

September 26, 2022

David Buck  
CanAm Visalia I, LLC  
9830 Colonnade Blvd, Ste 600  
San Antonio, TX 78230

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-10023**  
**Project Number: S-1221482**

Dear Mr. Buck:

Enclosed for your review and comment is the District's analysis of CanAm Visalia I, LLC's application for an Authority to Construct for four 900 horsepower Tier 2 certified diesel engines to provide emergency power in the event of an electrical outage, at 2045 North Plaza Drive in Visalia, CA.

The notice of preliminary decision for this project has been posted on the District's website ([www.valleyair.org](http://www.valleyair.org)). 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. Homero Ramirez of Permit Services at (661) 392-5616.

Sincerely,



Brian Clements  
Director of Permit Services

BC:har

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

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**Northern Region**  
4800 Enterprise Way  
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# San Joaquin Valley Air Pollution Control District

## Authority to Construct

### Application Review

Diesel-Fired Emergency Standby IC Engine

Facility Name: CanAm Visalia I, LLC Date: August 25, 2022  
Mailing Address: 9830 Colonnade Blvd, Ste 600 Engineer: Homero Ramirez  
San Antonio, TX 78230 Lead Engineer: Steve Davidson  
Contact Person: David Buck  
Telephone: (210) 461-2819  
E-mail: edward.jackson@usrealco.com  
Application #: S-10023-1-0 through '4-0  
Project #: S-1221482  
Deemed Complete: April 29, 2022

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#### I. Proposal

CanAm Visalia I, LLC is proposing to install four 900 bhp (intermittent) diesel-fired emergency standby internal combustion (IC) engine powering electrical generators.

#### II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (8/15/19)  
Rule 2410 Prevention of Significant Deterioration (6/16/11)  
Rule 2520 Federally Mandated Operating Permits (8/15/19)  
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 Internal Combustion Engines - Phase 1 (8/21/03)  
Rule 4702 Internal Combustion Engines (8/19/21)  
Rule 4801 Sulfur Compounds (12/17/92)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary  
Compression-Ignition (CI) Engines  
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:  
CEQA Guidelines

### **III. Project Location**

The equipment will be located at 2045 North Plaza Drive in Visalia, CA.

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, each engine may be operated up to 50 hours per year for maintenance and testing purposes.

### **V. Equipment Listing**

**S-10023-1-0:** 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

**S-10023-2-0:** 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

**S-10023-3-0:** 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

**S-10023-4-0:** 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

### **VI. Emission Control Technology Evaluation**

The applicant has proposed to install four Tier 2 certified diesel-fired IC engines that are fired on very low-sulfur diesel fuel.

The proposed engines meets the latest Tier Certification requirements for emergency standby engines at the date of project completion; therefore, the engines meet the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix C for a copy of the emissions data sheet and/or the ARB/EPA executive order).

The use of CARB certified diesel fuel (0.0015% by weight sulfur maximum) reduces SO<sub>x</sub> emissions by over 99% from standard diesel fuel.

## VII. General Calculations

### A. Assumptions

Emergency operating schedule:	24 hours/day per engine
Non-emergency operating schedule:	50 hours/year per engine
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 <sub>10</sub> fraction of diesel exhaust:	0.96 (CARB, 1988)

### B. Emission Factors

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source <sup>1</sup>
NO <sub>x</sub>	3.77	Engine Manufacturer
SO <sub>x</sub>	0.0051	Mass Balance Equation Below
PM <sub>10</sub>	0.05	Engine Manufacturer
CO	0.60	Engine Manufacturer
VOC	0.08	Engine Manufacturer

$$\frac{0.000015 \text{ lb} - S}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb} - \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - SO_2}{1 \text{ lb} - S} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g} - SO_x}{\text{bhp} - \text{hr}}$$

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

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

#### 2. Post-Project Potential to Emit (PE2)

The daily and annual PE2 are calculated as follows:

<sup>1</sup> See emission data from engine manufacturer data in Appendix C.

$$\text{Daily PE2 (lb-pollutant/day)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \\ \times \text{operation (hr/day)} / 453.6 \text{ g/lb}$$

$$\text{Annual PE2 (lb-pollutant/yr)} = \text{EF (g-pollutant/bhp-hr)} \times \text{rating (bhp)} \\ \times \text{operation (hr/yr)} / 453.6 \text{ g/lb}$$

<b>Post Project Emissions (PE2) for Each Engine</b>						
<b>Pollutant</b>	<b>Emissions Factor (g/bhp-hr)</b>	<b>Rating (bhp)</b>	<b>Daily Hours of Operation (hrs/day)</b>	<b>Annual Hours of Operation (hrs/year)</b>	<b>Daily PE2 (lb/day)</b>	<b>Annual PE2 (lb/yr)</b>
NO <sub>x</sub>	3.77	900	24	50	<b>179.5</b>	<b>374</b>
SO <sub>x</sub>	0.0051	900	24	50	<b>0.2</b>	<b>1</b>
PM <sub>10</sub>	0.05	900	24	50	<b>2.4</b>	<b>5</b>
CO	0.60	900	24	50	<b>28.6</b>	<b>60</b>
VOC	0.08	900	24	50	<b>3.8</b>	<b>8</b>

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATCs) or Permits to Operate (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.

