



JUN 13 2012

Robert Easterday
San Joaquin Community Hospital
PO Box 2615
Bakersfield, CA 93303

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1121268



Dear Mr. Easterday:

Enclosed for your review and comment is the District's analysis of San Joaquin Community Hospital's application for an Authority to Construct for the installation of an emergency diesel-fired internal combustion engine powering an electrical generator, at 2637 Chester Avenue in Bakersfield.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Steve Roeder of Permit Services at (661) 392-5615.

Sincerely,

David Warner
Director of Permit Services

DW: SR/cm

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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1990 E. Gettysburg Avenue
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JUN 13 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1121268

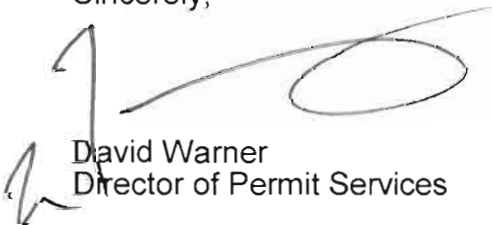
Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of San Joaquin Community Hospital's application for an Authority to Construct for the installation of an emergency diesel-fired internal combustion engine powering an electrical generator, at 2637 Chester Avenue in Bakersfield.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

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Bakersfield Californian

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to San Joaquin Community Hospital for the installation of an emergency diesel-fired internal combustion engine powering an electrical generator, at 2637 Chester Avenue in Bakersfield.

The analysis of the regulatory basis for this proposed action, Project #S-1121268, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

III. Project Location

The project is located 2637 Chester Avenue in Bakersfield, which is contiguous property with the main structure of San Joaquin Community Hospital located on 2615 Eye Street. Therefore, this location is considered to be the same stationary source as S-2220.

The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The emergency standby engine powers an electrical generator. Other than emergency standby operation, the engine may be operated up to 50 hours per year for maintenance and testing purposes.

V. Equipment Listing

S-2220-11-0: 755 BHP (INTERMITTENT) CUMMINS MODEL QSX15-G9-NR2 TIER-2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY INTERNAL COMBUSTION ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

The applicant has proposed to install a Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

The proposed engine meets the latest Tier Certification requirements; therefore, the engine meets the latest ARB/EPA emissions standards for diesel PM, VOC, NO_x, and CO (see Appendix C for the emissions data sheet and the EPA executive order).

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel.

VII. General Calculations

A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	50 hours/year
Density of diesel fuel:	7.1 lb/gal
EPA F-factor (adjusted to 60 °F):	9,051 dscf/MMBtu
Fuel heating value:	137,000 Btu/gal
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Thermal efficiency of engine:	commonly ≈ 35%
PM ₁₀ fraction of diesel exhaust:	0.96 (CARB, 1988)

The following emissions factors have been supplied by the EPA Certification and are converted from grams/kwh to grams/hp·hr in the following table.

Conversion						
NO _x	5.64	g/kwh x	0.7456	hp/kw =	4.2052	g/hp-hr
SO _x *	0.00685	g/kwh x	0.7456	hp/kw =	0.0051	g/hp-hr
PM ₁₀	0.13	g/kwh x	0.7456	hp/kw =	0.0969	g/hp-hr
CO	0.6	g/kwh x	0.7456	hp/kw =	0.4474	g/hp-hr
VOC	0.10	g/kwh x	0.7456	hp/kw =	0.0746	g/hp-hr

$$* \frac{0.000015 \text{ lb} \cdot \text{S}}{\text{lb} \cdot \text{fuel}} \times \frac{7.1 \text{ lb fuel}}{\text{gallon}} \times \frac{64 \text{ lb SO}_x}{32 \text{ lb} \cdot \text{S}} \times \frac{1 \text{ gallon}}{137,000 \text{ Btu}} \times \frac{1 \text{ hp}_{in}}{0.35 \text{ hp}_{out}} \times \frac{2,542.5 \text{ Btu}}{\text{hp} \cdot \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g} \cdot \text{SO}_x}{\text{hp} \cdot \text{hr}}$$

C. Calculations

1. Pre-Project Emissions (PE1)

Since this is a new emissions unit, PE1 = 0.

2. Post-Project PE (PE2)

The daily and annual PE2 are calculated in the following tables.

