San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

OCT 0 4 2010

Neal Pearson
Children's Hospital of Central California
9300 Valley Children's Place
Madera, CA 93636

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: C-1102922

Dear Mr. Pearson:

Enclosed for your review and comment is the District's analysis of Children's Hospital of Central California's application for an Authority to Construct for a temporary 2,937 bhp Tier 2 certified diesel-fired IC engine, at 9300 Valley Children's Place in Madera, CA.

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. Jesse A. Garcia of Permit Services at (559) 230-5918.

Sincerely,

David Warner
Director of Permit Services

DW:jag

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

OCT 0 4 2010

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: C-1102922

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Children's Hospital of Central California's application for an Authority to Construct for a temporary 2,937 bhp Tier 2 certified diesel-fired IC engine, at 9300 Valley Children's Place in Madera, CA.

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. Jesse A. Garcia of Permit Services at (559) 230-5918.

Sincerely,

David Warner
Director of Permit Services

DW:jag

Enclosure

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Fresno Bee
Fresno Bee

**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 Children's Hospital of Central California for a temporary 2,937 bhp Tier 2 certified diesel-fired IC engine, at 9300 Valley Children's Place in Madera, CA.

The analysis of the regulatory basis for this proposed action, Project #C-1102922, 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, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Temporary Diesel-Fired IC Engine Powering Electrical Generator

Facility Name:	Children's Hospital of Central California	Date:	September 13, 2010
Mailing Address:	9300 Valley Children's Place Madera, CA 93636	Engineer:	Jesse A. Garcia
		Lead Engineer:	Joven Refuerzo
Contact Person:	Neal Pearson		
Telephone:	(559) 353-5993		
FAX:	(559) 353-6498		
Application No:	C-2902-12-0		
Project No:	C-1102922		
Deemed Complete:	September 1, 2010		

I. PROPOSAL

Children's Hospital of Central California has requested an Authority to Construct (ATC) for a 2,937 bhp Caterpillar Tier 2 transportable diesel-fired IC engine powering an electrical generator. The engine generator will be used to complete the electrical tie in feeding the new expansion of the hospital and will replace a temporary 1,502 bhp IC engine (ATC C-2902-11-0) that was implemented for the first "leg" of the electrical tie in and has since then been taken out of service and removed off site. See Attachment I for a copy of the Permit to be replaced and Attachment IX for Planned Outage Details.

To ensure proper accounting of criteria pollutant emissions, the following condition will be added to the permit issued in this project:

- Upon startup of the equipment authorized by this Authority to Construct, the Permit to Operate C-2902-11-0 shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [District Rule 2201]

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (12/18/08)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/2005)
Rule 4102 Nuisance (12/17/1992)
Rule 4201 Particulate Matter Concentration (12/17/1992)
Rule 4701 Internal Combustion Engines (8/21/2003)
Rule 4702 Internal Combustion Engines – Phase 2 (1/18/2007)
Rule 4801 Sulfur Compounds (12/17/1992)
California Health & Safety Code 41700

Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment
Title 17 CCR, Section 93116 - Airborne Toxic Control Measure (ATCM) for Portable Engines rated at 50 horsepower and greater
California Health & Safety Code 42310.6 (School Notice)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

II. Project location

The facility is located at 9300 Valley Children's Place in Madera, CA. 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.

III. Process Description

Children's Hospital of Central California is proposing to expand the hospital facility as well as the electrical power to this portion of the facility. To provide uninterrupted power service and a backup power source as required by State law during the connection of the newly constructed portion of the facility to the power grid, the facility is proposing to permit a temporary 2,937 bhp Caterpillar Tier 2 diesel-fired IC engine powering an electrical generator.

V. Equipment Listing

C-2902-11-0: TEMPORARY 2,937 BHP CATERPILLAR MODEL 3516 TIER 2 CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN ELECTRICAL GENERATOR (TO BE USED FOR ELECTRICAL TIE IN)

VI. Emission Control Technology Evaluation

The engine is equipped with:

- ☒ Turbocharger
- ☒ EPA – Certified Tier 2 compliance and CARB Certified
- ☒ Very Low (0.0015%) sulfur diesel

The emission control devices/technologies and their effect on diesel engine emissions detailed below are from *Non-catalytic NO_x Control of Stationary Diesel Engines*, by Don Koeberlein, CARB.

The turbocharger reduces the NO_x emission rate from the engine by approximately 10% by increasing the efficiency and promoting more complete burning of the fuel.