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source. Therefore, the SSPE1 is equal to zero.

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

Pursuant to District Rule 2201, the Post-Project Stationary Source Potential to Emit (SSPE2) is the PE from all units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, 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.

For this project the change in emissions for the facility is due to the installation of four new emergency standby IC engines. Thus:

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-10023-1-0	374	1	5	60	8
S-10023-2-0	374	1	5	60	8
S-10023-3-0	374	1	5	60	8
S-10023-4-0	374	1	5	60	8
<b>SSPE2</b>	<b>1,496</b>	<b>4</b>	<b>20</b>	<b>240</b>	<b>32</b>

## 5. Major Source Determination

### Rule 2201 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. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
SSPE1	0	0	0	0	0	0
SSPE2	1,496	4	20	20	240	32
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

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

**Rule 2410 Major Source Determination:**

The facility is not an existing Major Source for PSD for at least one pollutant. Therefore the facility is not an existing Major Source for PSD.

**6. Baseline Emissions (BE)**

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 District Rule 2201

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

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

**8. Federal Major Modification**

District Rule 2201 states that a Federal Major Modification is the same as a "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.

**9. Rule 2410 - Prevention of Significant Deterioration (PSD) Applicability Determination**

The project potential to emit, by itself, will not exceed any PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

## **10. 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 Appendix E.

## **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<sup>2</sup>:

- 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 an SB288 Major Modification or a Federal Major Modification, as defined by the rule.

As discussed in Section I, the facility is proposing to install a new emergency standby IC engine. Additionally, as determined in Sections VII.C.7 and VII.C.8, this project does not result in an SB288 Major Modification or a Federal Major Modification, respectively. Therefore, BACT can only be triggered if the daily emissions exceed 2.0 lb/day for any pollutant.

The daily emissions from the new engine are compared to the BACT threshold levels in the following table:

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<sup>2</sup> 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.



<b>New Emissions Unit BACT Applicability</b>				
<b>Pollutant</b>	<b>Daily Emissions for the new unit (lb/day)</b>	<b>BACT Threshold (lb/day)</b>	<b>SSPE2 (lb/yr)</b>	<b>BACT Triggered?</b>
NO <sub>x</sub>	179.5	> 2.0	n/a	Yes
SO <sub>x</sub>	0.2	> 2.0	n/a	No
PM <sub>10</sub>	2.4	> 2.0	n/a	Yes
CO	28.6	> 2.0 and SSPE2 ≥ 200,000 lb/yr	240	No
VOC	3.8	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO<sub>x</sub>, PM<sub>10</sub>, and VOC emissions from the engine for this project.

## 2. BACT Guideline

BACT Guideline 3.1.1, which appears in Appendix B of this report, covers diesel-fired emergency IC engines.

## 3. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, “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 for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis.”

Pursuant to the attached top down BACT Analysis, which appears in Appendix B of this report, BACT is satisfied with:

- NO<sub>x</sub>: Latest Available Tier Certification level for applicable horsepower
- VOC: Latest Available Tier Certification level for applicable horsepower
- PM<sub>10</sub>: 0.15 g/bhp-hr

The facility has proposed to install four 900 bhp Tier 2 certified IC engine (with a PM<sub>10</sub> emissions rate of 0.05 g/bhp-hr). Therefore, BACT is satisfied for NO<sub>x</sub>, VOC, and PM<sub>10</sub>.

## B. Offsets

### 1. Offset Applicability

Pursuant to Section 4.6.2 of this rule, offsets are not required for emergency IC engines. The engine in this project is an emergency IC engine; therefore, this exemption is applicable to this project.

However, even when there is an applicable exemption, the SSPE2 values are compared to the offset threshold to determine if offsets are triggered. In its PAS database, the District keeps track of facilities where offsets are triggered but an exemption applies. The SSPE2 values are compared to the offset trigger thresholds in the following table:

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	1,496	4	20	240	32
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	No

### 2. Quantity of Offsets Required

As shown in the table above, no offset thresholds are exceeded with this project. Further, as previously stated, the offset exemption from Section 4.6.2 of District Rule 2201 is applicable to this project; therefore, offset calculations are not necessary and offsets are not required.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

a. New Major Sources, SB288 Major Modifications, and Federal Major Modifications

As shown in Sections VII.C.5, VII.C.7, and VII.C.8, this facility is not a new Major Source, not an SB 288 Major Modification, and not a Federal Major Modification, respectively.

- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant

As calculated in Section VII.C.2, daily emissions for NO<sub>x</sub> emissions for each engine are greater than 100 lb/day.

- c. Any project which results in the offset thresholds being surpassed

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	0	1,496	20,000 lb/year	No
SO <sub>x</sub>	0	4	54,750 lb/year	No
PM <sub>10</sub>	0	20	29,200 lb/year	No
CO	0	240	200,000 lb/year	No
VOC	0	32	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.

- d. Any project with a Stationary Source Project Increase in Permitted Emissions (SSIPE) greater than 20,000 lb/year for any pollutant

For this project, the proposed engines are the only emissions units that will generate an increase in Potential to Emit. Since the proposed engine emissions are well below 20,000 lb/year for all pollutants (See Section VII.C.2), the SSIPE for this project will be below the public notice threshold.

- e. Any project which results in a Title V significant permit modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant Modification, and therefore public noticing is not required.

## 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 electronically published on the District's website prior to the issuance of the ATC for this equipment.

#### **D. Daily Emissions Limits**

Daily Emissions Limitations (DELS) and other enforceable conditions are required by Rule 2201 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 contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. Therefore, the following conditions will be listed on the ATC as a mechanism to ensure compliance:

- {4771} Emissions from this IC engine shall not exceed any of the following limits: 3.77 g-NOx/bhp-hr, 0.60 g-CO/bhp-hr, or 0.08 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
- {4772} Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
- {4258} 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]

#### **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 District Rule 2201.

##### **2. Monitoring**

No monitoring is required to demonstrate compliance with District 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 District Rule 2201.

## **F. Ambient Air Quality Analysis (AAQA)**

An AAQA shall 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 District's Technical Services Division conducted the required analysis. Refer to Appendix D of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

The proposed location is in a non-attainment area for the state's PM<sub>10</sub> as well as federal and state PM<sub>2.5</sub> thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM<sub>10</sub> and PM<sub>2.5</sub>.

### **Rule 2410 Prevention of Significant Deterioration**

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

### **Rule 2520 Federally Mandated Operating Permits**

Since this facility's potential to emit does 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)**

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

The District has not been delegated the authority to implement Subpart IIII requirements for non-Major Sources; therefore, no requirements shall be included on the permit.

### **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)**

The District has not been delegated the authority to implement NESHAP regulations for Area Source requirements for non-Major Sources; therefore, no requirements shall be included on the permit.

### **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. Therefore, the following condition will be listed on each ATC as a mechanism 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. Therefore, the following condition will be listed on each ATC as a mechanism 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 one. According to the Technical Services Memo for this project (Appendix D), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

<b>RMR Summary</b>						
<b>Categories</b>	<b>Emergency IC Engine (Unit #1-0)</b>	<b>Emergency IC Engine (Unit #2-0)</b>	<b>Emergency IC Engine (Unit #3-0)</b>	<b>Emergency IC Engine (Unit #4-0)</b>	<b>Project Totals</b>	<b>Facility Totals</b>
<b>Prioritization Score</b>	0.46	0.46	0.46	0.46	1.85	> 1
<b>Acute Hazard Index</b>	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	0.0
<b>Chronic Hazard Index</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Maximum Individual Cancer Risk</b>	9.32E-08	9.47E-08	9.66E-08	9.88E-09	3.83E-07	3.83E-07
<b>T-BACT Required?</b>	No	No	No	No		
<b>Special Permit Conditions?</b>	Yes	Yes	Yes	Yes		

Notes:

- (1) Acute and chronic hazard indices were not calculated for Units 1, 2, 3 and 4, since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

### **Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the Technical Services Memo in Appendix D of this report, the emissions increases for this project were determined to be less than significant.

The following conditions will be listed on each ATCs as a mechanism to ensure compliance with the RMR:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

- {4772} Emissions from this IC engine shall not exceed 0.05 g-PM<sub>10</sub>/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]
- {4920} 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, 4102, and 4702, and 17 CCR 93115]

### 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 PM<sub>10</sub> emission factor of 0.4 g-PM<sub>10</sub>/bhp-hr.

