

AUG 23 2019

George Snider  
CAPCO Taft 1, LLC  
800 Blackgold Ct., Bldg D  
Taft, CA 93268

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-8984**  
**Project Number: S-1191895**

Dear Mr. Snider:

Enclosed for your review and comment is the District's analysis of CAPCO Taft 1, LLC's application for an Authority to Construct for installing a full-time 691 bhp natural gas-fired IC engine, at 800 Blackgold Ct., Taft.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Ms. Youjin Kim of Permit Services at (209) 557-6454.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

AM:yk

Enclosures

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

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

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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
Natural Gas-Fired Full-Time IC Engine

Facility Name: CAPCO Taft 1, LLC. Date: August 20, 2019  
Mailing Address: 800 Blackgold Ct., Bldg D, Taft, CA 93268 . Engineer: Youjin Kim  
Lead Engineer: James Harader  
Contact Person: Ray Kapahi  
Telephone: (016) 806-8333  
Fax:  
E-Mail: ncmodorcontrol.ray@gmail.com  
Application #(s): S-8984-11-0  
Project #: S-1191895  
Deemed Complete: May 21, 219

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**I. Proposal**

Capco Taft 1, LLC is proposing to install a full-time a 691 bhp natural gas-fired internal combustion (IC) engine powering an electric generator. The generator will serve as the main power source for the facility, since the facility is not on attached to the electrical grid.

**II. Applicable Rules**

Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)  
Rule 2520 Federally Mandated Operating Permits (6/21/01)  
Rule 4001 New Source Performance Standards (4/14/99)  
Rule 4101 Visible Emissions (2/17/05)  
Rule 4102 Nuisance (12/17/92)  
Rule 4201 Particulate Matter Concentration (12/17/92)  
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)  
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (11/14/13)  
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 facility is located at 800 Blackgold Ct., Taft, CA 93268. 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 IC engine will be used to power an electrical generator that serves as the primary power source for the facility, full-time.

### V. Equipment Listing

S-8984-11-0: 691 BHP CATERPILLAR MODEL G3412 RICH-BURN NATURAL GAS-FIRED FULL-TIME IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION (NSCR) POWERING AN ELECTRICAL GENERATOR

### VI. Emission Control Technology Evaluation

The engine is equipped with:

- Positive Crankcase Ventilation (PCV) or 90% efficient control device
- Non-Selective Catalytic Reduction
- Air/Fuel Ratio or an O<sub>2</sub> Controller
- Lean Burn Technology

Non-Selective Catalytic Reduction (NSCR) decreases NO<sub>x</sub>, CO and VOC emissions by using a catalyst to promote the chemical reduction of NO<sub>x</sub> into N<sub>2</sub> and O<sub>2</sub>, and the chemical oxidation of VOC and CO into H<sub>2</sub>O and CO<sub>2</sub>.

The fuel/air ratio controller, (oxygen controller) is used in conjunction with the NSCR to maintain the amount of oxygen in the exhaust stream to optimize catalyst function.

### VII. General Calculations

#### A. Assumptions

Operating schedule:	24 hours/day and 365 days/year
EPA F-factor (adjusted to 60 °F):	8,578 dscf/MMBtu (40 CFR 60 Appendix B)
Fuel heating value:	1,000 Btu/dscf (District Policy APR-1720, dated 12/20/01)
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Sulfur concentration:	2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/01)
Thermal efficiency of engine:	commonly ≈ 35%
Catalyst control efficiencies:	90% for NO <sub>x</sub> , 80% for CO, and 50% for VOC ( <i>Update On Emissions - Form 960</i> , Second Edition, Waukesha Engine Division, Dresser Industries, October, 1991)

To streamline emission calculations, PM2.5 emissions are assumed to be equal to PM10 emissions. Only if needed to determine if a project is a Federal major modification for PM2.5 will specific PM2.5 emission calculations be performed.

### B. Emission Factors

For the new natural gas-fired IC engine, the emissions factors for NO<sub>x</sub>, CO, VOC, and PM<sub>10</sub> are provided by the applicant and are guaranteed by the engine manufacturer. The SO<sub>x</sub> emission factor (EF) is calculated using the sulfur content in the diesel fuel (0.0015% sulfur).

