(a)	2	2	2	2	0.00	294	294	294	294	0.15	175	175	175	175	0.09	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (1,120 BHP)	P-121-03	75	75	75	75	0.04	212	212	212	212	0.11	2,046	2,046	2,046	2,046	1.02	91	91	91	91	0.05	45	45	45	45	0.02
Emergency IC Engine (124 BHP)	P-121-95(a)	3	3	3	3	0.00	383	383	383	383	0.19	228	228	228	228	0.11	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (64 BHP)	P-122-95(a)	4	4	4	4	0.00	450	450	450	450	0.23	267	267	267	267	0.13	0	0	0	0	0.00	1	1	1	1	0.00
Emergency IC Engine (160 BHP)	P-123-95(a)	10	10	10	10	0.00	1,224	1,224	1,224	1,224	0.61	727	727	727	727	0.36	0	0	0	0	0.00	3	3	3	3	0.00
Emergency IC Engine (189 BHP)	P-124-95(a)	8	8	8	8	0.00	1,049	1,049	1,049	1,049	0.52	623	623	623	623	0.31	0	0	0	0	0.00	3	3	3	3	0.00
Emergency IC Engine (166 BHP)	P-125-95(a)	7	7	7	7	0.00	885	885	885	885	0.44	526	526	526	526	0.26	0	0	0	0	0.00	2	2	2	2	0.00
Emergency IC Engine (380 BHP)	P-126-95(a)	80	80	80	80	0.04	168	168	168	168	0.08	1,558	1,558	1,558	1,558	0.78	31	31	31	31	0.02	84	84	84	84	0.04
Emergency IC Engine (1,120 BHP)	P-15-04	128	128	128	128	0.06	316	316	316	316	0.16	3,146	3,146	3,146	3,146	1.57	91	91	91	91	0.05	25	25	25	25	0.01
Standby IC Engine (380 BHP)	P-15-98	84	84	84	84	0.04	275	275	275	275	0.14	1,558	1,558	1,558	1,558	0.78	94	94	94	94	0.05	84	84	84	84	0.04
Emergency IC Engine (998 BHP)	P-16-09	53	53	53	53	0.03	330	330	330	330	0.17	1,756	1,756	1,756	1,756	0.88	2	2	2	2	0.00	26	26	26	26	0.01
Standby IC Engine (345 BHP)	P-16-98	47	47	47	47	0.02	73	73	73	73	0.04	888	888	888	888	0.44	85	85	85	85	0.04	76	76	76	76	0.04
Emergency IC Engine (170 BHP)	P-17-02	75	75	75	75	0.04	637	637	637	637	0.32	517	517	517	517	0.26	0	0	0	0	0.00	30	30	30	30	0.01
Emergency IC Engine (297 BHP)	P-17-09	6	6	6	6	0.00	48	48	48	48	0.02	356	356	356	356	0.18	1	1	1	1	0.00	5	5	5	5	0.00
Standby IC Engine (82 BHP)	P-17-98	40	40	40	40	0.02	80	80	80	80	0.04	380	380	380	380	0.19	6	6	6	6	0.00	20	20	20	20	0.01
Standby IC Engine (53 BHP)	P-18-98	20	20	20	20	0.01	60	60	60	60	0.03	240	240	240	240	0.12	1	1	1	1	0.00	1	1	1	1	0.00
Emergency IC Engine (423 BHP)	P-2-00	16	16	16	16	0.01	617	617	617	617	0.31	2,002	2,002	2,002	2,002	1.00	288	288	288	288	0.14	186	186	186	186	0.09
Emergency IC Engine (80 BHP)	P-2-09	2	2	2	2	0.00	31	31	31	31	0.02	121	121	121	121	0.06	0	0	0	0	0.00	4	4	4	4	0.00
Emergency IC Engine (207 BHP)	P-209-95(a)	64	64	64	64	0.03	183	183	183	183	0.09	1,004	1,004	1,004	1,004	0.50	17	17	17	17	0.01	23	23	23	23	0.01
Emergency IC Engine (390 BHP)	P-29-96(a)	196	196	196	196	0.10	521	521	521	521	0.26	2,418	2,418	2,418	2,418	1.21	32	32	32	32	0.02	86	86	86	86	0.04
Emergency IC Engine (770 BHP)	P-3-09	340	340	340	340	0.17	679	679	679	679	0.34	149	149	149	149	0.07	20	20	20	20	0.01	15	15	15	15	0.01