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

The new engines have a PM<sub>10</sub> emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on each ATC as a mechanism to ensure compliance:

- {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 nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion 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 engines are also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements for emergency engines, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

### Rule 4702 Internal Combustion Engines

Emergency standby engines are subject to District Rule 4702 requirements. Emergency standby engines are defined in Section 3.0 of District Rule 4702 as follows:



*3.15 Emergency Standby Engine: an internal combustion engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the operator. An engine shall be considered to be an emergency standby engine if it is used only for the following purposes: (1) periodic maintenance, periodic readiness testing, or readiness testing during and after repair work; (2) unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and (3) if it is limited to operate 100 hours or less per calendar year for non-emergency purposes. An engine shall not be considered to be an emergency standby engine if it is used: (1) to reduce the demand for electrical power when normal electrical power line service has not failed, or (2) to ~~produce~~produce power for the utility electrical distribution system, or (3) in conjunction with a voluntary utility demand reduction program or interruptible power contract.*

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:

- {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 and 17 CCR 93115]
- {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 and 17 CCR 93115]

The 100 hour requirement is less stringent than the Air Toxic Control Measure operating limitations for emergency standby engines. Therefore, compliance with the applicable Air Toxic Control Measure requirements ensures compliance with the 100 hour requirement.

Operation of emergency standby engines are limited to 100 hours or less per calendar year for non-emergency purposes. The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine's maintenance and testing to 50 hours/year; therefore, compliance is expected. The following condition will be included on each ATC:

- {4920} 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, 4102, and 4702, and 17 CCR 93115]

The following exemption in Section 4.2 of District Rule 4702 applies to emergency standby engines:

*4.2 Except for the requirements of Section 5.9 and Section 6.2.3, the requirements of this rule shall not apply to:*

*4.2.1 An emergency standby engine as defined in Section 3.0 of this rule, and provided that it is operated with a nonresettable elapsed operating time meter. In lieu of a nonresettable time meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.*

Pursuant to the exemption in Section 4.2, the following requirements of Section 5.9 are applicable to emergency standby engines

Section 5.9 requires the owner to:

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

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

*5.9.4 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 Permit-Exempt 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.*

Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier. The following condition will be included on the permits:

- {4261} 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]

Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier. The following condition will be included on the permits:

- {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]

Install and operate a nonresettable elapsed time meter. In lieu of installing a nonresettable elapsed time meter, the operator may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and EPA and is allowed by Permit-to-Operate condition. The operator shall properly maintain and operate the nonresettable elapsed time meter or alternative device in accordance with the manufacturer's instructions. The following condition will be included on the permits:

- {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]

The exemption in Rule 4702 Section 4.2 for emergency standby engines requires the engines to comply with Section 6.2.3, shown below.

*6.2.3 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 provided to the APCO upon request. The records shall include, but are not limited to, the following:*

*6.2.3.1 Total hours of operation,*

*6.2.3.2 The type of fuel used,*

*6.2.3.3 The purpose for operating the engine,*

*6.2.3.4 For emergency standby engines, all hours of non-emergency and emergency operation shall be reported, and*

*6.2.3.5 Other support documentation necessary to demonstrate claim to the exemption.*

Records of the total hours of operation, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and other 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. The following conditions will be included on the permits:

- {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]
- {4263} 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]

Therefore, compliance with this rule is expected.

### Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO<sub>2</sub>) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = (n \times R \times T) \div P$$

n = moles SO<sub>2</sub>

T (standard temperature) = 60 °F or 520 °R

$$R (\text{universal gas constant}) = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$$

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} - \text{ft}^3}{\text{lb} - \text{mol} - \text{°R}} \times \frac{520 \text{ °R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, the engines are expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATCs as a mechanism to ensure compliance:

- {4258} 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]

**California Health & Safety Code 42301.6 (School Notice)**

The District has verified that this engine 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 requirements apply to new engines (those installed after 1/1/05):

<p><b>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</b></p>	<p><b>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</b></p>
<p>Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.</p>	<p>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, is included on each permit.</p> <ul style="list-style-type: none"> <li>• {4258} 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]</li> </ul>
<p>The engine(s) must meet the emission standards in Table 1 of the ATCM for the specific power rating and model year of the proposed engine.</p>	<p>The applicant has proposed the use of engines that are certified to the latest EPA Tier Certification standards for the applicable horsepower range, guaranteeing compliance with the emission standards of the ATCM. 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 unless the PM emissions are <math>\leq</math> 0.01 g/bhp-hr, then the engine is allowed 100 hours per year. Emissions from this engine are certified at 0.05 g/bhp-hr, therefore the engine is allowed 50 hours.</p>	<p>The following conditions will be included on each permit:</p> <ul style="list-style-type: none"> <li>• {4772} Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]</li> <li>• {4920} 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, 4102, and 4702, and 17 CCR 93115]</li> </ul>

<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>A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation, or by no later than January 1, 2005, on all engines subject to all or part of the requirements of sections 93115.6, 93115.7, or 93115.8(a) unless the District determines on a case-by-case basis that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.</p>	<p>The following condition will be included on each permit:</p> <ul style="list-style-type: none"> <li>• {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]</li> </ul>
<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>The following condition will be included on each permit:</p> <ul style="list-style-type: none"> <li>• {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]</li> </ul>

### 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 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.

### **Indemnification Agreement/Letter of Credit Determination**

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

As described above, the project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement or a Letter of Credit will not be required for this project in the absence of expressed public concern.