Natural Gas-Fired IC Engine Emission Factors			
Pollutant	ppmvd @15% O <sub>2</sub>	g/bhp-hr	Source
NO <sub>x</sub>	4.5	0.05	Applicant Proposal
*SO <sub>x</sub>	-	0.0094	Mass Balance Equation Below
PM <sub>10</sub>	-	0.04	Applicant Proposal
CO	-	2.00	Engine Manufacturer
VOC	13	0.05	Applicant Proposal

EF in g/bhp-hr of each pollutant in ppmvd values are calculated as follows:

$$\frac{\text{Pollutant in ppmvd} \times \frac{8,578 \text{ dscf}}{\text{MMBtu}} \times MW \text{ in } \frac{\text{lb}}{\text{lb-mol}} \times \frac{20.95}{20.95 - \%O_2} \times \frac{7,242 \text{ Btu}}{\text{bhp-hr}} \times \frac{453.6 \text{ g}}{\text{lb}} \times \frac{1}{10^6}}{10^6 \times \left(379.5 \frac{\text{dscf}}{\text{lb-mol}}\right)} = \frac{\text{EF in g-pollutant}}{\text{bhp-hr}}$$

\*SO<sub>x</sub> is calculated as follows:

$$0.00285 \frac{\text{lb-SO}_x}{\text{MMBtu}} \times \frac{1 \text{ MMBtu}}{1,000,000 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp-hr}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0094 \frac{\text{g-SO}_x}{\text{bhp-hr}}$$

### C. Calculations

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

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

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

The daily and annual PE are calculated as follows:

Daily Post Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE2Total (lb/day)
NO <sub>x</sub>	0.05	691	24	453.6	1.8
SO <sub>x</sub>	0.0094	691	24	453.6	0.3
PM <sub>10</sub>	0.04	691	24	453.6	1.5
CO	2.00	691	24	453.6	73.1
VOC	0.05	691	24	453.6	1.8

Annual Post Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE2 Total (lb/yr)
NO <sub>x</sub>	0.05	691	8,760	453.6	667
SO <sub>x</sub>	0.0094	691	8,760	453.6	125
PM <sub>10</sub>	0.04	691	8,760	453.6	534
CO	2.00	691	8,760	453.6	26,689
VOC	0.05	691	8,760	453.6	667

## 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 (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 (AER) that have occurred at the source, and which have not been used on-site.

SSPE1 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-8984-1	0	0	0	0	512
S-8984-2	0	0	0	0	110
S-8984-3	0	0	0	0	110
S-8984-5	0	0	0	0	876
S-8984-6	17	1	13	5	10
S-8984-7	612	80	72	3,330	1,071
S-8984-9	0	0	0	0	183
S-8984-10	23	0	1	43	5
<b>SSPE1</b>	<b>652</b>	<b>81</b>	<b>86</b>	<b>3,378</b>	<b>2,877</b>

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

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

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-8984-1	0	0	0	0	512
S-8984-2	0	0	0	0	110
S-8984-3	0	0	0	0	110
S-8984-5	0	0	0	0	876
S-8984-6	17	1	13	5	10
S-8984-7	612	80	72	3,330	1,071
S-8984-9	0	0	0	0	183
S-8984-10	23	0	1	43	5
ATC S-8984-11-0	667	125	534	26,689	667
<b>SSPE2</b>	<b>1,319</b>	<b>206</b>	<b>620</b>	<b>30,067</b>	<b>3,544</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	652	81	86	86	3,378	2,877
SSPE2	1,319	206	620	620	30,067	3,544
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

As seen in the table, 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 or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO <sub>2</sub>	SO <sub>2</sub>	PM	PM <sub>10</sub>	CO	VOC
Estimated Facility PE before Project Increase	0.3	0	0	0	1.7	1.4
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	No	No	No	No	No

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

**6. Baseline Emissions (BE)**

The BE calculation (in lb/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 District Rule 2201, BE = PE1 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.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore BE = PE1.

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

## 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

Federal Major Modification is defined in Rule 2201. 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 Federal Major Modification.

## 9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>

### I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO <sub>2</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM	CO	VOC
Total PE from New and Modified Units	0.7	0.1	0.3	0.3	15	1.8
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No



As shown in the table, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis 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 C.

## VIII. Compliance Determination

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions\*:

- 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 Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

\*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

This engine is considered as new emissions unit and the daily emissions are compared to the BACT thresholds in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -11-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO <sub>x</sub>	1.8	> 2.0	N/A	No
SO <sub>x</sub>	0.3	> 2.0	N/A	No
PM <sub>10</sub>	1.5	> 2.0	N/A	No
CO	73.1	> 2.0 and SSPE2 ≥ 200,000 lb/yr	30,067	No
VOC	1.8	> 2.0	N/A	No

Therefore, BACT is not triggered for this project.