Daily PE2										
NO _x	4.21	g/hp·hr x	755	hp x	24	hr/day +	454	g/lb=	168.0	lb/day
SO _x	0.0051	g/hp·hr x	755	hp x	24	hr/day +	454	g/lb=	0.2	lb/day
PM ₁₀	0.1	g/hp·hr x	755	hp x	24	hr/day +	454	g/lb=	4.0	lb/day
CO	0.45	g/hp·hr x	755	hp x	24	hr/day +	454	g/lb=	18.0	lb/day
VOC	0.075	g/hp·hr x	755	hp x	24	hr/day +	454	g/lb=	3.0	lb/day

Annual PE2										
NO _x	4.21	g/hp·hr x	755	hp x	50	hr/yr +	454	g/lb=	350	lb/yr
SO _x	0.0051	g/hp·hr x	755	hp x	50	hr/yr +	454	g/lb=	0	lb/yr
PM ₁₀	0.1	g/hp·hr x	755	hp x	50	hr/yr +	454	g/lb=	8	lb/yr
CO	0.45	g/hp·hr x	755	hp x	50	hr/yr +	454	g/lb=	37	lb/yr
VOC	0.075	g/hp·hr x	755	hp x	50	hr/yr +	454	g/lb=	6	lb/yr

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

The SSPE1 is taken from the current permits and calculated in the following table.

SSPE1 (lb/year)					
Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-2220-6-0	1,027	23	12	95	20
S-2220-7-0	165	4	10	204	24
S-2220-8-0	1,051	1	36	190	59
S-2220-9-0	72	0	4	33	4
S-2220-10-0	42	0	1	30	2
SSPE1	2,357	28	63	552	109

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs, at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site. The SSPE2 is calculated in the following table.

SSPE2 (lb/year)					
Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-2220-6-0	1,027	23	12	95	20
S-2220-7-0	165	4	10	204	24
S-2220-8-0	1,051	1	36	190	59
S-2220-9-0	72	0	4	33	4
S-2220-10-0	42	0	1	30	2
S-2220-11-0	350	0	8	37	6
SSPE2	2,707	28	71	589	115

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values.

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO _x	2,357	2,707	20,000	No	No
SO _x	28	28	140,000	No	No
PM ₁₀	63	71	140,000	No	No
CO	552	589	200,000	No	No
VOC	109	115	20,000	No	No

As seen in the table above, the facility is not an existing Major Source and also is not becoming a Major Source as a result of this project.

6. Baseline Emissions (BE)

According to District Rule 2201, the BE is the same as the PE1 for any unit located at a non-major source.

Since this is a new emissions unit, BE = PE1 = 0 for all criteria pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

As discussed in Section VII.C.5 above, this facility is not a major source for any pollutant, therefore the project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

Federal major modifications are the same as "major modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a major source for any pollutants, this project does not constitute a federal major modification. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

9. Quarterly Net Emissions Change (QNEC)

The QNEC is used to complete the emission profile screen for the District's PAS database. The QNEC for each pollutant is calculated as follows.

$$QNEC = \frac{(PE2 - PE1) \frac{lb}{yr}}{4 \frac{Quarters}{yr}}$$

QNEC for S-2220-11-0				
Unit	Pollutant	PE1 (lb/yr)	PE2 (lb/yr)	QNEC (lb/qtr)
S-2220-11-0	NO _x	0	350	88
	SO _x	0	0	0
	PM ₁₀	0	8	2
	CO	0	37	9
	VOC	0	6	2

VIII. Compliance

Rule 2201 - New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following, except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one stationary source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid PTO resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 major modification or a federal major modification, as defined by the rule.

a. New Emissions Units > 2.0 lb/day

The daily emissions from this engine are compared to the BACT applicability thresholds in the following table.

BACT Applicability				
Pollutant	Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	168.0	> 2.0	n/a	Yes
SO _x	0.2	> 2.0	n/a	No
PM ₁₀	4.0	> 2.0	n/a	Yes
CO	18.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	589	No
VOC	3.0	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO_x, PM₁₀ and VOC emissions from the engine for this project.

b. Relocation of Emissions Units

Since no units are being relocated from one stationary source to another, BACT is not triggered for this purpose.

c. Modification > 2.0 lb/day

Since this unit is not being modified, BACT is not triggered for this purpose.

d. Major Modifications

Since this project does not result in an SB 288 major modification or a federal major modification, BACT is not triggered for this purpose.