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

VII. General Calculations

A. Assumptions

Daily Operating schedule: 15 hr/day (per applicant)
Annual Operating schedule: 15 hr/yr (per applicant)
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)

B. Emission Factors

	g/hp-hr*	Source
NO_X	5.39	ARB/EPA Certification
SO_X	0.0051	Mass Balance Equation Below
PM_{10}	0.026	ARB/EPA Certification
CO	0.29	ARB/EPA Certification
VOC	0.11	ARB/EPA Certification

SOx:

$$0.0015\ \%S \times \frac{7.1\,lb\cdot fuel}{gallon} \times \frac{2\,lb\cdot SO_2}{1\,lb\cdot S} \times \frac{1\,gal}{137{,}000\,Btu} \times \frac{1\,hp\,input}{0.35\,hp\,out} \times \frac{2{,}542.5\,Btu}{hp\cdot hr} \times \frac{453.6\,g}{lb} = 0.0051 \ \frac{g\cdot SO_x}{hp\cdot hr}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post Project PE (PE2)

Daily Post-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE1 Total (lb/day)
NO_X	5.39	2,937	15	453.6	523.5
SO_X	0.0051	2,937	15	453.6	0.5
PM_{10}	0.026	2,937	15	453.6	2.5
CO	0.29	2,937	15	453.6	28.2
VOC	0.11	2,937	15	453.6	10.7

Annual Post-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE1 Total (lb/yr)
NO_X	5.39	2,937	15	453.6	523
SO_X	0.0051	2,937	15	453.6	0
PM_{10}	0.026	2,937	15	453.6	3
CO	0.29	2,937	15	453.6	28
VOC	0.11	2,937	15	453.6	11

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

The SSPE1 calculations are taken from project C-1102075 unless noted otherwise and are summarized below:

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
C-2902-1-0	165	0	21	23	7
C-2902-2-1[1]	3,810	706	2,378	12,967	699
C-2902-3-1[1]	927	233	124	668	36
C-2902-4-1[1]	927	233	124	668	36
C-2902-5-0	1,028	1	133	143	42
C-2902-6-0	1,028	1	133	143	42
C-2902-7-0	1,028	1	133	143	42
C-2902-8-0	1,028	1	133	143	42
C-2902-9-0	56	0	7	8	2
C-2902-11-0	161	0	4	48	8
Pre-Project SSPE ($SSPE1_{total}$)	10,158	1,176	3,190	14,954	956

[1] Taken from Project C-1040988

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
C-2902-1-0	165	0	21	23	7
C-2902-2-1	3,810	706	2,378	12,967	699
C-2902-3-1	927	233	124	668	36
C-2902-4-1	927	233	124	668	36
C-2902-5-0	1,028	1	133	143	42
C-2902-6-0	1,028	1	133	143	42
C-2902-7-0	1,028	1	133	143	42
C-2902-8-0	1,028	1	133	143	42
C-2902-9-0	56	0	7	8	2
C-2902-11-0	161	0	4	48	8
Post-Project SSPE ($SSPE2_{total}$)	10,158	1,176	3,190	14,954	956

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Pre-Project SSPE (SSPE1)	9,997	1,176	3,186	14,906	948
Post Project SSPE (SSPE2)	10,158	1,176	3,190	14,954	956
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	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)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required.

Pursuant to Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22 of District Rule 2201.

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

7. Major Modification

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, the facility is not a Major Source for any pollutant; therefore, the project does not constitute a Major Modification.

8. Federal Major Modification

As shown above, this facility is not a major source. Therefore, in accordance with District Rule 2201, Section 3.17, this project does not constitute a Federal Major Modification and no further discussion is required.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Attachment III.

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*:

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 Permit to Operate 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 a Major Modification.

*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. New emissions units – PE > 2 lb/day

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install a diesel-fired IC engine with a PE2 greater than 2 lb/day for NO_X, PM_{10}, CO and VOC. BACT is triggered for NO_X, PM_{10}, and VOC since the PE2 is greater than 2 lb/day; however, BACT for CO is not triggered since the SSPE2 is less than 200,000 lb/year.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project; therefore BACT is not triggered.

d. Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a Major Modification; therefore BACT is not triggered.

2. BACT Guideline

BACT determination Guideline 3.2.11, applies to Transportable Compression – Ignited IC Engines (Non-Agricultural, Non-Electric Generation) (See Attachment IV).

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (Attachment V), BACT has been satisfied with the following:

NO_X, PM_{10}, and VOC: TIER 2 EPA Certified Non-Road Transportable Engine

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Post Project SSPE (SSPE2)	10,520	1,176	3,189	14,934	959
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. New Major Source

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

2. Major Modification

As demonstrated in VII.C.7, this project does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not required.

3. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_X	523.5	100 lb/day	Yes
SO_X	0.5	100 lb/day	No
PM_{10}	2.5	100 lb/day	No
CO	28.2	100 lb/day	No
VOC	10.7	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is required.