**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. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

**B. Offsets**

**1. Offset Applicability**

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	1,319	206	620	30,067	3,544
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 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. Applicability**

Pursuant to District Rule 2201, Section 5.4, public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification

**a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications**

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

**b. PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO <sub>x</sub>	1.8	100 lb/day	No
SO <sub>x</sub>	0.3	100 lb/day	No
PM <sub>10</sub>	1.5	100 lb/day	No
CO	73.1	100 lb/day	No
VOC	1.8	100 lb/day	No

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

**c. Offset Threshold**

Pursuant to District Rule 2201, Section 4.5.3, offset requirements shall be triggered on a pollutant-by-pollutant basis, unless exempted pursuant to Section 4.6, offsets shall be required if the post-project Stationary Source Potential to Emit (SSPE2) equals or exceeds specific threshold levels.

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>	652	1,319	20,000 lb/year	No
SO <sub>x</sub>	81	206	54,750 lb/year	No
PM <sub>10</sub>	86	620	29,200 lb/year	No
CO	3,378	30,067	200,000 lb/year	No
VOC	2,877	3,544	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. SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	1,319	652	667	20,000 lb/year	No
SO <sub>x</sub>	206	81	125	20,000 lb/year	No
PM <sub>10</sub>	620	86	534	20,000 lb/year	No
CO	30,067	3,378	26,689	20,000 lb/year	Yes
VOC	3,544	2,877	667	20,000 lb/year	No

As demonstrated above, the SSIPE CO was greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

**e. 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 discussed above, public noticing is required for this project for CO emissions in excess of 20,000 lb/year. 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)**

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. DELs are also required to enforce the applicability of BACT.

For this IC engine, the DELs are stated in the form of emission factors (g/hp-hr or lb/MMBtu), the maximum engine horsepower rating, and the maximum operational time of 24 hours per day.

#### **Proposed Rule 2201 (DEL) Conditions:**

- Emissions from this IC engine shall not exceed any of the following limits: 4.5 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> referenced as NO<sub>2</sub>, 13 ppmvd VOC @ 15% O<sub>2</sub>, 0.04 grams-PM<sub>10</sub>/bhp-hr, and 2.00 grams-CO/bhp-hr. [District Rules 2201, 4701, and 4702]
- This IC engine shall be fired on PUC quality natural gas only. [District Rule 2201]

#### **E. Compliance Assurance**

##### **1. Source Testing**

Since the requirements of Rule 4701 are more stringent than that of Rule 4702, the source testing requirements for Rule 4702 will be discussed for this project. Source testing (compliance testing) requirements are outlined in Section 6.3 of District Rule 4702.

Please note that per APR 1705, "units equipped with a catalyst must be tested for NO<sub>x</sub>, VOC, and CO (only pollutants controlled by the catalyst) upon initial start-up and annually thereafter." Therefore, the proposed equipment will be subject to an annual source testing requirement, rather than a 24-month source testing requirement.

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

The proposed engine is subject to Section 5.2 or Rule 4702, which covers spark ignited engines rated at greater than 50 brake horsepower (bhp) used in non-agricultural operation. Pursuant to District Rule 4702, Section 6.3.2, the engine shall demonstrate compliance in accordance with the test methods in Section 6.4 at least once every 24 months. The applicant is proposing to monitor the NO<sub>x</sub>, CO and O<sub>2</sub> concentrations from this engine using a District approved portable analyzer. In accordance with District Policy SSP 1810 (Emissions Monitoring for Rule 4701 and Rule 4702), the following conditions will be placed on the ATC and the PTO to assure compliance with the monitoring requirements:

- {3785} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable

emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

- {3786} If either the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]
- {3787} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
- {3788} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
- The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701 and 4702]

### **3. Recordkeeping**

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

- The permittee shall maintain records, on a monthly basis, that contain the following information: (1) total hours of operation; (2) type of fuel used; (3) maintenance or modifications performed; (4) monitoring data; and (5) compliance source test results. [District Rules 4701 and 4702]
- {1958} All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

#### **4. Reporting**

No reporting is required.

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

Section 4.14 of District Rule 2201 requires that an 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 District's Technical Services Division conducted the required analysis. Refer to Appendix B 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>.

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

##### Unit # 11-0

1. 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.

