



**JUN 14 2011**

Seth Hunter  
Hunter Edison Oil Development  
15545 Hermosa Road  
Bakersfield, CA 93307

**Re: Notice of Preliminary Decision - Authority to Construct  
Project Number: S-1110921**

Dear Mr. Hunter:

Enclosed for your review and comment is the District's analysis of Hunter Edison Oil Development's application for an Authority to Construct for a new transportable IC engine powering an electric generator, at various unspecified locations in the Central Kern County Fields Heavy Oil stationary source.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Torii of Permit Services at 661-392-5620.

Sincerely,

David Warner  
Director of Permit Services

DW:DBT/dg

Enclosures

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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

**Central Region (Main Office)**  
1890 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

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



JUN 14 2011

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

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1110921**

Dear Mr. Tollstrup:

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**JUN 14 2011**

Gerardo C. Rios (AIR 3)  
Chief, Permits Office  
Air Division  
U.S. E.P.A. - Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

**Re: Notice of Preliminary Decision - Authority to Construct  
Project Number: S-1110921**

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of Hunter Edison Oil Development's application for an Authority to Construct for a new transportable IC engine powering an electric generator, at various unspecified locations in the Central Kern County Fields Heavy Oil stationary source.

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

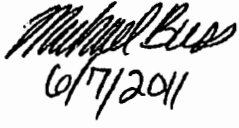
NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to Hunter Edison Oil Development for a new transportable IC engine powering an electric generator, at various unspecified locations in the Central Kern County Fields Heavy Oil stationary source.

The analysis of the regulatory basis for this proposed action, Project #S-1110921, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

Hunter Edison  
S-1329, 1110921

## San Joaquin Valley Air Pollution Control District Authority to Construct Application Review

Facility Name: Hunter Edison Oil Development  
Mailing Address: 15545 Hermosa Road  
Bakersfield, CA 93307  
Contact Person: Seth Hunter  
Telephone: 661-363-7240  
Fax: 661-366-2959  
E-Mail: [shunter@vaquero.com](mailto:shunter@vaquero.com)  
Application #(s): S-1329-25-1 and '32-0  
Project #: 1110921  
Deemed Complete: 4/12/11

Engineer: David Torii  
Lead Engineer: Mike Buss  
  
6/7/2011

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### I. Proposal

Hunter Edison Oil Development (Hunter) has requested an Authority to Construct (ATC) for a new transportable IC engine powering an electric generator. To mitigate the proposed engine's emission increase, IC engine permit S-1329-25's operating hours for will be reduced by 2505 hours/year.

|               |  |
|---------------|--|
| Rule 2201     | New and Modified Stationary Source Review Rule (12/18/08, effective 6/10/10) |
| Rule 2520     | Federally Mandated Operating Permits (6/21/01)                               |
| Rule 2530     | Federally Enforceable Potential To Emit (12/18/08)                           |
| Rule 4101     | Visible Emissions (2/17/05)  |
| Rule 4102     | Nuisance (12/17/92)  |
| Rule 4201     | Particulate Matter Concentration (12/17/92)                                  |
| Rule 4301     | Fuel Burning Equipment (12/17/92)  |
| Rule 4701     | Internal Combustion Engines – Phase 1 (8/21/03)                              |
| Rule 4702     | Internal Combustion Engines – Phase 2 (1/18/07)                              |
| Rule 4801     | Sulfur Compounds (12/17/92)  |
| CH&SC 41700   | Health Risk Assessment   |
| CH&SC 42301.6 | School Notice  |

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 is/will be located at various unspecified locations in Hunter's Heavy Oil Central stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Engine S-1329-32 will not be located within 100 meters of their property line. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

#### IV. Process Description

The proposed IC engine will power an electric generator which will provide electricity to existing operations at various locations within the facility.

#### V. Equipment Listing

##### Pre-Project Equipment Description (see PTO in Appendix B):

S-1329-25-0: 230 BHP DIESEL-FIRED TRANSPORTABLE IC ENGINE POWERING AN ELECTRICAL GENERATOR (VARIOUS LOCATIONS IN HEAVY OIL CENTRAL KERN COUNTY FIELDS)

##### Proposed ATCs:

S-1329-25-1: MODIFICATION OF 230 BHP DIESEL-FIRED TRANSPORTABLE IC ENGINE POWERING AN ELECTRICAL GENERATOR (VARIOUS LOCATIONS IN HEAVY OIL CENTRAL KERN COUNTY FIELDS): LIMIT ANNUAL OPERATION

S-1329-32-0: 163 HP FORD WSG1068T NATURAL GAS-FIRED IC ENGINE WITH NSCR POWERING AN ELECTRICAL GENERATOR APPROVED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS

##### Post Project Equipment Description:

S-1329-25-1: 230 BHP DIESEL-FIRED TRANSPORTABLE IC ENGINE POWERING AN ELECTRICAL GENERATOR

S-1329-32-0: 163 HP FORD WSG1068T NATURAL GAS-FIRED IC ENGINE WITH NSCR POWERING AN ELECTRICAL GENERATOR APPROVED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS

#### VI. Emission Control Technology Evaluation

The proposed engine will be equipped with Non-Selective Catalytic Reduction (NSCR). 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>. By maintaining the air-fuel ratio in the range of 0.987 and 0.992, the catalyst will reduce VOC and CO emissions by 90% and NO<sub>x</sub> emissions by 97.6%.

The proposed engine will be turbocharged. The turbocharger reduces the NO<sub>x</sub> emission rate from the engine by approximately 10% by increasing the efficiency and promoting more complete burning of the fuel.