Standby IC Engine (535 BHP)	P-31-98	73	73	73	73	0.04	354	354	354	354	0.18	1,323	1,323	1,323	1,323	0.66	139	139	139	139	0.07	45	45	45	45	0.02
Standby IC Engine (465 BHP)	P-32-98	64	64	64	64	0.03	307	307	307	307	0.15	1,150	1,150	1,150	1,150	0.58	121	121	121	121	0.06	39	39	39	39	0.02
Emergency IC Engine (535 BHP)	P-32-99	73	73	73	73	0.04	354	354	354	354	0.18	1,322	1,322	1,322	1,322	0.66	139	139	139	139	0.07	45	45	45	45	0.02
Emergency IC Engine (317 BHP)	P-38-05	20	20	20	20	0.01	66	66	66	66	0.03	512	512	512	512	0.26	26	26	26	26	0.01	20	20	20	20	0.01
Emergency IC Engine (453.8 BHP)	P-4-09	16	16	16	16	0.01	131	131	131	131	0.07	431	431	431	431	0.22	1	1	1	1	0.00	13	13	13	13	0.01
Emergency IC Engine (315 BHP)	P-42-10	7	7	7	7	0.00	60	60	60	60	0.03	376	376	376	376	0.19	1	1	1	1	0.00	8	8	8	8	0.00
Standby IC Engine (207 BHP)	P-42-97	27	27	27	27	0.01	55	55	55	55	0.03	456	456	456	456	0.23	51	51	51	51	0.03	24	24	24	24	0.01
Emergency IC Engine (97.5BHP)	P-43-10	2	2	2	2	0.00	43	43	43	43	0.02	6	6	6	6	0.00	2	2	2	2	0.00	2	2	2	2	0.00
Emergency IC Engine (896 BHP)	P-44-10	87	87	87	87	0.04	363	363	363	363	0.18	1,730	1,730	1,730	1,730	0.87	2	2	2	2	0.00	55	55	55	55	0.03
Emergency IC Engine (900 BHP)	P-49-97	20	20	20	20	0.01	171	171	171	171	0.09	1,656	1,656	1,656	1,656	0.83	2	2	2	2	0.00	21	21	21	21	0.01
Emergency IC Engine (1,490 BHP)	P-50-07	85	85	85	85	0.04	343	343	343	343	0.17	2,950	2,950	2,950	2,950	1.47	4	4	4	4	0.00	54	54	54	54	0.03
Portable Emergency ICE (118 BHP)	P-50-99(a)	59	59	59	59	0.03	158	158	158	158	0.08	732	732	732	732	0.37	10	10	10	10	0.00	52	52	52	52	0.03
Emergency IC Engine (64 BHP)	P-51-07	10	10	10	10	0.01	31	31	31	31	0.02	131	131	131	131	0.07	0	0	0	0	0.00	3	3	3	3	0.00
Portable Emergency ICE (118 BHP)	P-51-99(a)	59	59	59	59	0.03	158	158	158	158	0.08	732	732	732	732	0.37	10	10	10	10	0.00	52	52	52	52	0.03
Emergency IC Engine (1,207 BHP)	P-52-07	213	213	213	213	0.11	319	319	319	319	0.16	2,714	2,714	2,714	2,714	1.36	3	3	3	3	0.00	80	80	80	80	0.04
Portable Emergency ICE (118 BHP)	P-52-99(a)	59	59	59	59	0.03	158	158	158	158	0.08	732	732	732	732	0.37	10	10	10	10	0.00	52	52	52	52	0.03
Emergency IC Engine (1,207 BHP)	P-53-07	213	213	213	213	0.11	319	319	319	319	0.16	2,714	2,714	2,714	2,714	1.36	3	3	3	3	0.00	80	80	80	80	0.04
Emergency IC Engine (923 BHP)	P-54-09	21	21	21	21	0.01	165	165	165	165	0.08	1,645	1,645	1,645	1,645	0.82	2	2	2	2	0.00	21	21	21	21	0.01
Emergency IC Engine (1,252 BHP)	P-54-97	73	73	73	73	0.04	1,573	1,573	1,573	1,573	0.79	5,604	5,604	5,604	5,604	2.80	871	871	871	871	0.44	418	418	418	418	0.21
Emergency IC Engine (145 BHP)	P-59-05	12	12	12	12	0.01	48	48	48	48	0.02	275	275	275	275	0.14	12	12	12	12	0.01	2	2	2	2	0.00