#### **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 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)**

### **40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignited Internal Combustion Engines**

The District has not been delegated the authority to enforce this subpart 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 enforce this subpart 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 the ATC 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 the ATC 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 B), 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.



The cancer risk for this project is shown below:

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 11-0 691 bhp NG ICE	7.01	0.028	0.00	1.54E-07	No	Yes
<b>Project Totals</b>	7.01	0.028	0.00	1.54E-07		
<b>Facility Totals</b>	>1	6.17E-01	2.00E-02	1.12E-06		

### Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

#### Unit # 11-0

1. 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.

#### **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 HRA Summary in Appendix B of this report, the emissions increases for this project was determined to be less than significant.

#### **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:

$$0.04 \frac{g - PM_{10}}{bhp - hr} \times \frac{1 bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.01 \frac{grain - PM}{dscf}$$

Since 0.01 grain-PM/dscf is  $\leq$  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 Internal Combustion Engines – Phase 1**

Rule 4702 is at least as stringent as this rule in all aspects; therefore, compliance with Rule 4702 will ensure compliance with Rule 4701.

**Rule 4702 Internal Combustion Engines – Phase 2**

Since the proposed engine is subject to Section 5.2 of this rule as a rich-burn, spark-ignited internal combustion engine rated at >bhp used exclusive in non-agricultural operation, the engine needs to stay within the emission limits as shown in the table.

Table 2 Emission Limits for a Spark-Ignited Internal Combustion Engine Rated at >50 bhp Used Exclusively in Non-AO (All ppmv limits are corrected to 15% oxygen on a dry basis). Emission Limits are effective according to the compliance schedule specified in Section 7.5.			
Engine Type	NOx Limit (ppmv)	CO Limit (ppmv)	VOC Limit (ppmv)
<b>1. Rich-Burn</b>			
a. Waste Gas Fueled	50	2000	250
b. Cyclic Loaded, Field Gas Fueled	50	2000	250
c. Limited Use	25	2000	250
d. Rich-Burn Engine, not listed above	11	2000	250
<b>2. Lean-Burn Engines</b>			
a. Two-Stroke, Gaseous Fueled, >50 bhp and < 100 bhp	75	2000	750
b. Limited Use	65	2000	750
c. Lean-Burn Engine used for gas compression	65 ppmv or 93% reduction	2000	750
d. Waste Gas Fueled	65 ppmv or 90% reduction	2000	750
e. Lean-Burn Engine, not listed above	11	2000	750

The applicant has proposed the NOx emission limit of 4.5 ppmvd @15% O<sub>2</sub>, VOC emission limit of 13 ppmvd @15% O<sub>2</sub>, and CO emission factor of 2.0 g/bhp-hr. Rearranging the equation in Section VIII.B, the CO emission factor of 2.0 g/bhp-hr is equivalent to 273 ppmvd, which is less than the rule limit of 2,000 ppmvd. Therefore, the proposed engine is in compliance with the emissions limits of this section.

Section 5.7 and 5.10 limit the sulfur emissions from this engine. Therefore, the following condition will be listed on the permit to ensure compliance:

- {2964} The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201]

Section 5.8 discusses the monitoring requirements of the engine. The following conditions will be listed on the permit to ensure compliance:

- This engine shall be equipped with an operational non-selective catalyst installed on the exhaust stack. [District Rule 2201]
- {3404} This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
- {3202} This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
- {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
- {3789} Source testing to measure natural gas-combustion NO<sub>x</sub>, CO, and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rule 4702]

Please note that per APR 1705, "units equipped with a catalyst must be tested for NO<sub>x</sub>, VOC, and CO (only pollutants controlled by the catalyst) upon initial start-up and annually thereafter." Therefore, the proposed equipment will be subject to an annual source testing requirement, rather than a 24-month source testing requirement.

- Source testing to measure natural gas-combustion NO<sub>x</sub>, CO, and VOC emissions from this unit shall be conducted not less than once every 12 months. [District Rule 4702]
- {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
- {3792} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO<sub>x</sub>, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

- {3793} The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
- {3785} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]
- {3786} If either the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]
- {3787} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
- {3788} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]

Section 6.2 requires the records to be kept for the engine operation.

- {2964} The permittee shall maintain records, on a monthly basis, that contain the following information: (1) total hours of operation; (2) type of fuel used; (3) maintenance

or modifications performed; (4) monitoring data; and (5) compliance source test results. [District Rules 4701 and 4702]

- {1958} All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

Section 6.3 requires the engine to be compliance tested – or in other words, source tested.