#### VII. General Calculations

##### A. Assumptions

EPA F-factor (adj to 60 °F): 8,578 dscf/MMBtu (40 CFR 60 Appendix B)

Hunter Edison  
S-1329, 1110921

Fuel heating value: 1,000 Btu/dscf (District Policy APR-1720)  
 BHP to Btu/hr conversion: 2,542.5 Btu/bhp-hr  
 Sulfur concentration (S-1329-32-0): 1.0 grain S/100 scf (applicant)  
 Thermal efficiency of engine: commonly ≈ 30%  
 Operating schedule (S-1329-32-0): 24 hours/day and 8,760 hr/year  
 Operating schedule (S-1329-25-1): Pre-project = 24 hours/day and 8760 hr/year  
 Post-project = 24 hours/day and 6255 hr/year  
 S-1329-25's tier certification: Tier I

**B. Emission Factors**

| Emission Factors S-1329-25-1 |                            |                             |
|------------------------------|----------------------------|-----------------------------|
| Pollutant                    | Emission Factor (g/bhp-hr) | Source                      |
| NO <sub>x</sub>              | 5.4                        | Executive Order U-R-2-37    |
| SO <sub>x</sub>              | 0.0051                     | Mass Balance Equation Below |
| PM <sub>10</sub>             | 0.2                        | Executive Order U-R-2-37    |
| CO                           | 0.5                        | Executive Order U-R-2-37    |
| VOC                          | 0.3                        | Executive Order U-R-2-37    |

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

| Emission Factors S-1329-32-0 |                          |            |   |
|------------------------------|--------------------------|------------|---|
| Pollutant                    | Emission Factor          |            | Source                                      |
|                              | ppmv @15% O <sub>2</sub> | (g/bhp-hr) |   |
| NO <sub>x</sub>              | 5                        | 0.0719     | Applicant and BACT                          |
| SO <sub>x</sub>              |                          | 0.00285    | Mass Balance Equation (1.0 grain S/100 scf) |
| PM <sub>10</sub>             |                          | 0.02       | Applicant and BACT                          |
| CO                           | 250                      | 2.155      | Applicant                                   |
| VOC                          | 25                       | 0.121      | Applicant and BACT                          |

**C. Calculations**

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

Since S-1329-32-0 is a new emissions unit, its PE1 = 0 for all pollutants.

The potential to emit for S-1329-25-0 is calculated as follows, and summarized in the table below:

$$PE1 = (230 \text{ hp})(0.2 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(24 \text{ hours/day}) = 1.7 \text{ lb-PM}_{10}/\text{day}$$

$$PE1 = (230 \text{ hp})(0.2 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(8760 \text{ hours/year}) = 888 \text{ lb-PM}_{10}/\text{year}$$

| <b>Pre-Project Potential to Emit (PE1)</b><br><b>S-1329-25-0</b> |                             |                               |
|--|-----------------------------|-------------------------------|
|  | Daily Emissions<br>(lb/day) | Annual Emissions<br>(lb/year) |
| NO <sub>x</sub>  | 65.7                        | 23,986                        |
| SO <sub>x</sub>  | 0.0                         | 23                            |
| PM <sub>10</sub>   | 1.7                         | 888                           |
| CO   | 4.3                         | 2,221                         |
| VOC  | 2.6                         | 1,333                         |

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

The potential to emit for S-1329-25-1 is calculated as follows, and summarized in the table below:

$$PE2 = (230 \text{ hp})(0.2 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(24 \text{ hours/day}) = 1.7 \text{ lb-PM}_{10}/\text{day}$$

$$PE2 = (230 \text{ hp})(0.2 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(6255 \text{ hours/year}) = 634 \text{ lb-PM}_{10}/\text{year}$$

| <b>Post-Project Potential to Emit (PE2)</b><br><b>S-1329-25-1</b> |                             |                               |
|---|-----------------------------|-------------------------------|
|   | Daily Emissions<br>(lb/day) | Annual Emissions<br>(lb/year) |
| NO <sub>x</sub>   | 65.7                        | 17,127                        |
| SO <sub>x</sub>   | 0.0                         | 16                            |
| PM <sub>10</sub>  | 1.7                         | 634                           |
| CO  | 4.3                         | 1,586                         |
| VOC   | 2.6                         | 951                           |

The potential to emit for S-1329-32-0 is calculated as follows, and summarized in the table below:

$$PE2 = (163 \text{ hp})(0.02 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(24 \text{ hours/day}) = 0.2 \text{ lb-PM}_{10}/\text{day}$$

$$PE2 = (163 \text{ hp})(0.02 \text{ g-PM}_{10}/\text{hp-hr})(\text{lb}/453.6 \text{ g})(8760 \text{ hours/year}) = 63 \text{ lb-PM}_{10}/\text{year}$$

| <b>Post-Project Potential to Emit (PE2)</b><br><b>S-1329-32-0</b> |                             |                               |
|---|-----------------------------|-------------------------------|
|   | Daily Emissions<br>(lb/day) | Annual Emissions<br>(lb/year) |
| NO <sub>x</sub>   | 0.62                        | 226                           |
| SO <sub>x</sub>   | 0.0                         | 9                             |
| PM <sub>10</sub>  | 0.2                         | 63                            |
| CO  | 18.6                        | 6,784                         |
| VOC   | 1.0                         | 381                           |



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

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

| Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year) |                 |                 |                  |         |         |
|---|-----------------|-----------------|------------------|---------|---------|
| Permit Unit   | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | CO      | VOC     |
| Pre-Project SSPE (SSPE1)  | 73,573          | 2,773           | 8,404            | 189,884 | 615,181 |