### **IX. Recommendation**

Pending a successful NSR public noticing period, issue Authorities to Construct S-10023-1-0 through '4-0 subject to the permit conditions on the attached draft ATC in Appendix A.

**X. Billing Information**

<b>Billing Schedule</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Fee Amount</b>
S-10023-1-0	3020-10-E	900 bhp IC engine	\$723
S-10023-2-0	3020-10-E	900 bhp IC engine	\$723
S-10023-3-0	3020-10-E	900 bhp IC engine	\$723
S-10023-4-0	3020-10-E	900 bhp IC engine	\$723

**Appendixes**

- A. Draft Authorities to Construct
- B. BACT Guideline and BACT Analysis
- C. Emissions Data Sheet
- D. Technical Services Memo - RMR and AAQA
- E. QNEC Calculations



Appendix A  
Draft Authorities to Construct

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-10023-1-0

**LEGAL OWNER OR OPERATOR:** CANAM VISALIA I, LLC  
**MAILING ADDRESS:** 9830 COLONNADE BLVD, STE 600  
SAN ANTONIO, TX 78230

**LOCATION:** 2045 NORTH PLAZA DRIVE  
VISALIA, CA 93291

**EQUIPMENT DESCRIPTION:**

900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

## CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {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]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {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]
5. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
6. {4258} 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]
7. Emissions from this IC engine shall not exceed any of the following limits: 3.77 g-NOx/bhp-hr, 0.60 g-CO/bhp-hr, or 0.08 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

S-10023-1-0 : Aug 25 2022 8:12AM -- RAMIREZH : Joint Inspection NOT Required

9. {4261} 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]
10. {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]
11. {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 and 17 CCR 93115]
12. {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 and 17 CCR 93115]
13. {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]
14. {4920} 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, 4102, and 4702, and 17 CCR 93115]
15. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. {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]

DRAFT

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-10023-2-0

**LEGAL OWNER OR OPERATOR:** CANAM VISALIA I, LLC  
**MAILING ADDRESS:** 9830 COLONNADE BLVD, STE 600  
SAN ANTONIO, TX 78230

**LOCATION:** 2045 NORTH PLAZA DRIVE  
VISALIA, CA 93291

**EQUIPMENT DESCRIPTION:**

900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

## CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {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]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {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]
5. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
6. {4258} 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]
7. Emissions from this IC engine shall not exceed any of the following limits: 3.77 g-NOx/bhp-hr, 0.60 g-CO/bhp-hr, or 0.08 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

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Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

S-10023-2-0 : Aug 25 2022 8:12AM -- RAMIREZH : Joint Inspection NOT Required

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15. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. {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]

DRAFT

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-10023-3-0

**LEGAL OWNER OR OPERATOR:** CANAM VISALIA I, LLC  
**MAILING ADDRESS:** 9830 COLONNADE BLVD, STE 600  
SAN ANTONIO, TX 78230

**LOCATION:** 2045 NORTH PLAZA DRIVE  
VISALIA, CA 93291

**EQUIPMENT DESCRIPTION:**

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2. {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]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {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]
5. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
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8. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

S-10023-3-0 : Aug 25 2022 8:12AM -- RAMIREZH : Joint Inspection NOT Required

9. {4261} 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]
10. {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]
11. {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 and 17 CCR 93115]
12. {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 and 17 CCR 93115]
13. {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]
14. {4920} 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, 4102, and 4702, and 17 CCR 93115]
15. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. {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]

DRAFT

*San Joaquin Valley  
Air Pollution Control District*

## AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-10023-4-0

**LEGAL OWNER OR OPERATOR:** CANAM VISALIA I, LLC  
**MAILING ADDRESS:** 9830 COLONNADE BLVD, STE 600  
SAN ANTONIO, TX 78230

**LOCATION:** 2045 NORTH PLAZA DRIVE  
VISALIA, CA 93291

**EQUIPMENT DESCRIPTION:**

900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

## CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {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]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {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]
5. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
6. {4258} 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]
7. Emissions from this IC engine shall not exceed any of the following limits: 3.77 g-NOx/bhp-hr, 0.60 g-CO/bhp-hr, or 0.08 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.05 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

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.