Emergency IC Engine (364 BHP)	P-59-07	26	26	26	26	0.01	384	384	384	384	0.19	429	429	429	429	0.21	1	1	1	1	0.00	19	19	19	19	0.01
Emergency IC Engine (415 BHP)	P-61-00	55	55	55	55	0.03	1,366	1,366	1,366	1,366	0.68	79	79	79	79	0.04	11	11	11	11	0.01	8	8	8	8	0.00
Emergency IC Engine (380 BHP)	P-63-03	45	45	45	45	0.02	106	106	106	106	0.05	1,032	1,032	1,032	1,032	0.52	31	31	31	31	0.02	27	27	27	27	0.01
Emergency IC Engine (126 BHP)	P-66-09	6	6	6	6	0.00	89	89	89	89	0.04	150	150	150	150	0.08	0	0	0	0	0.00	8	8	8	8	0.00
Emergency IC Engine (158 BHP)	P-67-09	7	7	7	7	0.00	91	91	91	91	0.05	195	195	195	195	0.10	0	0	0	0	0.00	10	10	10	10	0.00
Emergency IC Engine (453.8 BHP)	P-68-09	20	20	20	20	0.01	140	140	140	140	0.07	480	480	480	480	0.24	1	1	1	1	0.00	16	16	16	16	0.01
Emergency IC Engine (904 BHP)	P-69-09	33	33	33	33	0.02	122	122	122	122	0.06	1,675	1,675	1,675	1,675	0.84	2	2	2	2	0.00	23	23	23	23	0.01
Emergency IC Engine (166 BHP)	P-69-96(a)	22	22	22	22	0.01	241	241	241	241	0.12	779	779	779	779	0.39	13	13	13	13	0.01	18	18	18	18	0.01
Emergency IC Engine (465 BHP)	P-7-01	14	14	14	14	0.01	246	246	246	246	0.12	1,819	1,819	1,819	1,819	0.91	129	129	129	129	0.08	62	62	62	62	0.03
Emergency IC Engine (617 BHP)	P-7-11	27	27	27	27	0.01	162	162	162	162	0.09	703	703	703	703	0.35	1	1	1	1	0.00	24	24	24	24	0.01
Emergency IC Engine (465 BHP)	P-71-00	14	14	14	14	0.01	246	246	246	246	0.12	1,819	1,819	1,819	1,819	0.91	129	129	129	129	0.06	62	62	62	62	0.03
Emergency IC Engine (1,194 BHP)	P-72-11	67	67	67	67	0.03	628	628	628	628	0.31	2,159	2,159	2,159	2,159	1.08	3	3	3	3	0.00	63	63	63	63	0.03
Emergency IC Engine (470 BHP)	P-74-05	21	21	21	21	0.01	110	110	110	110	0.05	682	682	682	682	0.34	38	38	38	38	0.02	21	21	21	21	0.01
Emergency IC Engine (227 BHP)	P-8-01(a)	119	119	119	119	0.06	417	417	417	417	0.21	3,767	3,767	3,767	3,767	1.88	61	61	61	61	0.03	40	40	40	40	0.02
Emergency IC Engine (490 BHP)	P-82-02	15	15	15	15	0.01	84	84	84	84	0.04	1,417	1,417	1,417	1,417	0.71	40	40	40	40	0.02	78	78	78	78	0.04
Emergency IC Engine (207 BHP)	P-83-02	14	14	14	14	0.01	78	78	78	78	0.04	598	598	598	598	0.30	55	55	55	55	0.03	25	25	25	25	0.01
Emergency IC Engine (635 BHP)	P-84-02	7	7	7	7	0.00	728	728	728	728	0.36	1,758	1,758	1,758	1,758	0.88	260	260	260	260	0.13	32	32	32	32	0.02
Portable Emergency ICE (311 BHP)	P-86-01	55	55	55	55	0.03	110	110	110	110	0.05	727	727	727	727	0.36	25	25	25	25	0.01	14	14	14	14	0.01
Portable Emergency ICE (311 BHP)	P-87-01	55	55	55	55	0.03	110	110	110	110	0.05	727	727	727	727	0.36	25	25	25	25	0.01	14	14	14	14	0.01
Emergency IC Engine (1,550 BHP)	P-88-99	44	44	44	44	0.02	2,866	2,866	2,866	2,866	1.43	8,157	8,157	8,157	8,157	4.08	1,145	1,145	1,145	1,145	0.57	217	217	217	217	0.11