See detailed SSPE report in Appendix C

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

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

| Post Project Stationary Source Potential to Emit [SSPE2] (lb/year) |                 |                 |                  |         |         |
|--|-----------------|-----------------|------------------|---------|---------|
| Permit Unit  | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | CO      | VOC     |
| Pre-Project SSPE (SSPE1)   | 73,573          | 2,773           | 8,404            | 189,884 | 615,181 |
| S-1329-25-0  | -23,986         | -23             | -888             | -2,221  | -1,333  |
| S-1329-25-1  | 17,127          | 16              | 634              | 1586    | 951     |
| S-1329-32-0  | 226             | 9               | 63               | 6784    | 381     |
| Post Project SSPE (SSPE2)  | 66,940          | 2,775           | 8,213            | 196,033 | 615,180 |

### 5. Major Source Determination

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

This source is an existing Major Source for NO<sub>x</sub> and VOC emissions and will remain so. No change in other pollutants are proposed or expected as a result of this project.

## 6. Baseline Emissions (BE)

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

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

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

otherwise,

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

### S-1329-25:

Pursuant to Rule 2201, Section 3.12, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

S-1329-25 is equipped with positive crankcase ventilation and has certified NOx emissions of 6.9 g/bhp-hr or less, which meets the requirements for achieved-in-practice BACT for VOC and NOx (see BACT guideline 3.2.4 in Appendix D). The facility is not a Major Source for CO, PM10 and SOx, therefore, their Baseline Emissions (BE) equal their Pre-Project Potential to Emit (PE1).

### S-1329-32-0:

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.*"

As discussed in Section VII.C.5 above, the facility is an existing Major Source for NOx, CO, and VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions unit(s) within this project do not have a total potential to emit which is greater than Major Modification thresholds (see table below). Therefore, the project cannot be a significant increase and the project does not constitute a SB 288 Major Modification.

| <b>SB 288 Major Modification Thresholds (Existing Major Source)</b> |                 |                 |                  |        |
|---|-----------------|-----------------|------------------|--------|
| <b>(lb/year)</b>  |                 |                 |                  |        |
| Permit Unit   | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | VOC    |
| S-1329-25-1   | 17,127          | 16              | 634              | 951    |
| S-1329-32-0   | 226             | 9               | 63               | 381    |
| Project PE  | 17,353          | 25              | 697              | 1332   |
| Threshold   | 50,000          | 80,000          | 30,000           | 50,000 |
| SB 288 Major Modification Calculation Required?                     | no              | no              | no               | no     |

## 8. Federal Major Modification

As discussed in Section VII.C.5 above, the facility is not a Major Source for SO<sub>x</sub>, and PM<sub>10</sub> emissions; therefore, the project does not constitute a Federal Major Modification for SO<sub>x</sub> and PM<sub>10</sub> emissions.

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. SB 288 Major Modifications are not Federal Major Modifications if they meet the criteria of the "Less-Than-Significant Emissions Increase" exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a Federal Major Modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a Federal Major Modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

| Pollutant        | Threshold (lb/year) |
|------------------|---------------------|
| VOC              | 0                   |
| NO <sub>x</sub>  | 0                   |
| PM <sub>10</sub> | NA                  |
| SO <sub>x</sub>  | NA                  |

The Net Emissions Increases (NEIs) for purposes of determination of a "Less-Than-Significant Emissions Increase" exclusion will be calculated below to determine if this project qualifies for such an exclusion.

Since this project consists of both existing and new emissions units, the "hybrid test" specified in 40 CFR 51.165 (a)(2)(ii)(F) is applicable and requires that the NEI determination be based on the sum of the individual NEI determinations for existing emissions units ( $NEI_E$ ) and new emissions units ( $NEI_N$ ) pursuant to 40 CFR(a)(2)(ii)(C) and (D) respectively.

$$NEI = NEI_E + NEI_N$$

Net Emission Decrease for Existing Units ( $NEI_E$ )

Per 40 CFR 51.165 (a)(1)(xxviii) and 40 CFR 51.165 (a)(2)(ii)(C) for all existing units,

$$NEI_E = PAE - BAE - \text{unused baseline capacity}$$

where,

BAE = Baseline Actual Emissions which are the actual emissions created by the project during the baseline period. The BAE are calculated pursuant to 40 CFR 51.165 (a)(1)(xxxv)(A) through (D).

PAE = Projected Actual Emissions which are the post-project projected actual emissions of the existing units in this project pursuant to 40 CFR 51.165 (a)(1)(xxviii).

The proposed modification to S-1329-25 does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate. Therefore the unused baseline capacity emissions (portion of PAE that unit could have accommodated) can also be excluded from the project Net Emissions Increase (NEI) calculation as follows:

$$NEI_E = PAE - BAE - \text{unused baseline capacity emissions}$$

The District has determined that the unit could have emitted PAE during the baseline period (when it emitted BAE) and therefore the unused baseline emissions are equal to  $PAE - BAE$  and  $NEI_E = 0$ . Therefore the modification to S-1329-25 is not a Federal Major Modification.

Net Emissions Increase for S-1329-32-0 ( $NEI_N$ )

Per 40 CFR 51.165 (a)(2)(ii)(D) for new emissions unit in this project,

$$NEI_N = PE_{2N} - BAE$$

BAE = 0 for the new emissions unit; therefore,

$$NEI_N = PE_{2N} - 0$$

$$= PE_{2N}$$

For NOx NEI<sub>N</sub> = 226 lb/year

For VOC NEI<sub>N</sub> = 381 lb/year

$$NEI = NEI_E + NEI_N$$

|                                     | lb/year |     |
|-------------------------------------|---------|-----|
|                                     | NOx     | VOC |
| NEI <sub>E</sub>                    | 0       | 0   |
| NEI <sub>N</sub>                    | 226     | 381 |
| NEI <sub>E</sub> + NEI <sub>N</sub> | 226     | 381 |
| Threshold                           | 0       | 0   |
| Federal Major Modification?         | Yes     | Yes |

As shown above this project is a Federal Major Modification.

