



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

DEC 03 2013



Joe Schoenstein
Bright House Networks
3701 N Sillect Ave
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-3296
Project Number: S-1133798

Dear Mr. Schoenstein:

Enclosed for your review and comment is the District's analysis of Bright House Networks's application for an Authority to Construct for two new 904 hp diesel-fired emergency IC engines, at 3728 Arrow Street in Bakersfield.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed 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- 5616.

Sincerely,

David Warner
Director of Permit Services

DW:SR

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

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Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
2 Diesel-Fired Emergency Standby IC Engines**

Facility Name:	Bright House Networks	Date:	10/28/13
Mailing Address:	3701 N. Sillect Avenue Bakersfield, CA 93308	Engineer:	Steve Roeder
		Lead Engineer:	Kris Rickards
Contact Person:	Joe Schoenstein		
Telephone:	(661) 634-2200		
Application #:	S-3296-3-0 and 4-0		
Project #:	1133798		
Complete:	10/2/13		

I. Proposal

Bright House Networks is proposing to install two 904 hp Kohler model 600REOZVB Tier-2 certified diesel-fired emergency internal combustion (IC) engines powering electrical generators. The new engines are replacing the 2 currently permitted engines. See the permits for the engines being replaced in Appendix A

This project triggers NSR Public Notice for emissions > 100 lb/day.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702 Stationary Internal Combustion Engines (8/18/11)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, 93115 - Airborne Toxic Control Measure (ATCM) for Stationary
Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)
Public Resources Code 21000-21177: CEQA
Title 14 CCR, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The project is located at 3728 Arrow Street in Bakersfield. 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 engines power electrical generators. Other than emergency standby operation, the engines may be operated up to 50 hours per year for maintenance and testing purposes.

V. Equipment Listing

S-3296-3-0: 904 HP KOHLER (VOLVO) MODEL 600REOZVB TIER-2 CERTIFIED DIESEL-FIRED EMERGENCY INTERNAL COMBUSTION ENGINE POWERING AN ELECTRICAL GENERATOR

S-3296-4-0: 904 HP KOHLER (VOLVO) MODEL 600REOZVB TIER-2 CERTIFIED DIESEL-FIRED EMERGENCY INTERNAL COMBUSTION ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

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

The proposed engines meet the latest Tier Certification requirements; therefore, the engines meets the latest ARB/EPA emissions standards for diesel PM, VOC, NO_x, and CO.

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, in grams per kilowatt-hour, except for the emission factor for SO_x . The emission factors are converted into grams per horsepower-hour in the following table.

Conversion						
NO_x	5.13	g/kw·hr x	0.7456	hp/kw =	3.8249	g/hp-hr
SO_x	0.00685	g/kw·hr x	0.7456	hp/kw =	0.0051	g/hp-hr
PM_{10}	0.048	g/kw·hr x	0.7456	hp/kw =	0.0358	g/hp-hr
CO	0.727	g/kw·hr x	0.7456	hp/kw =	0.5421	g/hp-hr
VOC	0.064	g/kw·hr x	0.7456	hp/kw =	0.0477	g/hp-hr

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

C. Calculations

1. Pre-Project Emissions (PE1)

Since these are new emissions units, PE1 = 0.

2. Post-Project PE (PE2)

The daily and annual PE2 for each identical engine are calculated in the following tables.

Daily PE2										
NO_x	3.825	g/hp·hr x	904	hp x	24	hr/day ÷	454	g/lb=	182.8	lb/day
SO_x	0.0051	g/hp·hr x	904	hp x	24	hr/day ÷	454	g/lb=	0.2	lb/day
PM_{10}	0.0358	g/hp·hr x	904	hp x	24	hr/day ÷	454	g/lb=	1.7	lb/day
CO	0.5421	g/hp·hr x	904	hp x	24	hr/day ÷	454	g/lb=	25.9	lb/day
VOC	0.0477	g/hp·hr x	904	hp x	24	hr/day ÷	454	g/lb=	2.3	lb/day

Annual PE2										
NO_x	3.825	g/hp·hr x	904	hp x	50	hr/yr ÷	454	g/lb=	381	lb/yr
SO_x	0.0051	g/hp·hr x	904	hp x	50	hr/yr ÷	454	g/lb=	1	lb/yr
PM_{10}	0.0358	g/hp·hr x	904	hp x	50	hr/yr ÷	454	g/lb=	4	lb/yr
CO	0.5421	g/hp·hr x	904	hp x	50	hr/yr ÷	454	g/lb=	54	lb/yr
VOC	0.0477	g/hp·hr x	904	hp x	50	hr/yr ÷	454	g/lb=	5	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-3296-1-0	870	22	54	62	42
S-3296-2-0	31	0	2	14	2
SSPE1	901	22	56	76	44

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, and is calculated in the following table.

SSPE2 (lb/year)					
Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-3296-3-0	381	1	4	54	5
S-3296-4-0	381	1	4	54	5
SSPE2	762	2	8	108	10

5. Major Source Determination

Pursuant to 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	901	762	20,000	No	No
SO _x	22	2	140,000	No	No
PM ₁₀	56	8	140,000	No	No
CO	76	108	200,000	No	No
VOC	44	10	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 these are new emissions units, 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).