Emergency IC Engine (277 BHP)	P-89-94(a)	139	139	139	139	0.07	370	370	370	370	0.19	1,717	1,717	1,717	1,717	0.86	22	22	22	22	0.01	122	122	122	122	0.06
Emergency IC Engine (750 BHP)	P-9-01(a)	22	22	22	22	0.01	201	201	201	201	0.10	586	586	586	586	0.29	18	18	18	18	0.01	28	28	28	28	0.01
Emergency IC Engine (290 BHP)	P-90-94(a)	146	146	146	146	0.07	387	387	387	387	0.19	1,798	1,798	1,798	1,798	0.90	23	23	23	23	0.01	128	128	128	128	0.06
Emergency IC Engine (289 BHP)	P-91-94(a)	145	145	145	145	0.07	386	386	386	386	0.19	1,792	1,792	1,792	1,792	0.90	23	23	23	23	0.01	127	127	127	127	0.06
Emergency IC Engine (415 BHP)	P-92-94(a)	209	209	209	209	0.10	554	554	554	554	0.28	2,573	2,573	2,573	2,573	1.29	34	34	34	34	0.02	183	183	183	183	0.09
Emergency IC Engine (150 BHP)	P-94-94(a)	15	15	15	15	0.01	177	177	177	177	0.09	772	772	772	772	0.39	12	12	12	12	0.01	66	66	66	66	0.03
Emergency IC Engine (244 BHP)	P-95-94(a)	123	123	123	123	0.06	326	326	326	326	0.16	1,513	1,513	1,513	1,513	0.76	20	20	20	20	0.01	107	107	107	107	0.05
Emergency IC Engine (740 BHP)	P-96-94(a)	108	108	108	108	0.05	783	783	783	783	0.39	3,552	3,552	3,552	3,552	1.78	60	60	60	60	0.03	326	326	326	326	0.16
Emergency IC Engine (207 BHP)	P-99-94(a)	64	64	64	64	0.03	183	183	183	183	0.09	1,004	1,004	1,004	1,004	0.50	17	17	17	17	0.01	23	23	23	23	0.01
Emergency IC Engine (550 BHP)	C-12-89	32	32	32	32	0.02	211	211	211	211	0.30	604	604	604	604	0.30	1	1	1	1	0.00	34	34	34	34	0.02
Emergency IC Engine (685 BHP)	C-12-125	81	81	81	81	0.04	112	112	112	112	0.06	820	820	820	820	0.41	2	2	2	2	0.00	9	9	9	9	0.00
Emergency IC Engine (158 BHP)	C-12-126	7	7	7	7	0.00	91	91	91	91	0.05	195	195	195	195	0.10	0	0	0	0	0.00	10	10	10	10	0.00
Emergency IC Engine (463 BHP)	C-12-129	16	16	16	16	0.01	92	92	92	92	0.05	563	563	563	563	0.28	1	1	1	1	0.00	16	16	16	16	0.01
Emergency IC Engine (385 BHP)	C-12-130	15	15	15	15	0.01	119	119	119	119	0.06	441	441	441	441	0.22	1	1	1	1	0.00	19	19	19	19	0.01
Emergency IC Engine (1,214 BHP)	C-13-06	48	48	48	48	0.02	401	401	401	401	0.20	2,146	2,146	2,146	2,146	1.07	3	3	3	3	0.00	32	32	32	32	0.02
Emergency IC Engine (314 BHP)	C-13-42	19	19	19	19	0.01	361	361	361	361	0.18	208	208	208	208	0.10	1	1	1	1	0.00	0	0	0	0	0.00
Rule 3.2 Exempt Units Total PTE (lb/year)						5,720										137,820										