2. BACT Guideline

BACT Guideline 3.1.1 (see Appendix B) covers diesel-fired emergency IC engines.

3. Top Down BACT Analysis

Pursuant to the BACT analysis presented in Appendix B of this report, BACT for NO_x, PM₁₀ and VOC is satisfied with the latest EPA Tier Certification level for applicable horsepower range.

B. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, offsets are not required for this engine, and no offset calculations are required.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New major sources, SB 288 major modifications, federal major modifications
- b. Any new emissions unit with a PE greater than 100 pounds during any one day for any pollutant
- c. Any project which results in the offset thresholds being surpassed
- d. New stationary sources with an SSPE2 exceeding any emissions offset threshold, and
- e. Any permitting action resulting in a SSIPE > 20,000 lb/yr for any pollutant.

a. New major sources, federal major modifications and SB 288 major modifications

Since this project does not constitute an SB 288 or federal major modification, public noticing is not required for this purpose.

b. New emissions unit with a PE > 100 lb/day

Since the daily emissions of NO_x are greater than 100 lb/day, public noticing is required for this purpose.

c. Modifications Exceeding any Offset Thresholds

Since no offset thresholds are being surpassed with this project, public noticing is not required for this purpose.

d. New Stationary Sources Exceeding any Offset Thresholds

Since this is not a new stationary source, public noticing is not required for this purpose.

e. SSIPE > 20,000 lb/year

Since the SSIPE is not greater than 20,000 lb/year, public noticing is not required for this purpose.

2. Public Notice Action

This project will require public noticing for having potential daily NO_x emissions of greater than 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC.

D. Daily Emissions Limits (DELs)

DELs and other enforceable conditions are required to restrict a unit's maximum daily emissions to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and the latest PTO and enforceable, in a practicable manner, on a daily basis. The following conditions are listed on the permit to ensure compliance.

- Emissions from this IC engine shall not exceed any of the following limits: 4.21 g-NO_x/bhp-hr, 0.45 g-CO/bhp-hr, or 0.075 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Emissions from this IC engine shall not exceed 0.1 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. Reporting

No reporting is required to ensure compliance with Rule 2201.

Rule 2520 - Federally Mandated Operating Permits

Since this facility is not a major source, Rule 2520 is not applicable to this project.

Rule 4001 - New Source Performance Standards (NSPS)

40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The following table demonstrates how the proposed engine will comply with the requirements of 40 CFR Part 60 Subpart IIII.

40 CFR 60 Subpart IIII Requirements for New Emergency IC Engines Powering Generators (2007 and Later Model Year)	Proposed Method of Compliance with 40 CFR 60 Subpart IIII Requirements
Engine(s) must meet the appropriate Subpart IIII emission standards for new engines, based on the model year, size, and number of liters per cylinder.	The applicant has proposed the use of an engine that is certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart IIII.
Engine(s) must be fired on 500 ppm sulfur content fuel or less, and fuel with a minimum centane index of 40 or a maximum aromatic content of 35 percent by volume. Starting in October 1, 2010, the maximum allowable sulfur fuel content will be lowered to 15 ppm.	The applicant has proposed the use of CARB certified diesel fuel, which meets all of the fuel requirements listed in Subpart IIII. A permit condition enforcing this requirement was included earlier in this evaluation.

<p>The operator/owner must install a non-resettable hour meter prior to startup of the engine(s).</p>	<p>The applicant has proposed to install a non-resettable hour meter. The following condition will be included on the permit:</p> <ul style="list-style-type: none"> This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 17 CCR 93115, and 40 CFR 60 Subpart IIII]
<p>Emergency engine(s) may be operated for the purpose of maintenance and testing up to 100 hours per year. There is no limit on emergency use.</p>	<p>The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.</p>
<p>The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702 and 40 CFR 60 Subpart IIII]

Rule 4002 - National Emission Standards for Hazardous Air Pollutants

40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)

Emergency engines are subject to this subpart if they are operated at a major or area source of Hazardous Air Pollutant (HAP) emissions. A major source of HAP emissions is a facility that has the potential to emit any single HAP at a rate of 10 tons/year or greater or any combinations of HAPs at a rate of 25 tons/year or greater. The proposed RICE is not located at a HAP source and therefore is not subject to this subpart.

Rule 4101 - Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. The following condition is listed on the permit to ensure compliance.