### 9. Quarterly Net Emissions Change (QNEC)

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

## 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. Unless exempted pursuant to Section 4.2, 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 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.

\*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

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

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install a new natural-fired IC engine with a PE greater than 2 lb/day for CO. BACT is triggered for CO since its PE is greater than 2 lbs/day; however, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 of this document.

**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**

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

This project's modification to S-1329-25 does not result in a change in PE1 or PE2, or EF1 or EF2; therefore, the AIPEs = 0 and BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Section VII.C.7 above, this project does constitute a SB 288 and/or Federal Major Modification for NO<sub>x</sub> and VOC emissions; therefore BACT is triggered for NO<sub>x</sub> and VOC for all emissions units in the project for which there is an emission increase.

**2. BACT Guideline**

BACT Guideline 3.3.12 applies to the S-1329-32-0. [Fossil Fuel Fired IC Engine > 50 hp] (See Appendix E).

### 3. Top-Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analysis (see Appendix F), BACT has been satisfied with the following:

NOX: 5 ppmvd @ 15% O2  
VOC: 25 ppmvd @ 15% O2

### B. Offsets

#### 1. Offset Applicability

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

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

| Offset Determination (lb/year) |                 |                 |                  |         |         |
|--------------------------------|-----------------|-----------------|------------------|---------|---------|
|                                | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | CO      | VOC     |
| Post Project SSPE (SSPE2)      | 66,940          | 2,775           | 8,213            | 196,033 | 615,180 |
| Offset Threshold               | 20,000          | 54,750          | 29,200           | 200,000 | 20,000  |
| Offsets triggered?             | Yes             | No              | No               | No      | Yes     |

#### 2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for NO<sub>x</sub> and VOC and the SSPE2 is greater than the offset thresholds; therefore offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for NO<sub>x</sub> and VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) =  $(\sum[PE2 - BE] + ICCE) \times DOR$ , for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

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DOR = Distance Offset Ratio, determined pursuant to Section 4.8

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)

As calculated in Section VII.C.6 above, the Baseline Emissions (BE) from unit S-1329-25-1 are equal to the Pre-Project Potential to Emit (PE1) since the unit is a Clean Emissions Unit. Unit S-1329-32-0 is new; therefore its BE equals zero.

Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR}$$

| Offsets Required (lb/year) |     |                 |        |
|----------------------------|-----|-----------------|--------|
| Permit Unit                |     | NO <sub>x</sub> | VOC    |
| S-1329-25-0                | BE  | 23,986          | 1333   |
| S-1329-25-1                | PE2 | 17,127          | 951    |
| S-1329-32-0                | PE2 | 226             | 381    |
| PE2 - BE =                 |     | -6633 = 0       | -1 = 0 |
| Offsets Required?          |     | No              | No     |

As demonstrated in the calculation above, the amount of offsets is zero; therefore, offsets will not be required for this project.

### C. Public Notification

#### 1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB288 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, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

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

As demonstrated in VII.C.7, this project is a Federal Major Modification; therefore, public noticing for Federal Major Modification purposes is required.



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

Applications which include a new emissions unit with a Potential to Emit 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.

**c. Offset Threshold**

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

| Offset Threshold |                 |                 |                  |                         |
|------------------|-----------------|-----------------|------------------|-------------------------|
| Pollutant        | SSPE1 (lb/year) | SSPE2 (lb/year) | Offset Threshold | Public Notice Required? |
| NO <sub>x</sub>  | 73,573          | 66,940          | 20,000 lb/year   | No                      |
| SO <sub>x</sub>  | 2773            | 2,775           | 54,750 lb/year   | No                      |
| PM <sub>10</sub> | 8404            | 8,213           | 29,200 lb/year   | No                      |
| CO               | 189,884         | 196,033         | 200,000 lb/year  | No                      |
| VOC              | 615,181         | 615,180         | 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 Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e.  $SSIPE = SSPE2 - SSPE1$ . The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

| Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice |                 |                 |                 |                               |                         |
|---|-----------------|-----------------|-----------------|-------------------------------|-------------------------|
| Pollutant   | SSPE1 (lb/year) | SSPE2 (lb/year) | SSIPE (lb/year) | SSIPE Public Notice Threshold | Public Notice Required? |
| NO <sub>x</sub>   | 73,573          | 66,940          | -6,633          | 20,000 lb/year                | No                      |
| SO <sub>x</sub>   | 2773            | 2,775           | 2               | 20,000 lb/year                | No                      |
| PM <sub>10</sub>  | 8404            | 8,213           | -191            | 20,000 lb/year                | No                      |
| CO  | 189,884         | 196,033         | 6,149           | 20,000 lb/year                | No                      |
| VOC   | 615,181         | 615,180         | -1              | 20,000 lb/year                | No                      |

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

## 2. Public Notice Action

As discussed above, public noticing is required for this project because it is a Federal Major Modification for NOx and VOC. Therefore, public notice documents will be submitted to the EPA, the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

### D. Daily Emission Limits (DELs)

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

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

S-1329-25-1:

- Emissions from this IC engine shall not exceed any of the following limits: 0.125 g-NOx/hp-hr, 0.0051 g-SOx/hp-hr, 0.2 g-PM10/hp-hr, 0.5 g-CO/hp-hr, 0.3 g-VOC/hp-hr. [District Rules 2201 and 4702] N

S-1329-32-0:

- Emissions from this IC engine shall not exceed any of the following limits: 5 ppmvd NOx @ 15% O2 (equivalent to 0.125 g-NOx/hp-hr), 0.00285 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 250 ppmvd CO @ 15% O2 (equivalent to 2.155 g-CO/hp-hr), or 25 ppmvd VOC @ 15% O2 (equivalent to 0.121 g-VOC/hp-hr). [District Rules 2201 and 4702] N

### E. Compliance Assurance

#### 1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for S-1329-25-1 to demonstrate compliance with Rule 2201. Additionally, Rule 4702 does not require source testing for this unit.