SUMMARY	VOC Emissions					CO Emissions					NOx Emissions					SOx Emissions					PM10 Emissions				
	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)	QTR 1 (lbs)	QTR 2 (lbs)	QTR 3 (lbs)	QTR 4 (lbs)	Annual (TPY)
Pre-project SSPE (lb/year)					52,520										174,480										
Post-project SSPE (lb/year)					52,220										174,480										
Pre-project Policy 28 PTE	13,315	13,367	13,480	13,548	26.26	207,733	209,636	211,813	212,103	404.11	51,157	51,306	51,734	52,020	87.24	7,548	7,554	7,562	7,564	5.08	10,565	10,626	10,707	10,731	17.81
Post-project Policy 28 PTE	13,219	13,318	13,430	13,450	26.11	207,696	209,617	211,794	212,064	404.05	51,157	51,306	51,724	52,020	87.24	7,548	7,555	7,563	7,564	5.08	11,787	11,859	11,953	11,980	20.28
FACILITY TOTAL PTE	18,966	19,085	19,197	19,217	28.97	247,894	249,815	251,791	252,081	424.24	166,759	166,907	169,325	169,621	156.05	12,854	12,862	12,869	12,870	7.74	16,923	16,994	17,089	17,116	22.74

Facility Policy 28 Post-Project Potential to Emit

	Quarter #1 (lb)	Quarter #2 (lb)	Quarter #3 (lb)	Quarter #4 (lb)	Yearly (lb)	Yearly (tons)
VOC	13,219	13,318	13,430	13,450	52,220	26.11
CO	207,696	209,617	211,794	212,064	808,100	404.05
NOx	51,157	51,306	51,724	52,020	174,480	87.24
SOx	7,548	7,555	7,563	7,564	10,160	5.08
PM10	11,787	11,859	11,953	11,980	40,560	20.28

Post-Project Stationary Source Potential to Emit (SSPE)

	Yearly
	(lb/year)
VOC	52,220
NOx	174,480

OFFSET THRESHOLDS

(lbs/qtr)
7,500
49,500
7,500
13,650
13,650

MITIGATION THRESHOLDS

(lb/year)
20,000
20,000

PTE Comparison to NSR Triggers

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

SSPE Comparison to Rule 3.20 Triggers

Annual
Above
Above

COMMENTS: The following Changes were made to this PTE worksheet from the last update (12/20/2012):
(1) Emissions were added for C-13-42, C-13-72, C-13-75

Engineer: ER

Date: 8/22/13

Reviewed by: Frank DeLaRosa

Date: 8/23/13

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

New Source Review
Last Five Year Activity

Evaluator: Eugene Rubin

Facility Name: UC Davis

Location: UC Davis Main Campus

List of Activities: C-13-84

SIC Code # 8221
Date of Initial Five Year Determination: 5/22/1998
Date of Previous Five Year Determination: 5/31/2013
Date of Current Five Year Determination: 8/8/2013

Equipment	Issued Permits	Date PTO issued	ATC	Date ATC Issued	VOC (tpy)	CO (tpy)	NOx (tpy)	SOx (tpy)	PM10 (tpy)
Boilers	P-67-00(a)	4/8/2009	C-08-61	1/8/2009	0.06	0.88	1.05	0.01	0.08
GDF	P-84-93(a1)	4/8/2009	C-08-97	1/8/2009	0.00	0.00	0.00	0.00	0.00
Emergency ICE	P-2-09	4/2/2010	C-08-110	1/8/2009	0.00	0.02	0.06	0.00	0.00
Emergency ICE	P-3-09	6/18/2009	C-08-193	1/8/2009	0.17	0.34	0.07	0.01	0.01
Emergency ICE	P-4-09	4/2/2010	C-08-232(rev)	1/8/2009	0.01	0.07	0.22	0.00	0.01
Emergency ICE	P-16-09	4/2/2010	C-08-254	5/1/2009	0.03	0.17	0.88	0.00	0.01
Emergency ICE	P-17-09	3/17/2010	C-09-16	5/1/2009	0.00	0.02	0.18	0.00	0.00
GDF	P-42-76(a2)	4/1/2010	C-09-57	3/5/2009	0.44	0.00	0.00	0.00	0.00
Emergency ICE	P-66-09	5/24/2010	C-09-127	9/18/2009	0.00	0.04	0.08	0.00	0.00
Emergency ICE	P-67-09	5/24/2010	C-09-128	9/18/2009	0.00	0.05	0.10	0.00	0.00
Emergency ICE	P-68-09	5/24/2010	C-09-129	9/18/2009	0.01	0.07	0.24	0.00	0.01
Emergency ICE	P-54-09	4/2/2010	C-09-139	9/18/2009	0.01	0.08	0.82	0.00	0.01
Emergency ICE	P-69-09	9/9/2010	C-09-161	9/18/2009	0.02	0.06	0.84	0.00	0.01
Boilers	P-63-06(a)	9/24/2010	C-09-210	6/3/2010	0.16	0.50	0.51	0.00	0.04
Emergency ICE	P-42-10	4/20/2011	C-10-17	9/8/2010	0.00	0.03	0.18	0.00	0.00
Emergency ICE	P-43-10	6/1/2011	C-10-38	9/8/2010	0.00	0.02	0.00	0.00	0.00
Emergency ICE	P-44-10	4/20/2011	C-10-45	9/8/2010	0.04	0.18	0.87	0.00	0.03
Emergency ICE	P-7-11	8/2/2011	C-10-105	3/25/2011	0.01	0.08	0.35	0.00	0.01
Boiler	P-54-00(a)	8/9/2011	C-10-93	3/25/2011	0.07	0.58	0.48	0.01	0.10
Boiler	P-44-11	1/9/2012	C-11-62	8/23/2011	0.02	0.15	0.07	0.00	0.02
GDF	P-1-81(a3)	5/1/2012	C-11-80	3/5/2012	0.95	0.00	0.00	0.00	0.00
Emergency ICE	P-72-11	9/27/2012	C-11-89	3/5/2012	0.03	0.31	1.08	0.00	0.03
Emergency ICE	(P-39-12)	-	C-12-89	12/10/2012	0.02	0.11	0.30	0.00	0.02
Emergency ICE	(P-51-12)	-	C-12-125	2/26/2013	0.04	0.06	0.41	0.00	0.00
Emergency ICE	(P-52-12)	-	C-12-126	2/26/2013	0.00	0.05	0.10	0.00	0.00
Emergency ICE	(P-55-12)	-	C-12-129	2/26/2013	0.01	0.05	0.28	0.00	0.01
Emergency ICE	(P-56-12)	-	C-12-130	2/26/2013	0.01	0.06	0.22	0.00	0.01
Emergency ICE	(P-4-13)	-	C-13-06	4/10/2013	0.02	0.20	1.07	0.00	0.02
Emergency ICE	(P-28-13)	-	C-13-42	proposed	0.00	0.00	0.07	0.00	0.00
Boiler	(P-28-03(a))	-	C-13-72	proposed	0.04	0.65	0.78	0.00	0.06
Boiler	(P-83-06(a))	-	C-13-75	proposed	3.38	3.07	5.20	0.51	5.96
Woodworking	(P-44-13)	-	C-13-84	8/8/2013	0.00	0.00	0.00	0.00	2.46
	TOTAL				**5.55**	**7.90**	**16.51**	**0.54**	**8.91**