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 - Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of

these operations, provided the equipment is well maintained. The following condition is listed on the permit to ensure compliance.

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 *Risk Management Policy for Permitting New and Modified Sources* (3/2/01) specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. Therefore, a risk management review (RMR) was performed for this project. The RMR results are presented in Appendix D and summarized in the following table.

RMR Summary			
Categories	Emergency Engine (Unit 11-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1
Acute Hazard Index	N/A ²	N/A ²	0.00
Chronic Hazard Index	N/A ²	N/A ²	0.00
Maximum Individual Cancer Risk (10 ⁻⁶)	0.02	0.02	2.3
T-BACT Required?	No		
Special Permit Conditions?	Yes		

The following conditions will be listed on the permit to ensure compliance with the RMR.

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- Emissions from this IC engine shall not exceed 0.1 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR Part 60 Subpart III]
- The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per year. [District Rule 4702, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr.

$$\frac{0.1 \text{ grain} \cdot PM_{10}}{\text{dscf}} \times \frac{1 \text{ gram}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ hp} \cdot \text{hr}} \times \frac{0.96 \text{ gram} \cdot PM_{10}}{1 \text{ gram PM}} = 0.4 \frac{\text{g} \cdot PM_{10}}{\text{hp} \cdot \text{hr}}$$

The new engine has a PM₁₀ emission factor 0.1 g-PM₁₀/hp-hr. Therefore, compliance is expected and the following condition is listed on the permit.

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4701 - Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of NO_x, CO, and VOC from IC engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO.

The proposed engine is also subject to District Rule 4702, *Internal Combustion Engines*. Since the requirements of District Rule 4702 are equivalent or more stringent than those of District Rule 4701, compliance with District Rule 4702 will demonstrate compliance with District Rule 4701.

Rule 4702 - Internal Combustion Engines

The following tables demonstrate how the proposed engine will comply with District Rule 4702.

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.
Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system, or in conjunction with a voluntary utility demand reduction program or interruptible power contract.	The following conditions will be included on the permit: <ul style="list-style-type: none"> • {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] • {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	A permit condition enforcing this requirement was shown earlier in the evaluation.

<p>The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> • {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
<p>Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> • {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] • The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115] • {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows.

$$\text{Volume SO}_2 = \frac{N \cdot R \cdot T}{P}, \text{ where}$$

N = Moles of SO₂

R = Universal Gas Constant = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mole} \cdot ^\circ\text{R}}$

T = Standard Temperature = 520°R

P = Standard Pressure = 14.7 psi

$$\frac{0.000015 \text{ lb} \cdot \text{S}}{\text{lb} \cdot \text{fuel}} \times \frac{7.1 \text{ lb fuel}}{\text{gallon}} \times \frac{64 \text{ lb SO}_2}{32 \text{ lb} \cdot \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gallon}}{0.137 \text{ MMBtu}} \times \frac{1 \text{ lb} \cdot \text{mole}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{scf}}{\text{lb} \cdot \text{mole} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \text{ parts}}{\text{million}} = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. The following condition is listed on the permit to ensure compliance.

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

The following tables demonstrate how the proposed engine will comply with the requirements of Title 17 CCR Section 93115.

Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators	Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements
Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.	The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.
The engine(s) must emit diesel PM at a rate less than or equal to 0.15 g/bhp-hr or must meet the diesel PM standard, as specified in the Off-road compression ignition standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423).	The applicant has proposed the use of an engine that is certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart III. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.

<p>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115 and 40 CFR Part 60 Subpart IIII]
<p>New stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).</p>	<p>The applicant has proposed the use of an engine that is certified to the latest EPA Tier Certification level for the applicable horsepower range.</p>
<p>Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM</p>	<p>The District has verified that this engine is not located within 500' of a school.</p>
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District's Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR public noticing period, issue ATC S-2220-11-0 subject to the conditions on the attached draft ATC in Appendix A.