Source testing requirements for S-1329-32-0 are discussed in the compliance discussion for Rule 4702, below.

#### 2. Monitoring

No monitoring is required for S-1329-25 to demonstrate compliance with Rule 2201.

Monitoring is required for S-1329-32-0 pursuant to District Rule 4702 as explained below in the 4702 compliance section.

### **3. Recordkeeping**

S-1329-25-1 and '32-0:

- 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 Rules 2201 and 4702] N
- 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 Rules 2201 and 4702] N

### **4. Reporting**

S-1329-25-10 and '32-0:

- The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] N

## **F. Ambient Air Quality Analysis**

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard for sources subject to public noticing requirements. The Technical Services Division of the SJVAPCD conducted the required analysis. Refer to Appendix G 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 PM<sub>10</sub>. The increase in the ambient PM<sub>10</sub> concentration due to the proposed equipment is shown on the table titled Calculated Contribution. The levels of significance, from 40 CFR Part 51.165 (b)(2), are shown on the table titled Significance Levels.

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| Three LPG/Propane<br>ICEs | 1 Hour | 3 Hours | 8 Hours. | 24 Hours | Annual |
|---------------------------|--------|---------|----------|----------|--------|
| CO                        | Pass   | X       | Pass     | X        | X      |
| NO <sub>x</sub>           | Pass   | X       | X        | X        | Pass   |
| SO <sub>x</sub>           | Pass   | Pass    | X        | Pass     | Pass   |
| PM <sub>10</sub>          | X      | X       | X        | Pass     | Pass   |

As shown, the calculated contribution of PM<sub>10</sub> will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard.

**G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a federal major modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this facility does constitute a federal major modification, therefore this requirement is applicable. Included in Appendix H is Hunter's compliance certification.

**H. Alternate Siting Analysis**

The current project occurs at an existing facility. The applicant proposes to install a natural gas-fired IC engine and to reduce the annual operating hours of a diesel-fired IC engine.

Since the project will provide electricity to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

**Rule 2520 Federally Mandated Operating Permits**

Since this facility's emissions exceed the major source threshold(s) of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, which, per Section 4.6 of Rule 2520, exempts it from the requirements of Rule 2520.

**Rule 2530 Federally Enforceable Potential to Emit**

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Per Section 6.1 of Rule 2530, this facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NO<sub>x</sub>, VOCs, CO, and PM<sub>10</sub>; 50 tons per year SO<sub>2</sub>; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in 6.1.1 and 6.1.6 of Rule 2530.

**Rule 4101 Visible Emissions**

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

Based on experience with similar operations, compliance with visible emission limits is expected under normal operating conditions.

#### **Rule 4102 Nuisance**

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

#### **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 H), the total facility prioritization score including this project was greater than one. Therefore, a health risk assessment 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:

| <b>HRA Summary</b> |                    |                        |
|--------------------|--------------------|------------------------|
| <b>Unit</b>        | <b>Cancer Risk</b> | <b>T-BACT Required</b> |
| S-1329-32-0        | 2.5 per million    | yes                    |

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

#### **S-1329-32-0:**

- 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]
- This IC engine shall not operate within 100 meters of a receptor [Rule 4102]

#### **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 required for this project because the

HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see Appendix E), which is VOC emission less than 25 ppmv @ 15% O<sub>2</sub>; therefore, compliance with the District's Risk Management Policy is expected.

#### 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:

Worst-case particulate emissions are from diesel-fired engine S-1329-25.

$$0.2 \frac{\text{g}}{\text{hp} \cdot \text{hr}} \times \frac{1 \text{hp} \cdot \text{hr}}{2,542.5 \text{Btu}} \times \frac{10^6 \text{Btu}}{9,190 \text{dscf}} \times \frac{0.35 \text{Btu}_{\text{out}}}{1 \text{Btu}_{\text{in}}} \times \frac{15.43 \text{grain}}{\text{g}} = 0.05 \frac{\text{grain}}{\text{dscf}}$$

Since  $0.05 \frac{\text{grain}}{\text{dscf}}$  is  $\leq$  to 0.1 grain per dscf, compliance with Rule 4201 is expected.

#### Rule 4701 Stationary Internal Combustion Engines – Phase I

Rule 4701 limits the emissions of oxides of nitrogen (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 Permit to Operate (PTO).

Transportable engines as defined in the rule are not subject to the emission limits of this rule per Section 4.2. The transportable engines are subject to the administrative requirements of Sections 6.1, 6.2.2, and 6.2.3.

Therefore, compliance with the requirements of this rule is expected.

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

##### Purpose:

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.