4. Offset Threshold

The following table compares pollutant will trigger public noticing requirements. As seen the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	10,158	10,520	20,000 lb/year	No
SO_X	1,176	1,176	54,750 lb/year	No
PM_{10}	3,190	3,189	29,200 lb/year	No
CO	14,954	14,934	200,000 lb/year	No
VOC	956	959	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

5. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	10,158	10,520	362	20,000 lb/year	No
SO_x	1,176	1,176	0	20,000 lb/year	No
PM_{10}	3,190	3,189	-1	20,000 lb/year	No
CO	14,954	14,934	-20	20,000 lb/year	No
VOC	956	959	3	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

6. Public Notice Action

As discussed above, public noticing is required for this project for NO_x emissions in excess of 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 for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT; therefore, the following conditions will be added to the permit to ensure compliance:

- Emissions from the IC engine shall not exceed any of the following limits: 5.39 g-NOx/bhp-hr, 0.29 g-CO/bhp-hr, or 0.11 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93116]

- The PM10 emissions rate from the engine shall not exceed 0.026 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801]

- Operation of the engine shall not exceed 15 hours per calendar year, as determined by an operational nonresettable elapsed operating time meter or other APCO approved alternative. [District Rules 2201, 4102 and 4702]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition will appear on the permit to operate:

- The permittee shall maintain an engine-operating log to demonstrate compliance. The engine operating log shall include, on a daily basis the total hours of operation and on a monthly basis, the following information: type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance with Rule 4702. [District Rules 2201 and 4702]

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, this IC engine is subject to recordkeeping requirements. 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 demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The Technical Services Division of the SJVAPCD conducted the required analysis. Refer to Attachment VI of this document for the AAQA summary sheet.

The proposed location is in an attainment area for CO. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for the criteria pollutants.

See a summary of the Criteria Pollutant Modeling Results below:

Unit -3-4	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	**Pass**	Pass
NOx	Pass	X	X	X	Pass
SOx	Pass	Pass	X	Pass	Pass
PM10	X	X	X	Pass	Pass

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to transportable, non-emergency compression ignited IC engines.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to this IC engine.

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.

Based on experience with similar operations, compliance with visible emission limits is expected under normal operating conditions and the following condition will be added to the permit to ensure compliance:

- 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

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected and the following condition will be added to 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 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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (Attachment VI), the total facility prioritization score including this project was greater than 1.0 and therefore a HRA was required.

The maximum individual cancer risk was greater than 1 per million and T-BACT was triggered. The following special conditions are required:

- {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]

- Operation of the engine shall not exceed 15 hours per calendar year, as determined by an operational nonresettable elapsed operating time meter or other APCO approved alternative. [District Rules 2201, 4102 and 4702]

- The PM10 emissions rate from the engine shall not exceed 0.10 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102] Y

Rule 4201 Particulate Matter Concentration

Particulate matter emissions from the engine will be less than or equal to the rule limit of 0.1 grain per cubic foot of gas at dry standard conditions as shown by the following:

$$0.026 \quad \frac{g-PM_{10}}{bhp-hr} \times \frac{1g-PM}{0.96g-PM_{10}} \times \frac{1bhp-hr}{2{,}542.5\,Btu} \times \frac{10^6\,Btu}{9{,}051\,dscf} \times \frac{0.35\,Btu_{out}}{1\,Btu_{in}} \times \frac{15.43\,grain}{g} = \quad 0.006 \quad \frac{grain-PM}{dscf}$$

Since 0.006 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

Therefore, the following condition will be listed on the ATC to ensure compliance:

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

Rule 4701 Stationary Internal Combustion Engines – Phase I

Pursuant to Section 7.5.2.3 of District Rule 4702, as of June 1, 2006 District Rule 4701 is no longer applicable to full time IC engines. Therefore, this engine will comply with the requirements of District Rule 4702 and no further discussion is required.

Rule 4702 Internal Combustion Engines – Phase 2

Purpose:
The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

Applicability:
This Rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

Exemptions:
Pursuant to Section 4.2.2, this IC engine is exempt from the requirements of this rule, except Sections 5.7 and 6.2.3, because it will not operate more than 200 hours per calendar year and will not 1) generate electrical power to feed into a utility power grid, 2) generate mechanical power used to reduce electrical power purchased by a stationary source, or 3) be used in a distributed generation application.

Requirements:
Section 5.7 of this Rule requires that the owner of an engine subject to section 4.2 shall comply with the requirements specified in Section 5.7.2 through Section 5.7.5 below:

1) Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

2) Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

3) Install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time

provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Operation of the engine shall not exceed 15 hours per day and 15 hours per calendar year, as determined by an operational nonresettable elapsed operating time meter or other APCO approved alternative. [District Rules 2201, 4102 and 4702]

- During periods of operation, 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]

- This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

Record keeping:
Section 6.2.3 requires that an owner claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and submitted to the APCO upon request and at the end of each calendar year in a manner and form approved by the APCO. The engine-operating log shall include, on a monthly basis, the following information:

- Total hours of operation,
- Type of fuel used,
- Maintenance or modifications performed,
- Monitoring data,
- Compliance source test results, and
- Any other information necessary to demonstrate compliance with this Rule.

Therefore, the following condition will be listed on the permit to ensure compliance:

- {3847} The permittee shall maintain an engine-operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance with Rule 4702.

Compliance with this Rule is expect and no further discussion is required.