COMMENTS: These permits are sorted by date the ATC was issued. 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. Therefore the applicable years are August 2008 through August 2013.

The following changes were made to this worksheet from the last update (12/20/2012):
(1) Only active PTOs and ATC C-13-42, C-13-72, and C-13-75

Engineer: _____ Typed Initials: ER **Date:** 8/21/13 Typed Date: 8/21/2013

Reviewed by: _____ **Date:** 8/23/2013

BACT DETERMINATION 685-1

Emission Unit: Diesel fired emergency internal combustion (IC) engine
Rating: 314 BHP

Facility Name: University of California, Davis
Mailing Address: One Shields Avenue
Concord, CA 94520

Contact Name: Aimee Pfohl , EH&S Specialist
Telephone: (530)-754-5267

Engineer: Eugene Rubin
Date: July 23, 2013

Application #: C-13-42

I. Proposal: The applicant is proposing to install a 314 BHP diesel fired emergency IC engine to power an electric generator when electrical power from the utility grid is interrupted.

II. Applicability: The proposed emissions for the new emergency engine are shown below.

	VOC	CO	NO_x (as NO_2)	SO_x (as SO_2)	PM_{10}
Proposed Emissions	0.1 lb/day	Neg. lb/day	17.3 lb/day	0.1 lb/day	Neg. lb/day
Rule 3.4, Section 301.1 Triggers	10.0 lb/day	250.0 lb/day	10.0 lb/day	80.0 lb/day	80.0 lb/day

The engine is a new emissions unit and results in an increase in quarterly potential to emit for all pollutants. As shown above, BACT is not triggered for VOC, CO, SO_x and PM_{10} because the proposed emissions do not exceed the trigger levels specified by Rule 3.4, Section 301.1. BACT is triggered for NO_x emissions because the proposed emissions exceed the trigger level specified by Rule 3.4, Section 301.1 and the application results in a quarterly increase in potential to emit.

III. BACT for NOx: Per a District Memorandum[1] (dated June 13, 2008), after June 30, 2008 any new emergency diesel-fired engine with a rating greater than or equal to 175 BHP, but less than or equal to 750 BHP, must meet the NO_x standards of EPA Tier III engines (effective 2006). The applicant has provided a copy of the engine manufacturer's guarantee showing that the engine meets the Interim Tier IV standard of 2.6 g/bhp-hr for NO_x. Therefore, BACT is satisfied for NO_x.

[1] BACT for Emergency Diesel Internal Combustion Engines, Engineering Section Policies and Procedures Manual.