##### Applicability:

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

##### Requirements:

Section 5.1 requires that the owner of an internal combustion engine shall not operate it in such a manner that results in emissions exceeding the limits in the Engine Emission Limit tables below:

| <b>Spark-Ignited Internal Combustion Engines</b> |                             |           |            |
|--|-----------------------------|-----------|------------|
| <b>Engine Type</b>                               | <b>NO<sub>x</sub></b>       | <b>CO</b> | <b>VOC</b> |
| <b>1. Rich-Burn</b>                              |                             |           |            |
| a. Waste gas fueled                              | 50 ppmv or<br>90% reduction | 2000 ppmv | 250 ppmv   |
| b. Cyclic loaded, field gas fueled               | 50 ppmv                     | 2000 ppmv | 250 ppmv   |
| c. All other engines                             | 25 ppmv or<br>96% reduction | 2000 ppmv | 250 ppmv   |

| <b>Compression-Ignited Internal Combustion Engines</b> |  |  |
|--|--|--|
| <b>Engine Type</b>                                     | <b>Emission Limit/Standard</b>   | <b>Compliance Date</b>   |
| <b>1. Certified Compression-Ignited Engine</b>         |  |  |
| a. EPA Certified Tier 1 or Tier 2 Engine               | EPA Tier 4   | 1/1/2015 or 12 years after installation date, whichever is later |
| b. EPA Certified Tier 3 or Tier 4 Engine               | Meet Certified Compression-Ignited Engine Standard in effect at time of installation | At time of installation  |

Engine S-1329-25 is a EPA certified Tier 1 and S-1329-32-0's NO<sub>x</sub> emissions are less than 25 ppmv. Therefore, the IC engines currently comply with the emission requirements of the Rule.

**Monitoring:**

Section 5.2 requires that all continuous emission monitoring systems (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes. Any 15-consecutive minute block average CEMS measurement exceeding the applicable emission limits of this rule shall constitute a violation of this rule. The IC engines involved with this project do not have a CEMS installed; therefore this section of the Rule is not applicable.

Section 5.6 requires that the owner of a non-AO spark-ignited engine subject to the requirements of Section 5.1 subject to the requirements of this rule meet the following requirements:

Section 5.6.1 requires that for each engine with a rated brake horsepower of 1,000 hp or greater and which is permitted to operate more than 2,000 hours per calendar year, or with an external emission control device, shall either install, operate, and maintain continuous monitoring equipment for NO<sub>x</sub>, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring. The monitoring system may be a continuous emissions monitoring system (CEMS), a parametric emissions monitoring system (PEMS), or an alternative monitoring system

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approved by the APCO. APCO-approved alternate monitoring shall consist of one or more of the following:

- Periodic NO<sub>x</sub> and CO emission concentrations,
- Engine exhaust oxygen concentration,
- Air-to-fuel ratio,
- Flow rate of reducing agents added to engine exhaust,
- Catalyst inlet and exhaust temperature,
- Catalyst inlet and exhaust oxygen concentration,
- Other operational characteristics.

Unit S-1329-32 is spark ignited but is rated at less than 1000 hp; therefore, section 5.6.1 does not apply.

Section 5.6.2 requires that each engine not subject to section 5.6.1 monitor operational characteristics recommended by the engine manufacturer or emission control system supplier, and approved by the APCO. The applicant has proposed to utilize alternate monitoring scheme 'A', Periodic Monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> Emission Concentrations from SSP 1810, Emissions Monitoring for Rules 4701 and 4702. The following conditions will be placed on proposed ATC S-1329-32-0 to ensure compliance with Section 5.6.2:

- {3794} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, 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. [In-stack O<sub>2</sub> monitors may be allowed if approved by the APCO.] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. 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 if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. 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 5.6.6 requires the operator to install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner or operator may use an alternative device, method, or technique in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions. The following condition will be placed on proposed ATC S-1329-32-0 to ensure compliance with Section 5.6.6:

- {3796} This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702] N

Section 5.6.7 requires that for each engine, the permittee implement the Inspection and Monitoring (I&M) plan, if any, submitted to and approved by the APCO pursuant to Section 6.5.

The pre-approved alternate emissions monitoring procedure proposed in Section 5.6.2 above will satisfy the requirements of Section 5.6.7. Therefore, compliance with Section 5.6.7 is demonstrated.

Section 5.6.8 requires the operator to collect data through the I&M plan in a form approved by the APCO. By following the pre-approved alternate emissions monitoring procedure proposed in Section 5.6.2 above, the applicant will be collecting data in a form approved by the APCO. Therefore, compliance with Section 5.6.8 is demonstrated.

Section 5.6.9 requires that the operator use a portable NO<sub>x</sub> analyzer to take NO<sub>x</sub> emission readings to verify compliance with the emission requirements of Section 5.1 or Section 8.2 during each calendar quarter in which a source test is not performed. All emission readings shall be taken with the engine 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. All NO<sub>x</sub> emissions readings shall be reported to the APCO in a manner approved by the APCO. NO<sub>x</sub> emission readings taken pursuant to this section 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.

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The alternate monitoring procedure proposed in Section 5.6.2 above will satisfy the requirements of Section 5.6.9. Therefore, compliance with Section 5.6.9 is expected.

Section 5.6.10 requires documentation that an alternative monitoring system provides a reasonable assurance of compliance with applicable emission limits. By following the pre-approved alternate emissions monitoring procedure proposed in Section 5.6.2 above, the applicant has satisfied the requirement of Section 5.6.10.

Section 5.6.11 requires that for each engine subject to Section 8.0, a nonresettable fuel meter be installed and operated. Section 8.0 pertains to Alternative Emission Control Plan for compliance with the NO<sub>x</sub> limits of Section 5.1. The applicant has not proposed an Alternative Emission Control Plan; therefore, Section 5.6.11 is not applicable.