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO_2) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2
T (standard temperature) = 60 °F or 520 °R
R (universal gas constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

$$\frac{0.000015\,lb-S}{lb-fuel}\times\frac{7.1\,\text{lb}}{\text{gal}}\times\frac{64\,\text{lb}-SO_2}{32\,\text{lb}-S}\times\frac{1\,\text{MMBtu}}{9{,}051\,\text{scf}}\times\frac{1\,\text{gal}}{0.137\,\text{MMBtu}}\times\frac{\text{lb}-\text{mol}}{64\,\text{lb}-SO_2}\times\frac{10.73\,\text{psi}-\text{ft}^3}{\text{lb}-\text{mol}-{}^\circ\text{R}}\times\frac{520{}^\circ\text{R}}{14.7\,\text{psi}}\times 1{,}000{,}000 = 1.0\ \text{ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]

Code of Federal Regulations (CFR), Title 40, Part 89

The term "non-road" is defined in Title 40 Code of Federal Regulations (CFR) Part 89 (Control Of Emissions From New and In-Use Nonroad Compression-Ignition Engines). Like District "transportable" engines, federal "non-road" engines are also mobile.

Per 40 CFR Part 89, non-road engines include compression ignited engines that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indications of transportability include but are not limited to wheels, skids, carrying handles, dollies, trailers, or platforms.

An internal combustion engine is NOT a non-road engine if:

1. The engine is used to propel a motor vehicle or a vehicle used solely for competition; or is subject to standards promulgated under section 202 of the Clean Air Act; or

2. The engine is regulated by a New Source Performance Standard promulgated under section 111 of the Clean Air Act; or

3. The engine will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site (i.e. footprint) at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least 2 years) and that operates at that single location approximately three months (or more) each year.

In addition, there are several categories that are not included in the definition of non-road (or subject to 40 CFR 89). These categories are:

1. Aircraft Engines
2. Mining Engines
3. Locomotive Engines
4. Marine Engines
5. Hobby Engines (less than 50 cc per cylinder)
6. Tier 4 Engines that are subject to emissions standards under 40 CFR Part 1039

The proposed engine meets the definition of a non-road engine, and is therefore subject to this part.

40 CFR Part 89 identifies emissions certification requirements for new non-road engines. There are no emission requirements for existing engines.

Per 40 CFR Part 89.2, "new" means:

"a nonroad engine, nonroad vehicle, or nonroad equipment the equitable or legal title to which has never been transferred to an ultimate purchaser. Where the equitable or legal title to the engine, vehicle, or equipment is not transferred to an ultimate purchaser until after the engine, vehicle, or equipment is placed into service, then the engine, vehicle, or equipment will no longer be new after it is placed into service. A nonroad engine, vehicle, or equipment is placed into service when it is used for its functional purposes."

The proposed IC engine is existing and so was in service prior to its proposed use for this project i.e. the equitable or legal title had been transferred to an ultimate purchaser. Therefore the engine is not new.

The certification requirements of this regulation are known as either Tier 1, Tier 2, or Tier 3 certifications.

Pursuant to 40 CFR Part 89, Appendix A to Subpart A:

"EPA believes that states are not precluded (*or prevented*) under section 209 from regulating the use and operation of non-road engines, such as regulations on hours of usage, daily mass emission limits, or sulfur limits on fuel; nor are permits regulating such operations precluded (*or prevented*), once the engine is no longer new. EPA believes that states are precluded from requiring retrofitting of used nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act."

Therefore, beyond the requirements of Part 89, local authorities can only regulate the use and operation of non-road engines such as regulations on the hours of usage, daily mass emission limits, or sulfur limits on fuel. Local authorities cannot require retrofitting of used nonroad engines except those that are identical to California requirements that have been authorized by EPA, e.g. in the California Code of Regulations (CCR).

The existing engine proposed was the latest certification (Tier 3) for the applicable rated power category when installed; therefore, this part is satisfied.

California Code of Regulations (CCR), Title 13 (Motor Vehicles), Division 3 (Air Resources Board), Chapter 9 (Off-Road Vehicles and Engines Pollution Control Devices), Article 4 (Off-Road Compression-Ignition Engines and Equipment)

§ 2420 - Applicability:

This article is applicable to new heavy-duty compression-ignited engines produced on or after January 1, 1996 and all other new 2000 model year and later off-road compression-ignition engines, with the exception of all engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air ACT and as defined by regulation of the U.S. Environmental Protection Agency. The engine proposed falls under the applicability of this article since they are "off-road" as defined below.

§ 2421 - Definitions

Like District "transportable" engines and federal "non-road" engines, California "off-road" engines are also mobile. "Off-road" engines are defined as:

"(A) Except as specified in paragraph (B) of this definition, an off-road compression-ignition engine is any internal combustion engine:

1. In or on a piece of equipment that is self-propelled or serves as a dual purpose by both propelling itself and performing another function and is primarily used off the highways (such as garden tractors, off-highway mobile cranes and bulldozers); or

2. In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or

3. That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform.

(B) An internal combustion engine is not an off-road compression-ignition engine if:

1. The engine is used to propel a vehicle subject to the emission standards contained in Title 13, California Code of Regulations, Sections 1950-1978, or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the federal Clean Air Act (42 U.S.C. 7521); or

2. The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the federal Clean Air Act (42 U.S.C. 7511); or

3. The engine otherwise included in paragraph (A)3 of this definition remains or will remain at a location for more than 12 consecutive months or a shorter time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location."