Samir Sheikh, Executive Director / APCO

**Brian Clements, Director of Permit Services**

S-10023-4-0 : Aug 25 2022 8:12AM -- RAMIREZH : Joint Inspection NOT Required



9. {4261} 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]
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11. {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 and 17 CCR 93115]
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14. {4920} 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, 4102, and 4702, and 17 CCR 93115]
15. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. {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]

DRAFT

Appendix B  
BACT Guideline and BACT Analysis

# San Joaquin Valley Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 3.1.1**  
**Last Update: 6/13/2019**  
**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/bhp-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

This application was deemed complete on April 29, 2022. Therefore, BACT Guideline 3.1.1 (June 13, 2019) was in effect at the time the project was deemed complete and will be used for this emergency diesel IC engine. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

### 1. BACT Analysis for NOx 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 steps were taken:

- Conduct a survey of all the emergency IC engines permitted in the District to determine the latest EPA Tier certification level that has been permitted for the proposed engine size
- Conduct a survey of the major IC engine manufacturers/genset vendors to determine the latest EPA Tier certification level that is readily available for the proposed engine size and use
- Review Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines to determine the latest Tier certification level required in California for the proposed engine size

#### Survey of Permitted Units:

Each of the proposed emergency IC engines in this project are rated at 900 bhp. Based on the latest survey of all permitted emergency IC engines powering electrical generators in the horsepower range applicable to the proposed unit, the District found that the Tier 4 Final certification level is the highest certification level that has been permitted for an IC engine of the size associated with the proposed project. The District currently has at least twenty four existing Tier 4 Final and numerous Tier 3 diesel-fired IC engines permitted for emergency standby use with a rating greater than 750 bhp.

#### Survey of IC Engine Manufacturers/Genset Vendors:

Although a Tier 4F engine would typically be required as the latest available option for BACT, in this case it was determined that no Tier 4F engines were available in the required power range at the time the application was submitted. The applicant has submitted documentation from its vendor about the lack of availability of Tier 4F engines

for this power range. Therefore, upon District approval, the Tier 2 rated unit will be accepted as latest best available control option for emissions.

Stationary IC Engine Airborne Toxic Control Measure (ATCM):

Title 17 CCR, Section 93115.6(a)(3)(A) of the CARB Stationary IC Engine Airborne Toxic Control Measure (ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission level in Table 1 (below). Please note that these emission requirements are at least as stringent or more stringent than the emission requirements in 40 CFR Subpart IIII.

<b>Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled IC Engines g/bhp-hr</b>					
<b>Maximum Engine Power</b>	<b>Tier</b>	<b>Model Year</b>	<b>PM</b>	<b>NMHC + NOx</b>	<b>CO</b>
HP ≥ 750	2	2008+	0.15	4.8	2.6

For IC engines rated greater than 750 hp, Tier 2 is required.

Summary:

Based on the above analysis, the District finds that a Tier 2 emergency IC engine/generator with a rating of approximately 900 bhp to be the latest available Tier certification level for the proposed engine size. Furthermore, a Tier 2 certification level satisfies the stationary ATCM requirement for emergency standby IC engines rated greater than 750 bhp.

**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**

Ranking is not necessary since 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 NOx and VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

## **2. BACT Analysis for PM<sub>10</sub> Emissions:**

### **a. Step 1 - Identify all control technologies**

BACT Guideline 3.1.1 identifies only the following option:

- *0.15 g/bhp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)*

The latest EPA Tier Certification level for an engine of the proposed model year and horsepower rating is Tier 2. Refer to the Top-Down BACT analysis for NO<sub>x</sub> for a discussion regarding the determination of the EPA Tier level to be considered.

Please note the proposed Tier 2 IC engine has a PM emission factor of 0.05 g/hp-hr. Additionally, the ATCM requires a PM emission standard of 0.15 g/hp-hr for all new emergency standby diesel IC engines.

Therefore, the proposed PM/PM<sub>10</sub> emission factor of 0.05 g/hp-hr meets BACT requirements, and also satisfies the stationary ATCM requirement for new emergency standby diesel IC engines.

### **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 PM<sub>10</sub> is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine that meets this requirement. Therefore, BACT will be satisfied.

Appendix C  
Emissions Data Sheet

# Cat® D600 GC Diesel Generator Sets



Standby: 60 Hz, 480V & 600V



Image shown might not reflect actual configuration.