Section 5.7.1 requires that the owner of a compression-ignited engine subject to the requirements of Section 5.1 or 4.2 shall comply with the requirements specified in Sections 5.7.2 through 5.7.5. Unit S-1329-25 is a compression-ignited engine and is subject to the requirements of Section 5.

Section 5.7.2 requires the owner to properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.7.3 requires the owner to monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.7.4 requires each engine to install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions. The following condition will be included on S-1329-25-1:

- o This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO-approved alternative. [District Rules 2201 and 4702]

Section 5.7.5 is applicable to engines retrofitted with a NO<sub>x</sub> exhaust control. Unit S-1329-25 does not have add-on NO<sub>x</sub> controls. Therefore, the requirements of Section 5.7.5 are not applicable.

Emission Control Plan:

Section 6.1 requires that the owner of an engine subject to the requirements of Section 5.1 or Section 8.0, except for an engine specified in Section 6.1.1, shall submit to the APCO an emission control plan (ECP) of all actions to be taken to satisfy the emission requirements of Section 5.1 and the compliance schedules of Section 7.0.

Section 6.1.1 states Sections 6.1.2 through Section 6.1.3 shall not apply to an engine specified below:

6.1.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

Unit S-1329-25 is a certified compression-ignited engines not retrofitted with exhaust controls and is not subject to Section 8.0. Therefore, an ECP is not required.

This project's application for S-1329-32 serves as its ECP; therefore, the requirements of this section are satisfied.

Record-Keeping:

Section 6.2 requires that except for engines subject to Section 4.0, the owner of an engine subject to the requirements of Section 5.1 shall maintain an engine-operating log to demonstrate compliance with this Rule. This information 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 engine-operating log shall include, on a monthly basis, the following information:

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

Section 6.2.2 requires that the data collected pursuant to the requirements of Section 5.7 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request. The following condition will be included on the ATCs to ensure compliance:

{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] N

Compliance Testing:

Section 6.3 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, shall comply with the requirements of Section 6.3, except for an engine specified in Section 6.3.1.

Section 6.3.1 states Sections 6.3.2 through Section 6.3.4 shall not apply to an engine specified below:

A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

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Unit S-1329-25 is a certified compression-ignited engine and is not retrofitted with exhaust control and is not subject to Section 8.0. Therefore, source testing is not applicable.

Section 6.3.2 requires that compliance with applicable limits, ppmv or percent reduction, in accordance with the test methods in Section 6.4, be demonstrated initially and at least once every 24 months.

Unit S-1329-32 is subject to section 6.3.2, therefore, the following condition will be included on the ATC:

- 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 and at least once every 24 months. [District Rules 2201 and 4702] N

Inspection and Monitoring (I&M) Plan:

Section 6.5 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, except for an engine specified in Section 6.5.1, shall submit to the APCO for approval, an I&M plan that specified all actions to be taken to satisfy the requirements of Section 6.5 and 5.7.

Section 6.5.1 states Sections 6.5.2 through Section 6.5.9 shall not apply to an engine specified below:

6.5.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

Unit S-1329-25 is a certified compression-ignited engine not retrofitted with exhaust control and is not subject to Section 8.0. Therefore, an I&M Plan is not required.

Section 6.5 requires that the owner of an engine subject to the emission limits in Section 5.1 or the requirements of Section 8.0 submit to the APCO for approval an I&M plan that specifies all actions to be taken to satisfy the following requirements and the requirements of Section 5.6. The actions to be identified in the I&M plan shall include, but are not limited to, the requirements described in Sections 6.5.2 through 6.5.9:

Section 6.5.2 requires procedures for establishing ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

Section 6.5.3 requires procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M plan.

Section 6.5.4 requires procedures for the corrective actions on the noncompliant parameter(s) that the owner or operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO<sub>x</sub>, CO, VOC, or oxygen concentrations.

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Section 6.5.5 requires procedures for the owner or operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO<sub>x</sub>, CO, VOC, or oxygen concentrations.

The alternate monitoring scheme 'A' proposed for S-1329-32-0 in Section 5.6.2 above will satisfy the requirements of Sections 6.5.2, 6.5.3, 6.5.4 and 6.5.5 of the rule. Therefore, compliance with Sections 6.5.2, 6.5.3, 6.5.4, and 6.5.5 is expected.

Section 6.5.6 requires procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition. The alternate monitoring procedure proposed in Section 5.6.2 above will satisfy the requirements of Section 6.5.6. In addition, the following condition will be on ATC S-1329-32-0 to ensure compliance with the requirements of Section 6.5.6:

- This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications. [District Rule 4702]

Section 6.5.7 requires procedures and a schedule for using a portable NO<sub>x</sub> analyzer to take NO<sub>x</sub> emission readings pursuant to Section 5.6.9. The alternate monitoring scheme 'A' proposed in Section 5.6.2 above will satisfy Section 6.5.7 for S-1329-32-0.

Section 6.5.8 requires procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M plan and the monitoring systems described in Sections 5.6.1 and 5.6.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO. The data collection and recordkeeping requirement for pre-approved alternate emissions monitoring procedure 'A' proposed in Section 5.6.2 above will satisfy the requirements of Section 6.5.8.