§ 2423 - Emission Standards:

This section requires subject engines to meet the tier certification requirements identified in this section, which are taken from 40 CFR Part 89 for Tiers 1 thru 3. The proposed engine was the latest available CARB certification (Tier 3) when installed; therefore, it meets the requirements listed in this section.

California Code of Regulations (CCR), Title 17 (Public Health), Division 3 (Air Resources), Chapter 1 (Air Resources Board), Subchapter 7.5 (Air Toxic Control Measures), Measure 93116 (Portable Diesel Engines)

§ 93116.1 - Applicability

Except as provided in §93116.1(b), all portable engines having a maximum rated hp of 50 bhp and greater and fueled with diesel are subject to this regulation. The proposed engine(s) are portable and are subject to this regulation.

§ 93116.2 - Definitions

Like District "transportable", federal "non-road", and California "off-road" engines, California "portable" engines are also mobile.

(bb) Portable means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine is not portable if:

(1) the engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination. Any engine, such as a back-up or stand-by engine, that replace engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or

(2) the engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(3) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

§ 93116.2 - Requirements

Fuel and Fuel Additive Requirements:
This regulation stipulates that diesel-fueled portable engines shall use one of the following fuels:

1. CARB Diesel Fuel; or

2. An alternative diesel fuel that has been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines; or
3. CARB diesel fuel utilizing fuel additives that have been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

The proposed engine will use CARB certified diesel fuel.

Diesel PM Standards:
Portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2006, (meaning new engines) are subject to "the most stringent of the federal or California emission standard for nonroad engines".

Prior to this permitting action, the engine was the latest CARB certification (Tier 1 or better) when it was installed.

Fleet Requirements:

The earliest fleet average PM requirement is 1/1/2013; therefore, there is no applicable fleet requirement at this time.

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.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Greenhouse Gas Significance Determination

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions (See Attachment VIII). The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authority to Construct C-2902-12-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix VII.

X. Billing Information

Filing fees have been submitted with this application. The annual permit fees will be based on the following schedule.

Permit Number	Fee Schedule	Fee
C-2902-12-0	3020-10-F	$ 749

Attachments
Attachment I: Permit to be Replaced
Attachment II: CARB Certification
Attachment III: QNEC
Attachment IV: BACT Guideline
Attachment V: BACT Analysis
Attachment VI: HRA Summary & AAQA
Attachment VII: Draft ATC
Attachment VIII: Greenhouse Gas Emissions Calculations
Attachment IX: Planned Outage Details

Attachment I

Permit to be Replaced

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: C-2902-11-0 **EXPIRATION DATE:** 02/29/2012

EQUIPMENT DESCRIPTION:
TEMPORARY 1,502 BHP CATERPILLAR MODEL C32 TIER 2 CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN ELECTRICAL GENERATOR (TO BE USED FOR ELECTRICAL TIE IN)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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]
3. 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]
4. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
6. Operation of the engine shall not exceed 7.4 hours per day and 12 hours per calendar year, as determined by an operational nonresettable elapsed operating time meter or other APCO approved alternative. [District Rules 2201, 4102 and 4702]
7. This nonroad transportable engine shall not be operated at one location for more than 12 consecutive months and shall meet all the requirements of a nonroad transportable engine, per CFR Title 40 Part 89. [CCR, Title 17 and District Rule 4701]
8. During periods of operation, 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. 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]
10. Emissions from the IC engine shall not exceed any of the following limits: 4.04 g-NOx/bhp-hr, 1.2 g-CO/bhp-hr, or 0.21 g-VOC/bhp-hr. [District Rule 2201]
11. The PM10 emissions rate from the engine shall not exceed 0.10 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]
12. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]
13. The permittee shall maintain an engine-operating log to demonstrate compliance. The engine operating log shall include, on a daily basis the total gallons of fuel used and on a monthly basis, the following information: type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance with Rule 4702. [District Rules 2201 and 4702]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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]

Attachment II

CARB Certification Information

California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR, INC.	EXECUTIVE ORDER U-R-001-0299-1 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2006	6CPXL78.1T2E	69.0 and 78.1	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Smoke Puff Limiter and Engine Control Module	Generator

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
KW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A
		CERT	--	--	5.3	0.9	0.10	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order hereby supersedes Executive Order U-R-001-0299 dated December 22, 2005.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 22ND day of February 2006.