X. Billing Information

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
S-2220-11-0	3020-10-D	755 bhp IC engine	\$479

Appendixes

- A. Draft ATC
- B. BACT Guideline and BACT Analysis
- C. Manufacturer's Emissions Data Sheet
- D. RMR Summary

Appendix A
Draft ATC

Appendix B

BACT Guideline and BACT Analysis

Best Available Control Technology (BACT) Guideline 3.1.1
Last Update: 7/10/2009
Emergency Diesel IC Engine

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Latest EPA Tier Certification level for applicable horsepower range		
NOX	Latest EPA Tier Certification level for applicable horsepower range		
PM10	0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)		
SOX	Very low sulfur diesel fuel (15 ppmw sulfur or less)		
VOC	Latest EPA Tier Certification level for applicable horsepower range		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

Top Down BACT Analysis for the Emergency IC Engine

BACT Guideline 3.1.1 (July 10, 2009) applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1. BACT Analysis for NO_x, SO_x and VOC Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

- *Latest EPA Tier Certification level for applicable horsepower range*

To determine the latest applicable Tier level, the following EPA and state regulations were consulted:

- 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 89 – Control of Emissions from New and In-Use Nonroad Compression – Ignition Engines
- 40 CFR Part 1039 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
- Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the proposed emergency engine(s) do not meet the definition of a nonroad engine. Therefore, only Title 17 CCR, Section 93115 and 40 CFR Part 60 Subpart IIII apply directly to the proposed emergency engine(s).

Title 17 CCR, Section 93115.6(a)(3)(A) (CARB stationary diesel engine ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission levels in Table 1 (below). Please note that these levels are at least as stringent or more stringent than the emission levels in 40 CFR Subpart IIII.

Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)					
Maximum Engine Power	Tier	Model Year(s)	PM	NMHC+NOx	CO
50 ≤ HP < 75 (37 ≤ kW < 56)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	4i	2008+		3.5 (4.7)	
75 ≤ HP < 100 (56 ≤ kW < 75)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	3	2008+		3.5 (4.7)	
100 ≤ HP < 175 (75 ≤ kW < 130)	3	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
		2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
600 ≤ HP ≤ 750 (450 ≤ kW ≤ 560)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
HP > 750 (kW > 560)	2	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
		2008+			

Additionally, 40 CFR Subpart IIII establishes emission standards for emergency diesel IC engines. These emission standards are the same as those specified in the CARB ATCM, except for engines rated greater than or equal to 50 and less than 75 hp. For such IC engines, the CARB ATCM is more stringent.

Therefore, the most stringent applicable emission standards are those listed in the CARB ATCM (Table 1).

For IC engines rated greater than or equal to 50 hp and less than 75 hp the the highest Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp the highest Tier required is Tier 3. For engines rated equal to or greater than 750 hp the highest Tier required is Tier 2.

Also, please note that neither the state ATCM nor the Code of Federal Regulations require the installation of IC engines meeting a higher Tier standard than those listed above for emergency applications, due to concerns regarding the effectiveness of the exhaust emissions controls during periods of short-term operation (such as testing operational readiness of an emergency engine).

The proposed engine is rated at 755 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x, VOC, and CO will be satisfied with an EPA Tier 2 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

Appendix C

Emissions Data Sheet And EPA Certification

Date: 06/28/2011 11:56:10 AM

Certification Summary Information Report

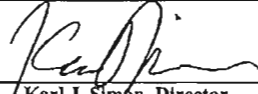
Engine Family	CCEXL015.AAJ	Model Year	2012		
Manufacturer Test Information					
Test Dataset #1					
Test Data Type	Test data for an engine model in a Pre-Verify Carryover Engine Family				
Verify Test Dataset Number	CCEXLM0000226	Manufacturer Test Dataset Number	--		
Engine Model	QSX15-G	Engine Code	CPL 8587		
Engine Id	79265067	Engine Displacement (in liters)	15		
Number of hours Engine was run prior to test	62.5	Crankcase Emission Discharge Path	CCEs Routed into the Exhaust Downstream of After Treatment		
Test Date	02/19/2008				
Test Fuel	300-500 ppm Low Sulfur Diesel				
Special Test Procedure Used	No				
Test Lab Name	Cummins Technical Center	Test Lab Code	3		
Engine Operation	Constant Speed	Steady-State Cycle Type	Steady-State 5-Mode Cycle		
Steady-State Modal Testing Type	Ramped-Modal Testing	Transient Test Required	No		
Devices Regenerated during Steady State Test (Ramped Model)	None				
Devices Regenerated during Cold Start of a Transient Test	None				
Devices Regenerated during Hot Start of a Transient Test	None				
Test Comments					
Steady-State Ramped Modal Test Results					
Pollutant Name	Steady-State Pollutant Test Result (Initial)(g/kW-hr)	Certification Emission Result Value (g/kW-hr)	EPA Standard Limit Value (g/kW-hr)	Family Emission Limit Value (g/kW-hr)	Pass/Fail Indicator
Carbon Dioxide	652	652.00	--	--	--
Non-Methane Hydrocarbons	0.1	0.10	--	--	--
Particulate Matter	0.106	0.13	0.20	--	Pass
Nitrogen Oxides plus Non-Methane Hydrocarbons	--	5.7	6.4	--	Pass
Nitrogen Oxides	5.61	5.64	--	--	--
Carbon Monoxide	0.63	0.6	3.5	--	Pass