The PM10 emission factor of 0.04 g/bhp-hr was proposed for this project. The proposed emission factor corresponds with the PM10 emission factors for similar engines that were source tested within the District. Therefore, no source testing condition will be added for PM10.

Other source testing requirements were discussed for Rule 2201 and earlier in this section. Therefore, no further discussion is needed.

Section 6.4 outlines the acceptable test methods for each pollutant. Therefore, the following condition will be added to the permit:

- {3793} The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

Section 6.5 discusses the necessity of Inspection and Monitoring (I&M) plan. I&M plan requirements are designed for existing engines. Since this is a new engine, I&M plan will be satisfied with the submission of an I&M plan by the facility to the District. Since the proposed engine does not fall under the engine categories specified in Section 6.5.1, the rest of the requirements of I&M Plan does not apply to the proposed engine.

- This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
- {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
- The facility shall maintain a copy of the District-approved Inspection and Monitoring (I&M) plan on site. [District Rule 1070]

Section 7.5 outlines the compliance schedule for non-agricultural spark-ignited engines at a stationary source. Since a new engine has been proposed by the facility, the engine is expected to comply with the requirements of this section.

### 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

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

$$2.85 \frac{\text{lb-S}}{\text{MMscf-gas}} \times \frac{1 \text{ scf-gas}}{1,000 \text{ Btu}} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}} \times \frac{1 \text{ lb-mol}}{64 \text{ lb-S}} \times \frac{10.73 \text{ psi-ft}^3}{\text{lb-mol-°R}} \times \frac{520 \text{ °R}}{14.7 \text{ psi}} \times 1,000,000 = 1.97 \text{ ppmv}$$

Since 1.97 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:

- This IC engine shall be fired on Public Utility Commission (PUC) quality natural gas only. [District Rules 2201 and 4801]

### 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)

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 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; and

- 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.

### **Greenhouse Gas (GHG) Significance Determination**

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

### **District CEQA Findings**

The proposed project is located in Kern County and is thus subject to the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. The Kern County Zoning Ordinance was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their *Kern County Zoning Ordinance* in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. The District also prepared a full findings document. The full findings document, *California Environmental Quality Act (CEQA) Statement of Findings for the Kern County Zoning Ordinance EIR* contains the details of the District's findings regarding the Project. The District's implementation of the Kern Zoning Ordinance and its EIR applies to ATC applications received for any new/modified equipment used in oil/gas production in Kern County, including new wells.

The full findings applies to the Project and the Project's related activity equipment(s) is covered under the Kern Zoning Ordinance. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

**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.

The revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-8984-11-0 subject to the permit conditions on the attached draft ATC in **Appendix A**.

**X. Billing Information**

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-8984-11-0	3020-10-D	691 bhp full time rich burn natural gas fired IC engine	\$577



## **Appendixes**

- A: Draft ATC
- B: HRA and AAQA Summary
- C: Quarterly Net Emissions Change

**APPENDIX A**  
Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: S-8984-11-0

LEGAL OWNER OR OPERATOR: CAPCO TAFT 1, LLC  
MAILING ADDRESS: 800 BLACK GOLD CT  
TAFT, CA 93268

LOCATION: 800 BLACK GOLD CT  
TAFT, CA 93268

**EQUIPMENT DESCRIPTION:**

691 BHP CATERPILLAR MODEL G3412 RICH-BURN NATURAL GAS-FIRED FULL-TIME IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION (NSCR) 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. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {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]
4. This engine shall be equipped with an operational non-selective catalyst installed on the exhaust stack. [District Rule 2201]
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 1070]
6. {3796} This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. {3202} This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
8. This engine shall only be fired on PUC-quality natural gas. [District Rule 2201]
9. Emissions from this IC engine shall not exceed any of the following limits: 4.5 ppmvd NOx @ 15% O2 referenced as NO2, 13 ppmvd VOC @ 15% O2, 0.04 grams-PM10/bhp-hr PM10, and 2.00 grams-CO/bhp-hr. [District Rules 2201, 4701, and 4702]