Allen Lyons, Chief
Mobile Source Operations Division

ATTACHMENT 1 OF 1

Return to Template

Engine Model Summary Template

U-R-001-0299-1

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
6CPXL78.1T2E	1	3516C	3622@1800	757	1223	10561@1800	NA	NA	EM,DI,TC,ECM, SPL, CAC
6CPXL78.1T2E	2	3516C	3308@1800	692	1118	9645@1800	NA	NA	EM,DI,TC,ECM
6CPXL78.1T2E	3	3516C	2994@1800	632	1021	8728@1800	NA	NA	EM,DI,TC,ECM
6CPXL78.1T2E	4	3516C	2936@1800	602	972	8562@1800	NA	NA	EM,DI,TC,ECM
6CPXL78.1T2E	5	3516C	2689@1800	553	894	7841@1800	NA	NA	EM,DI,TC,ECM
6CPXL78.1T2E	6	3516C	2442@1800	508	821	7121@1800	NA	NA	EM,DI,TC,ECM

Attachment III

QNEC

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr
PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr

Since this is a new unit, PE1 = 0 for all pollutants. Thus, QNEC = PE2 (lb/qtr).

Using the PE2 (lb/yr) values calculated in Section VII.C.2, Quarterly PE2 is calculated as follows:

$PE2_{quarterly}$ = PE2 (lb/yr) ÷ 4 quarters/year = QNEC

QNEC		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO_X	523	130.75
SO_X	0	0.0
PM_{10}	3	0.75
CO	28	7.0
VOC	11	2.75

Attachment IV

BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.2.11*

Last Update: 10/30/2008

Transportable Compression - Ignited IC Engines (Non-Agricultural, Non-Electric Generation)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
NOx	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
CO	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
PM10	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
SOX	Very Low Sulfur Fuel (0.0015% fuel S by weight)		

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 s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

*This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)

Attachment V
BACT Analysis

NO_x, PM10, and VOC (same requirements)

Step 1 - Identify All Possible Control Technologies

Option 1: Latest Available Certified Compression-Ignited Engine
The latest available certification is considered achieved-in-practice (AIP) for BACT Guideline 3.2.11.

No additional control options for the engine will be considered at this time since, as shown above in Section II.A, federal law prohibits local authorities from regulating beyond the use and operation (hours, mass emission limits, or fuel sulfur content). Local authorities cannot require retrofitting of used nonroad engines except those that are identical to California requirements that have been authorized by EPA, e.g. in the California Code of Regulations (CCR). As a result, add-on controls (e.g. selective catalytic reduction, positive crankcase ventilation, turbocharging, intercooling, etc.) will not be considered as control options for this class and category or source.

Option 2: Propane/Liquid Petroleum Gas (LPG) Fueled Engine
The use of LPG results in lower emissions overall when compared to diesel emissions. The table below identifies emission factors (EFs) for LPG-fired IC engines:

Pollutant	EF	Source
NO_x	25 ppmvd @ 15% O2	District Rule 4702 (Achieved-In-Practice)
SO_x	0.012 g/bhp-hr	CARB Emissions Inventory Database
PM_{10}	0.063 g/bhp-hr	AP-42 (7/00) Table 3.2-3
CO	400 ppmvd @ 15% O2	District Rule 4702 (Achieved-In-Practice)
VOC	100 ppmvd @ 15% O2	District Rule 4702 (Achieved-In-Practice)

*g/hp·hr equivalent of lb/MMBtu values is calculated as follows: (example SO_x)

$$0.35 \quad \frac{lb}{1{,}000\,gal} \times \frac{gal}{94{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{hp \cdot hr} \times \frac{1\,hp_{in}}{0.35\,hp_{out}} \times \frac{453.6\,g}{lb} = \quad 0.012 \quad \frac{g}{hp \cdot hr}$$

Step 3 - Rank Remaining Control Technologies

Control Technology	Rank	Emission Factors (g/bhp-hr)	Technology Classification for BACT
LPG/Propane Engine + 3-way catalyst system	1	NO_x: 0.35 (≈ 25 ppmvd @ 15% O2) VOC: 0.5 (≈ 100 ppmvd @ 15% O2) CO: 3.4 (≈ 400 ppmvd @ 15% O2) PM_{10}: 0.063	ABE
Latest Tier Certification Levels	2	NO_x + VOC: 3.0 - 5.6 CO: 2.6 - 3.7 PM_{10}: 0.149 - 0.3	AIP

Step 4 - Cost Effectiveness Analyses

LPG Engines

LPG engine 2,937 bhp is not cost effective*

* Using the annual operation of 15 hours/year and a linear extrapolation of Appendix A of District BACT analysis for Transportable Compression – Ignited IC Engines (Non-Agricultural, Non-Electric Generation) dated October 29, 2009 demonstrates that a LPG-fired engines 2,937 hp is not cost effective and is not required as Alternate Basic Equipment.

Latest Available Certified Compression-Ignited Engine

Per District BACT Policy, a cost effectiveness analysis is not required for AIP controls since the control must be implemented.

Step 5 - Select BACT

The remaining control not eliminated in Step 4 (latest available certification) is considered AIP BACT for this class and category of source for NO_x PM10, and VOC.