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 2012 MODEL YEAR
 CERTIFICATE OF CONFORMITY
 WITH THE CLEAN AIR ACT OF 1990

OFFICE OF TRANSPORTATION
 AND AIR QUALITY
 ANN ARBOR, MICHIGAN 48105

RECEIVED
 APR 16 2012
 SSJVAPCD
 Southern Region

<p>Certificate Issued To: Cummins Inc. (U.S. Manufacturer or Importer) Certificate Number: CCEXL015.AAJ-019</p>	<p>Effective Date: 06/28/2011 Expiration Date: 12/31/2012</p>	<p> Karl J. Simon, Director Compliance and Innovative Strategies Division</p>	<p>Issue Date: 06/28/2011 Revision Date: N/A</p>
---	--	--	---

<p>Model Year: 2012 Manufacturer Type: Original Engine Manufacturer Engine Family: CCEXL015.AAJ</p>	<p>Mobile/Stationary Indicator: Stationary Emissions Power Category: 560<kW<=2237 Fuel Type: Diesel After Treatment Devices: No After Treatment Devices Installed Non-after Treatment Devices: Electronic Control</p>
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Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

Appendix D

Risk Management Review

To: Steve Roeder, Permit Services
 From: Trevor Joy, AQS – Technical Services
 Date: 4/30/2012
 Facility Name: San Joaquin Community Hospital
 Location: 2637 Chester Avenue in Bakersfield
 Application #(s): S-2220-11-0
 Project #: 1121268

A. RMR SUMMARY

RMR Summary			
Categories	Emergency Engine (Unit 11-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1
Acute Hazard Index	N/A ²	N/A ²	0.00
Chronic Hazard Index	N/A ²	N/A ²	0.00
Maximum Individual Cancer Risk	0.02	0.02	2.3
T-BACT Required?	No		
Special Permit Conditions?	Yes		

- 1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
- 2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit 11-0

1. The PM10 emissions rate shall not exceed **0.1** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
2. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] N
3. The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District Rules 2201, and 4702 and 17 CCR 93115] N

B. RMR REPORT

I. Project Description

Technical Services received a request on April 26, 2012, to perform a Risk Management Review and an Ambient Air Quality Analysis for the proposed installation of a diesel-fired emergency IC engine powering electrical generator, Intermittent use.

II. Analysis

Technical Services performed a screening level health risk assessment using the District developed DICE database.

The following parameters were used for the review:

Analysis Parameters Unit 11-0			
Source Type	Point	Location Type	Urban
BHP	755	PM ₁₀ g/hp-hr	0.10
Closest Receptor [residence] (m)	19	Quad	4
Max Hours per Year	50	Gas Exit Temp (K)	755
Stack Height (m)	2.7	Stack Inside Diameter (m)	0.204
Gas Exit Velocity (m/s)	52.7		

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were:

11-0	NO _x	Sox	CO	PM10
Lbs/hr	NA*	NA*	NA*	NA*
Lbs/yr	350	0.4	37	8.1

*Intermittent use source 1 hour does not require AAQA modeling.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results**

Values are in µg/m³

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	X ¹	X	X ¹	X	X
NO _x	X ¹	X	X ¹	X	Pass
SO _x	X ¹	X ¹	X ¹	X ¹	Pass
PM ₁₀	X	X	X	X ¹	Pass ²
PM _{2.5}	X	X	X	X ¹	Pass ²

**Results were taken from the attached PSD spreadsheet.

¹Intermittent use source does not require AAQA modeling

²The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than or equal to 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Attachments:

- A. RMR request from the project engineer
- B. DICE
- C. HEARTS – Facility Summary
- D. AAQA spreadsheet