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 for S-3296-3 and -4				
Pollutant	Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	182.8	> 2.0	n/a	Yes
SO _x	0.2	> 2.0	n/a	No
PM ₁₀	1.7	> 2.0	n/a	No
CO	25.9	> 2.0 and SSPE2 ≥ 200,000 lb/yr	108	No
VOC	2.3	> 2.0	n/a	Yes

As shown above, BACT is triggered for NO_x and VOC emissions for each engine.

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 no units are 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. BACT Analysis

Pursuant to the BACT analysis presented in Appendix B of this report, BACT for NO_x 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 each engine has a PE of NO_x of 182.8 lb/day, which is 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

As demonstrated above, this project will require public noticing. 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 ATCs for this equipment.

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 be listed on each permit to ensure compliance.

- Emissions from this IC engine shall not exceed any of the following limits: 3.82 g-NO_x/bhp-hr, 0.54 g-CO/bhp-hr, or 0.48 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart III]
- Emissions from this IC engine shall not exceed 0.036 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 III]
- 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]

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.

F. Ambient Air Quality Analysis (AAQA)

An AAQA is conducted by the Technical Services group for any project with an increase in emissions and triggers public notice, and is required to determine whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis (See Appendix C). The AAQA results are posted in the following table.

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	NA ¹	X	NA ¹	X	X
NO _x	NA ¹	X	X	X	Pass
SO _x	NA ¹	NA ¹	X	NA ¹	Pass
PM ₁₀	X	X	X	NA ¹	Pass ²
PM _{2.5}	X	X	X	NA ¹	Pass ²

*Results were taken from the attached PSD spreadsheet.

¹The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour, and 24-hour) standards is not required.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary, the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary, the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

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.
The operator/owner must install a non-resettable hour meter prior to startup of the engine(s).	The applicant has proposed to install a non-resettable hour meter. The following condition will be included on the permit: <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]
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.	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.
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	The following condition will be included on the permit: <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. An area source of HAPs is a facility is not a major source of HAPs. The proposed engine(s) are new stationary RICE located at an area source of HAP emissions; therefore, these engines are subject to this Subpart.

40 CFR 63 Subpart ZZZZ requires the following engines to comply with 40 CFR 60 Subpart IIII:

1. New emergency engines located at area sources of HAPs
2. Emergency engines rated less than or equal to 500 bhp and located at major sources of HAPs

The proposed engine(s) will be in compliance with 40 CFR 60 Subpart IIII.

Additionally, 40 CFR 63 Subpart ZZZZ requires engines rated greater 500 bhp and located at major sources of HAPs to meet the notification requirements of §63.6645(h); however, that section only applies if an initial performance test is required. Since an initial performance test is not required for emergency engines, the notification requirement is not applicable.

The proposed engines are expected to be in compliance with 40 CFR 63 Subpart ZZZZ.

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 C and summarized in the following table.

RMR Summary			
Categories	Emergency Diesel ICE (Unit 3-0 and 4-0)	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	0.4E-6	0.4E-6	0.9E-6
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.

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

1. The PM₁₀ emissions rate shall not exceed **0.036 g/bhp-hr** based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
2. 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]
3. 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 Rules 2201 and 4702, 17 CCR 9311, and 40 CFR Part 60 Subpart IIII]

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.

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

The new engine has a PM₁₀ emission factor 0.036 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. 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]

<p>The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.</p>	<p>A permit condition enforcing this requirement was shown earlier in the evaluation.</p>
<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.

<p>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).</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, guaranteeing compliance with the emission standards of Subpart IIII. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.</p>
<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 Public Noticing period, issue ATCs S-3296-3-0 and 4-0 subject to the conditions on the attached draft ATCs.

X. Billing Information

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
S-3296-3-0	3020-10-E	904 bhp IC engine	\$602
S-3296-4-0	3020-10-E	904 bhp IC engine	\$602

Appendixes

- A. Permits for Engines Being Replaced
- B. BACT Guideline and BACT Analysis
- C. RMR Summary
- D. Draft ATCs

Appendix A

Permits for Engines Being Replaced

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3296-1-0

EXPIRATION DATE: 12/31/2013

EQUIPMENT DESCRIPTION:

380 BHP CUMMINS MODEL #LTA-10G DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. 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]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. 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]
5. 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, 40 CFR Part 60 Subpart IIII]
6. Emissions from this IC engine shall not exceed any of the following limits: 7.2 g-NOx/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
7. 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]
8. 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]
9. 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]
10. 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]
11. 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]
12. 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 20 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
13. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

14. 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]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3296-2-0

EXPIRATION DATE: 12/31/2013

EQUIPMENT DESCRIPTION:

152 BHP ISUZU MODEL #BI-4HK1X TIER 3 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE
POWERING AN ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. 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]
3. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. 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]
5. 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]
6. 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, 40 CFR Part 60 Subpart IIII]
7. Emissions from this IC engine shall not exceed any of the following limits: 1.84 g-NOx/bhp-hr, 0.82 g-CO/bhp-hr, or 0.097 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
8. Emissions from this IC engine shall not exceed 0.13 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]
9. 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]
10. 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]
11. 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]
12. 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]
13. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

14. 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]
15. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. 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]

These terms and conditions are part of the Facility-wide Permit to Operate.