Attachment VI

HRA Summary & AAQA

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Jesse Garcia– Permit Services
From:	Suzanne Medina– Technical Services
Date:	9/08/10
Facility Name:	Children's Hospital of Central CA
Location:	9300 Valley Children's Place, Madera, CA
Application #(s):	C-2902-12-0
Project #:	1102922

A. RMR SUMMARY

Categories	Type of Unit (Unit 12-0)	Project Totals	Facility Totals
Prioritization Score	N/A	N/A	>1
Acute Hazard Index	N/A	N/A	0.02
Chronic Hazard Index	N/A	N/A	0.00
Maximum Individual Cancer Risk (10^{-6})	0.15	0.15	6.95
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 not risk factor or the risk factor is so low that it 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 # 2-0

1. The PM10 emissions rate shall not exceed 0.026 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201]
2. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
3. 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]
4. 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 15 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

B. RMR REPORT

I. Project Description

Technical Services received a request on September 8, 2010, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 2937 HP Diesel IC emergency engine powering an electrical generator.

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 12-0			
Source Type	Point	**Location Type**	Rural
BHP	2937	**PM_{10} g/hp-hr**	0.026
Closest Receptor (m)	0	**Quad**	2
Max Hours per Year	15	**Type of Receptor**	Residential

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}; as well as a RMR. The emission rates used for criteria pollutant modeling were 1.88 lb/hr CO, 34.9 lb/hr NOx, 0.03 lb/hr SOx, and 0.16 lb/hr PM_{10}. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

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	Pass	X	Pass	X	X
NO_x	Pass[1]	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[2]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

Nox 1 Hour passed on OLM TEIR I. See Attached AERMOD OLM Sheet.

III. Conclusion

The cancer risk associated with the diesel engine is less than 1.0 in 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.

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.

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

Attachments:

A. RMR Request
B. Additional Information
C. DICE
D. AERMOD OLM Sheet
E. Facility Summary

AERMOD Non-Regulatory Option Checklist (ARM / OLM / PVMRM)

Approved	**Site Specific Parameters** Items that are required for a Case – By – Case determination are noted with an *	
	Facility Information	
	Permit ID	C-2902
	Name	Childrens Hospital of Central California
	Address	9300 Valley Children's Place
	City / State	Madera
Comments		
	Project Information	
	Project ID	1102922
	Unit ID / Mod (s)	12-0
	Description	2937 Diesel Emergency IC Engine
Comments		
	Modeling Information*	
	Model	EPA AERMOD Version (**6.4.0**)
	Operating Scenario	Emergency 15 hrs/year
	Met Data	
	Site Name	Madera
	Years	Start: 2003 End:2007
	Type	NWS
	Terrain	Flat
	Site Location	Zone:10 UTME:762.12631 UTMN:4053.3886
	Ozone Limiting	OLM
	Source Parameter	See Tables Below
	Background Site	
	Name	Madera PumpYard
	Location	Zone: 10 UTME: 766.4662 UTMN:4084.2590
	Years	Start: 2003 End:2007
	Location Type	Rural
	Distance From Project (km)	31(km)
Comments		
	Final Results*	
	Averaging Period / Concentration (Background + Model)	Tier I – Maximum 1-hour : 186.05
Comments		
	Conclusion* It has been determined that enough information has been provided to conclude that OLM or PVMRM are appropriate for the above modeling scenario.	
	Supervisor Name	Ester Davila
	Supervisor Signature	Ester Davila
Comments		

Source Parameter:

Each different source that is modeled should have a separate table.

Source Parameters For Unit 12-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	6.1	**Max Hours per Year**	15
Stack Diameter. (m)	.178	**Fuel Type**	Diesel
Stack Exit Velocity (m/s)	287	**NO_2 / NO_x Ratio (%)**	0.10/10%
Stack Exit Temp. (°K)	678		
Rating HP	2793		

Attachment VII

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-2902-12-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CHILDRENS HOSPITAL OF CENTRAL CALIFORNIA
MAILING ADDRESS: 9300 VALLEY CHILDREN'S PLACE
MADERA, CA 93638-8761

LOCATION: 9300 VALLEY CHILDREN'S PLACE
MADERA, CA 93638-8761

EQUIPMENT DESCRIPTION:
TEMPORARY 2,937 BHP CATERPILLAR MODEL 3516 TIER 2 CERTIFIED DIESEL-FIRED IC ENGINE POWERING AN ELECTRICAL GENERATOR (TO BE USED FOR ELECTRICAL TIE IN)

CONDITIONS

1. Upon startup of the equipment authorized by this Authority to Construct, the Permit to Operate C-2902-11-0 shall be surrendered to the District and the associated equipment shall be removed or rendered inoperable. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. 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]
4. {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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. The engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. Operation of the engine shall not exceed 15 hours per calendar year, as determined by an operational nonresettable elapsed operating time meter or other APCO approved alternative. [District Rules 2201, 4102 and 4702]
8. This nonroad transportable engine shall not be operated at one location for more than 12 consecutive months and shall meet all the requirements of a nonroad transportable engine, per CFR Title 40 Part 89. [CCR, Title 17 and District Rule 4701]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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
C-2902-12-0 : Sep 17 2010 1:24PM – GARCIAJ : Joint Inspection NOT Required