Engine Model	Cat® C18 In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106 in <sup>3</sup> )
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

Standby	Performance Strategies
600 ekW, 750 kVA	EPA Certified for Stationary Emergency Application

## PACKAGE PERFORMANCE

Performance	Standby	
Frequency	60 Hz	
Genset Power Rating	750 kVA	
Gen set power rating with fan @ 0.8 power factor	600 ekW	
Emissions	EPA TIER 2	
Performance Number	DM8518	
<b>Fuel Consumption</b>		
100% load with fan	159.5 L/hr	42.1 gal/hr
75% load with fan	127.9 L/hr	33.8 gal/hr
50% load with fan	90.5 L/hr	23.9 gal/hr
25% load with fan	46.2 L/hr	12.2 gal/hr
<b>Cooling System<sup>1</sup></b>		
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water
Radiator air flow	803 m <sup>3</sup> /min	28357 cfm
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	61 L	16 gal
Total coolant capacity	82 L	22 gal
<b>Inlet Air</b>		
Combustion air inlet flow rate	47.8 m <sup>3</sup> /min	994.3 cfm
Maximum allowable combustion air inlet temperature	49°C	122°F
<b>Exhaust System</b>		
Exhaust stack gas temperature	534.6°C	994.3°F
Exhaust gas flow rate	135.5 m <sup>3</sup> /min	4784.4 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
<b>Heat Rejection</b>		
Heat rejection to jacket water	180 kW	10236 Btu/min
Heat rejection to exhaust (total)	595 kW	33837 Btu/min
Heat rejection to aftercooler	141 kW	8019 Btu/min
Heat rejection to atmosphere from engine	77 kW	4379 Btu/min
Heat rejection from alternator	33 kW	1854 Btu/min

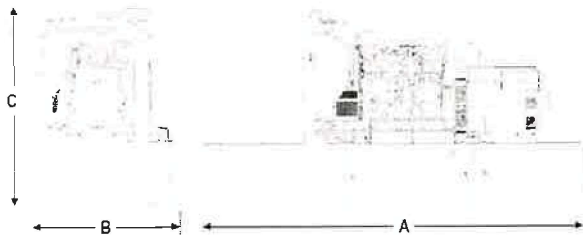


Emissions			EPA Engine Certification (2022) (g/bhp-hr)						
Model	Generator kW	HP	Family Name	HC	NOx	NMHC + NOx	CO	PM	
C18	600	900	NCPXL18.1NYS	0.08	3.77	3.88	0.60	0.05	

Alternator <sup>3</sup>		
Voltages	480V	600V
Motor starting capability @ 30% voltage dip	1551	1292
Current	902.1	721.7
Frame size	M3175L4	M3156L4
Excitation	PMG	AREP
Temperature rise	105°C	130°C

**Weights & Dimensions – Open Set**



**Fuel Tank Capacity**

Tank Design	Total Capacity		Usable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	4292	1133.8	3889	1027.3

Base	Dim A mm (in)	Dim B mm (in)	Dim C mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4980 (196.1)	1865 (73.4)	2009 (79.1)	4064 (8959.6)
<del>Integral Tank Base</del>	<del>4980 (196.1)</del>	<del>1865 (73.4)</del>	<del>2563 (100.9)</del>	<del>5283 (11647.0)</del>

**DEFINITIONS AND CONDITIONS**

<sup>1</sup> For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

**\*\*See attached mechanical drawings for overall dimensions/weight, etc\*\***

<sup>3</sup> UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

**APPLICABLE CODES AND STANDARDS:**

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

**STANDBY:** Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**RATINGS:** Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

[www.cat.com/electricpower](http://www.cat.com/electricpower)

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Materials and specifications are subject to change without notice.

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**LET'S DO THE WORK.™**

Appendix D  
Technical Services Memo – RMR and AAQA

# San Joaquin Valley Air Pollution Control District

## Risk Management Review and Ambient Air Quality Analysis

To: Homero Ramirez – Permit Services  
 From: Brant A Botill – Technical Services  
 Date: August 18, 2022  
 Facility Name: CANAM VISALIA I, LLC  
 Location: 2045 NORTH PLAZA DRIVE, VISALIA  
 Application #(s): S-10023-1-0, -2-0, -3-0, -4-0  
 Project #: S-1221482

### 1. Summary

#### 1.1 Risk Management Review (RMR)

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
1-0	0.46	N/A <sup>1</sup>	0.00	9.32E-08	No	Yes
2-0	0.46	N/A <sup>1</sup>	0.00	9.47E-08	No	Yes
3-0	0.46	N/A <sup>1</sup>	0.00	9.66E-08	No	Yes
4-0	0.46	N/A <sup>1</sup>	0.00	9.88E-08	No	Yes
<b>Project Totals</b>	1.85	N/A <sup>1</sup>	0.00	3.83E-07		
<b>Facility Totals</b>	>1	0.0	0.00	3.83E-07		

Notes:

- Acute and chronic hazard indices were not calculated for Units 1, 2, 3 and 4, since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