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

Arnaud Marjolle, Director of Permit Services

S-8984-11-0 Aug 9 2019 10:56AM - NIMY Joint Inspection NOT Required

10. {3789} Source testing to measure natural gas-combustion NO<sub>x</sub>, CO, and VOC emissions from this unit shall be conducted within 60 days of initial start-up. [District Rule 4702]
11. Source testing to measure natural gas-combustion NO<sub>x</sub>, CO, and VOC emissions from this unit shall be conducted not less than once every 12 months. [District Rule 4702]
12. {3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]
13. {3792} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO<sub>x</sub>, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]
14. {3793} The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]
15. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
16. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
17. The permittee shall monitor and record the stack concentration of O<sub>2</sub> at least once every month and the stack concentration of NO<sub>x</sub> and O<sub>2</sub> at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. [District Rule 4701 and 4702]
18. {3786} If either the NO<sub>x</sub> or CO concentrations corrected to 15% O<sub>2</sub>, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702]
19. {3787} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]
20. {3788} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 15% O<sub>2</sub>, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702]
21. {3797} 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, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702]

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CONDITIONS CONTINUE ON NEXT PAGE

22. {3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]
23. {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]

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**APPENDIX B**  
HRA and AAQA Summary

**San Joaquin Valley Air Pollution Control District  
Risk Management Review  
Revised**

To: Youjin Kim – Permit Services  
 From: Georgia Stewart – Technical Services  
 Date: July 29, 2019  
 Facility Name: CAPCO Taft 1, LLC  
 Location: 800 Black Gold Court, Taft  
 Application #(s): S-8984-11-0  
 Project #: S-1191895

**A. RMR SUMMARY**

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 11-0 691 bhp NG ICE	7.01	0.028	0.00	1.54E-07	No	Yes
<b>Project Totals</b>	7.01	0.028	0.00	1.54E-07		
<b>Facility Totals</b>	>1	6.17E-01	2.00E-02	1.12E-06		

**Proposed Permit Requirements**

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

**Unit # 11-0**

1. 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.

**B. RMR REPORT**

**I. Project Description**

Technical Services received a revised request on May 31, 2019, to perform an Ambient Air Quality Analysis and a Risk Management Review for a full-time 691 bhp natural gas-fired internal combustion engine powering an electric generator. The generator will serve as the main power source for the facility, since the facility is not on the grid.

## II. Analysis

Toxic emissions for this proposed unit were calculated using 2000 AP42 emission factors for Natural Gas Fired internal combustion 4 Stroke Rich Burn Engine . (The use of a catalyst reduces TACs by 76% (NESHAP), and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The facility's prioritization score was greater than 1.0. Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Fellows 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>Analysis Parameters Unit 11-0</b>			
<b>Source Type</b>	Point	<b>Location Type</b>	Rural
<b>Stack Height (m)</b>	2.438	<b>Closest Receptor (m)</b>	220
<b>Stack Diameter. (m)</b>	0.25	<b>Type of Receptor</b>	Business
<b>Stack Exit Velocity (m/s)</b>	27.36	<b>Max Hours per Year</b>	8760
<b>Stack Exit Temp. (°K)</b>	785.78	<b>Fuel Type</b>	NG
<b>NG Emission Rates (MMscf/hr)</b>	0.005	<b>NG Emission Rates (MMscf/yr)</b>	43.9

Technical Services performed modeling for criteria pollutants CO, NO<sub>x</sub>, SO<sub>x</sub>, PM10 and PM2.5 with the emission rates below:

Unit #	NO <sub>x</sub> (Lbs.)		SO <sub>x</sub> (Lbs.)		CO (Lbs.)		PM <sub>10</sub> (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
11-0	0.076	667	0.014	68	3.047	26,689	0.061	534



The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Arvin-Di Giorgio (2016)	Pass	X	Pass	X	X
NO <sub>x</sub>	Bakersfield-CA (2016)	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Fresno – Garland (2016)	Pass	Pass	X	Pass	Pass
PM <sub>10</sub>	Bakersfield-CA (2016)	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>
PM <sub>2.5</sub>	Bakersfield Airport (Planz) 2016	X	X	X	Pass <sup>3</sup>	Pass <sup>2</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures..

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

<sup>3</sup>PM<sub>2.5</sub> (24 hours) passed after a refined modeling was performed.

### III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the 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).**

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.

### IV. Attachments

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

**APPENDIX C**  
Quarterly Net Emissions Change

**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.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly} = PE2_{annual} \div 4 \text{ quarters/year}$

This is a new emissions unit. Therefore,  $PE1_{quarterly} = 0$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	166.75	0	166.75
SO <sub>x</sub>	31.25	0	31.25
PM <sub>10</sub>	133.5	0	133.5
CO	6,672.25	0	6,672.25
VOC	166.75	0	166.75