9. During periods of operation, 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]
10. {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]
11. Emissions from the IC engine shall not exceed any of the following limits: 5.39 g-NOx/bhp-hr, 0.29 g-CO/bhp-hr, or 0.11 g-VOC/bhp-hr. [District Rule 2201]
12. The PM10 emissions rate from the engine shall not exceed 0.026 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]
13. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]
14. The permittee shall maintain an engine-operating log to demonstrate compliance. The engine operating log shall include, on a daily basis the total gallons of fuel used and on a monthly basis, the following information: type of fuel used, maintenance or modifications performed, monitoring data, and any other information necessary to demonstrate compliance with Rule 4702. [District Rules 2201 and 4702]
15. {3795} 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]

Attachment VIII

Greenhouse Gas Emissions Calculations

Greenhouse Gas Emission Evaluation

The District has evaluated potential greenhouse gas emissions from the internal combustion engine rated at 2,937 brake horsepower to determine if there will be an increase in greenhouse gas emissions associated with this project.

Basis and Assumptions

- The engine is a compression-ignited unit fueled with diesel.
- The engine operates at full rated power.
- Specific fuel consumption is 220 g/kWh (typical for engine type).
- Density of diesel fuel is 7.0 lb/gallon.
- Higher Heating Value (HHV) of diesel is 138,700 Btu/gallon.
- Engine operates 15 hours per year
- Emission factors and global warming potentials (GWP) for diesel fuel are taken from the California Climate Change Action Registry (CCAR), Version 3.1, January, 2009 (Appendix C, Tables C.1, C.3 and C.6) :

  CO2 10.15 kg/gallon (22.3 lb/gallon)
  CH4 1.44 g/gallon (0.006 lb/gal)
  N2O 0.26 g/gallon (0.001 lb/gal)

  GWP for CH4 = 23 lb-CO2e per lb-CH4
  GWP for N2O = 296 lb-CO2e per lb-N2O

Calculations

Diesel fuel consumption rate at full rated horsepower:

$$\frac{2{,}937\ \text{bhp}}{} \times \frac{0.7456\ \text{kW}}{\text{hp}} \times \frac{220\ \text{g}}{\text{kWh}} \times \frac{1\ \text{lb}}{453.6\ \text{g}} \times \frac{\text{gal}}{7\ \text{lb}} = 151.7\ \text{gal/hour}$$

Hourly Emissions

CO2 Emissions = 151.7 gal/hr x 22.3 lb/gal = 3,382.9 lb-CO2e/hour
CH4 Emissions = 151.7 gal/hr x 0.006 lb/gal x 23 lb-CO2e per lb-CH4 = 20.9 lb-CO2e/hour
N2O Emissions = 151.7 gal/hr x 0.001 lb/gal x 296 lb-CO2e per lb-N2O = 44.9 lb-CO2e/hour

Total = 3,382.9 + 20.9 + 44.9 = 3,448.7 lb-CO2e/hour

Annual Increase of Emissions

3,448.7 lb-CO2e/hour x 15 hr/year ÷ 2,000 lb/short ton = **25.9 short tons-CO2e/year**
25.9 short tons-CO2e/year x 0.9072 metric tons/short ton = **23.5 metric tons/year**

Per District Policy, project specific greenhouse gas emissions less than or equal to 230 metric tons-CO2e/year are considered to be zero for District permitting purposes and are exempt from further environmental review.

Attachment IX

Planned Outage Details

Children's Hospital of Central California
(Planned Outage)

The purpose of this document is to outline the required run times of the Facilities Emergency Generators in order to complete the Electrical Tie In feeding the New Expansion. This is meant to serve as a condensed narrative focusing primarily on the usage of the Facilities Generators. Refer to full version of Planned Outage Procedure for further detail.

1. The first required run time for the day of the switchover will be approximately **1 to 4 hours**. The Facilities Generators are required to run during this period in order to supply power to the facility while the Bussing Tie In and Temporary Generator Tie In are complete. Once the Tie In of the Temporary Generator is complete the Facilities Generators will be shut down and the Facility will be fed by the Temporary Generator. The reason for this is reduce the run time of the Facilities Generators while the Bussing Tie In is complete and to return the Facility back to the required state of having two power sources. The Temporary Generator will now be acting as the Normal Power Source and the Facilities Emergency Generators will be acting as the Back Up Power Source in case of an outage to the Temporary Generator.

2. Once the work on the switchgear providing Normal Power to the Facility is complete the Facilities Generators will need to be ran for approximately **10 minutes**. The purpose of this is to provide a seamless switchover when transferring back from the Temporary Generator to PG&E Power.

3. Once the modification to the Emergency Switchgear is complete we will need to remove the Temporary Generator Cables from the Normal Power Switchgear. In order to do so we will need to run the Facilities Emergency Generators for approximately **20 minutes** while the Normal Power Switchgear is locked out and the Cables are removed.