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 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 904 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 and VOC are satisfied with an EPA Tier 2-certified engine. The applicant is proposing such a unit.

Appendix C

Risk Management Review

To: Steve Roeder - Permit Services

From: Suzanne Medina - Permit Services

Date: October 11, 2013

Facility Name: Brighthouse

Location: 3728 Arrow Street, Bakersfield

Application #(s): S-3296-3-0 and 4-0

Project #: S-1133798

A. RMR SUMMARY

RMR Summary			
Categories	Emergency Diesel ICE (Unit 3-0 and 4-0)	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	0.4E-6	0.4E-6	0.9E-6
T-BACT Required?	No		
Special Permit Conditions?	Yes		

3 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.

4 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:

Units 3-0 and 4-0

4. The PM10 emissions rate shall not exceed **0.036** g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201]
5. 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]
6. 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 and 17 CCR 93115]

B. RMR REPORT

I. Project Description

Technical Services received a request on October 1, 2013, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for two 904 bhp emergency diesel IC engines.

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 for both engines:

Analysis Parameters			
Source Type	Point	Location Type	Urban
BHP	904	PM ₁₀ g/hp-hr	0.036
Closest Receptor (m)	76.2	Quad	2
Max Hours per Year	50	Type of Closest Receptor	Business

Technical Services also performed modeling for criteria pollutants NO_x, SO_x, PM₁₀, and PM_{2.5}; as well as the RMR. The emission rates used for criteria pollutant modeling were 381 lb/yr NO_x, 1 lb/yr SO_x, 4 lb/yr PM₁₀, and 4 lb/yr PM_{2.5} for each unit.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	NA ¹	X	NA ¹	X	X
NO _x	NA ¹	X	X	X	Pass
SO _x	NA ¹	NA ¹	X	NA ¹	Pass
PM ₁₀	X	X	X	NA ¹	Pass ²
PM _{2.5}	X	X	X	NA ¹	Pass ²

*Results were taken from the attached PSD spreadsheet.

¹The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour, and 24-hour) standards is not required.

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusions

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

The Cancer Risk associated with the operation of the proposed diesel IC engines is less than 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 the proposed unit.

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:

RMR Request Form & Related Documents
DICE Screening Risk Tool
AAQA Results
Facility Summary

Appendix D

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-3296-3-0

LEGAL OWNER OR OPERATOR: BRIGHT HOUSE NETWORKS

MAILING ADDRESS: 3701 N SILLECT AVE
BAKERSFIELD, CA 93308

LOCATION: 3728 ARROW ST
BAKERSFIELD, CA 93308

EQUIPMENT DESCRIPTION:

904 HP KOHLER (VOLVO) MODEL 600REOZVB TIER-2 CERTIFIED DIESEL-FIRED EMERGENCY INTERNAL COMBUSTION ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon implementation of this Authority to Construct, Permit S-3296-1 shall be cancelled. [District Rule 2201]
2. 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 III]
3. 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 III]
4. 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]
5. 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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {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]
8. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Emissions from this IC engine shall not exceed any of the following limits: 3.82 g-NOx/bhp-hr, 0.54 g-CO/bhp-hr, or 0.48 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-3296-3-0 - Oct 28 2013 10:27AM - ROEDERS : Joint Inspection NOT Required

10. Emissions from this IC engine shall not exceed 0.036 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]
11. 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 Rules 2201 and 4702, 17 CCR 9311, and 40 CFR Part 60 Subpart IIII]
12. {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]
13. {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]
14. {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]
15. {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]
16. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4701 and 17 CCR 93115]
17. {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]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

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PERMIT NO: S-3296-4-0

LEGAL OWNER OR OPERATOR: BRIGHT HOUSE NETWORKS

MAILING ADDRESS: 3701 N SILLECT AVE
BAKERSFIELD, CA 93308

LOCATION: 3728 ARROW ST
BAKERSFIELD, CA 93308

EQUIPMENT DESCRIPTION:

904 HP KOHLER (VOLVO) MODEL 600REOZVB TIER-2 CERTIFIED DIESEL-FIRED EMERGENCY INTERNAL COMBUSTION ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Upon implementation of this Authority to Construct, Permit S-3296-2 shall be cancelled. [District Rule 2201]
2. 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]
3. 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]
4. 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]
5. 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]
6. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
7. {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]
8. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Emissions from this IC engine shall not exceed any of the following limits: 3.82 g-NOx/bhp-hr, 0.54 g-CO/bhp-hr, or 0.48 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-6500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-3296-4-0 : Oct 28 2013 10:27AM - ROEDERS : Joint Inspection NOT Required

10. Emissions from this IC engine shall not exceed 0.036 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]
11. 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 Rules 2201 and 4702, 17 CCR 9311, and 40 CFR Part 60 Subpart IIII]
12. {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]
13. {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]
14. {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]
15. {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]
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