#### 1.2 Ambient Air Quality Analysis (AAQA)

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	N/A <sup>2</sup>		N/A <sup>2</sup>		
NO <sub>x</sub>	N/A <sup>2</sup>				Pass
SO <sub>x</sub>	N/A <sup>2</sup>	N/A <sup>2</sup>		N/A <sup>2</sup>	Pass
PM <sub>10</sub>				N/A <sup>2</sup>	Pass <sup>4</sup>
PM <sub>2.5</sub>				N/A <sup>2</sup>	Pass <sup>5</sup>
Ozone	N/A <sup>2</sup>		N/A <sup>2</sup>		

- Results were taken from the attached AAQA Report.
- The 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.
- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted.
- Modeled PM<sub>10</sub> concentrations were below the District SIL for non-fugitive sources of 1 µg/m<sup>3</sup> for the annual concentration.
- Modeled PM<sub>2.5</sub> concentrations were below the District SIL for non-fugitive sources of 0.2 µg/m<sup>3</sup> for the annual concentration.

### 1.3 Proposed Permit Requirements

#### Unit # 1-0, 2-0, 3-0, 4-0:

1. The PM<sub>10</sub> emissions rate shall not exceed 0.05 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
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.
3. The four engines shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engines for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year.

## 2. Project Description

Technical Services received a request on July 26, 2022 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -1-0: 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -2-0: 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -3-0: 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -4-0: 900 BHP (INTERMITTENT) CATERPILLAR MODEL C18 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

## 3. RMR Report

### 3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the units', the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required.

If a refined assessment is greater than one in a million but less than 20 in a million for carcinogenic impacts (cancer risk) and less than 1.0 for the acute and chronic hazard indices (non-carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For units that exceed a cancer risk of one in a million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Particulate matter (PM10) emissions for the proposed diesel internal combustion engine was provided by the Permit Engineer. Per OEHHA guidance, all diesel exhaust PM10 is evaluated as diesel particulate matter (CAS# 9901)).

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2007-2010 from Visalia (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<b>Source Process Rates</b>					
<b>Unit ID</b>	<b>Process ID</b>	<b>Process Material</b>	<b>Process Units</b>	<b>Hourly Process Rate</b>	<b>Annual Process Rate</b>
1-0	1	Diesel PM10	Lbs	0.1	5
2-0	1	Diesel PM10	Lbs	0.1	5
3-0	1	Diesel PM10	Lbs	0.1	5
4-0	1	Diesel PM10	Lbs	0.1	5

<b>Point Source Parameters</b>						
<b>Unit ID</b>	<b>Unit Description</b>	<b>Release Height (m)</b>	<b>Temp. (°K)</b>	<b>Exit Velocity (m/sec)</b>	<b>Stack Diameter (m)</b>	<b>Vertical/Horizontal/Capped</b>
1-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
2-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
3-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
4-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical

#### 4. AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis

proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO<sub>2</sub> standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

<b>Monitoring Stations</b>				
<b>Pollutant</b>	<b>Station Name</b>	<b>County</b>	<b>City</b>	<b>Measurement Year</b>
NOx	Visalia - N. Church	Tulare	Visalia	2018
PM10	Visalia - N. Church	Tulare	Visalia	2018
PM2.5	Visalia - N. Church	Tulare	Visalia	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

<b>Emission Rates (lbs/Hour)*</b>						
<b>Unit ID</b>	<b>Process</b>	<b>NOx</b>	<b>SOx</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>
1-0	1	N/A	N/A	N/A	N/A	N/A
2-0	1	N/A	N/A	N/A	N/A	N/A
3-0	1	N/A	N/A	N/A	N/A	N/A
4-0	1	N/A	N/A	N/A	N/A	N/A

\* The 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.

<b>Emission Rates (lbs/year)</b>						
<b>Unit ID</b>	<b>Process</b>	<b>NOx</b>	<b>SOx</b>	<b>CO</b>	<b>PM10</b>	<b>PM2.5</b>
1-0	1	374	1.00	60	5.00	5.00
2-0	1	374	1.00	60	5.00	5.00
3-0	1	374	1.00	60	5.00	5.00
4-0	1	374	1.00	60	5.00	5.00

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2007-2010 from Visalia (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
1-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
2-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
3-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical
4-0	900 BHP DICE	3.09	807	44.56	0.25	Vertical

## 5. Conclusion

### 5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project 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 requirements 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.

### 5.2 AAQA

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

## 6. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

# Appendix E

## QNEC Calculations



### 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:

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

QNEC for Each Engine		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO <sub>x</sub>	374	93.5
SO <sub>x</sub>	1	0.3
PM <sub>10</sub>	5	1.3
CO	60	15.0
VOC	8	2.0