Section 6.5.9 specifies procedures for revising the I&M plan. The owner of an engine may request a change to the I&M plan at any time. The I&M plan shall be updated to reflect any change in operation and prior to any planned change in operation. An engine owner that changes significant I&M plan elements must notify the District no later than seven days after the change and must submit an updated I&M plan to the APCO no later than 14 days after the change for approval. The date and time of the change to the I&M plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit-to-Operate. Therefore, the following condition will be listed on S-1329-32-0 to ensure compliance with Section 6.5.9:

- The permittee shall update the I&M plan (i.e. monthly NO<sub>x</sub>, CO, and O<sub>2</sub> emissions monitoring with a portable analyzer) 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]

**Compliance Schedule:**

Section 7.3.1.2 requires the owner of an engine that is subject to Section 5.1 and that is required to submit an ATC in order to comply with the requirements of Rule 4702, shall submit such documents 6 months before the engine is required to be in compliance with the requirements of Section 5.1 of Rule 4702.

The engines are currently in compliance with this Rule; no further action is required at this time.

**Rule 4801 Sulfur Compounds**

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO<sub>2</sub>), on a dry basis averaged over 15 consecutive minutes. The diesel engine has greater SO<sub>2</sub> emissions than the natural gas-fired engine; therefore, the only the diesel engine will be analyzed.

The maximum sulfur content of the diesel combusted shall not exceed 0.0015% by weight. Therefore, the sulfur concentration is:

$$\text{S Conc.} = 0.0015\% \text{ S} \times 7.1 \text{ lb/gal} \times 64 \text{ lb-SO}_2/32 \text{ lb-S} \times \text{MMBtu}/9,051 \text{ scf} \times \text{gal-fuel}/0.137 \text{ MMBtu} \\ \times \text{lb-mol}/64 \text{ lb-SO}_2 \times 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \times 520 \text{ }^\circ\text{R}/14.7 \text{ psi}$$

$$\text{S Conc.} = 1 \text{ ppmv}$$

Since 1 ppmv is  $\leq$  2000 ppmv, this project is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

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

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

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

**California Environmental Quality ACT (CEQA)**

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

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

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- 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 consists of issuing a permit for a piece of transportable equipment to be used at various locations within the District. The District makes the following findings regarding this project: 1) Issuance of the permit does not have a significant environmental impact. 2) Assessment of potential environmental effects resulting from the use of the transportable equipment on a development project is the responsibility of the Lead Agency approving the specific project, and will be determined on a project specific basis. The District has determined that no additional findings are required.

### IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct S-1329-29-1 and '32-0 subject to the permit conditions on the attached draft Authorities to Construct in Appendix I.

### X. Billing Information

| Annual Permit Fees |              |                 |            |
|--------------------|--------------|-----------------|------------|
| Permit Number      | Fee Schedule | Fee Description | Annual Fee |
| S-1329-25-1        | 3020-10-C    | 230 hp          | \$240      |
| S-1329-32-0        | 3020—10-B    | 163 bp          | \$117      |

### Appendices

- A. Quarterly Net Emissions Change (QNEC)
- B. PTO S-1329-25-0
- C. SSPE1 Calculations
- D. BACT Guideline 3.2.4
- E. BACT Guideline 3.2.12
- F. Top-Down BACT Analysis
- G. HRA/AAQA
- H. Compliance Certification
- H. Draft ATCs

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**APPENDIX A**  
**Quarterly Net Emissions Change (QNEC)**



**Quarterly Net Emissions Change (QNEC)**

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

QNEC = PE2 - PE1, where:

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

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$$\begin{aligned}
 PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\
 &= 634 \text{ lb/year} \div 4 \text{ qtr/year} \\
 &= 159 \text{ lb PM}_{10}/\text{qtr}
 \end{aligned}$$

$$\begin{aligned}
 PE1_{\text{quarterly}} &= PE1_{\text{annual}} \div 4 \text{ quarters/year} \\
 &= 888 \text{ lb/year} \div 4 \text{ qtr/year} \\
 &= 222 \text{ lb PM}_{10}/\text{qtr}
 \end{aligned}$$

| <b>S-1329-25-1</b>          |              |              |               |
|-----------------------------|--------------|--------------|---------------|
| <b>Quarterly NEC [QNEC]</b> |              |              |               |
|                             | PE2 (lb/qtr) | PE1 (lb/qtr) | QNEC (lb/qtr) |
| NO <sub>x</sub>             | 5997         | 4282         | -1715         |
| SO <sub>x</sub>             | 6            | 4            | -2            |
| PM <sub>10</sub>            | 222          | 159          | -64           |
| CO                          | 555          | 397          | -159          |
| VOC                         | 333          | 238          | -96           |

| <b>S-1329-32-0</b>          |              |              |               |
|-----------------------------|--------------|--------------|---------------|
| <b>Quarterly NEC [QNEC]</b> |              |              |               |
|                             | PE2 (lb/qtr) | PE1 (lb/qtr) | QNEC (lb/qtr) |
| NO <sub>x</sub>             | 57           | 0            | 57            |
| SO <sub>x</sub>             | 2            | 0            | 2             |
| PM <sub>10</sub>            | 16           | 0            | 16            |
| CO                          | 1696         | 0            | 1696          |
| VOC                         | 95           | 0            | 95            |

|  |                  |
|--|------------------|
| Permit #: S-1329-25-1                      | Last Updated     |
| Facility: HUNTER EDISON<br>OIL DEVELOPMENT | 04/28/2011 TORID |

Equipment Pre-Baselined: NO

|  | <u>NOX</u> | <u>SOX</u> | <u>PM10</u> | <u>CO</u> | <u>VOC</u> |
|--|------------|------------|-------------|-----------|------------|
| Potential to Emit (lb/Yr):                           | 17127.0    | 16.0       | 634.0       | 1586.0    | 951.0      |
| Daily Emis. Limit (lb/Day)                           | 65.7       | 0.0        | 1.7         | 4.3       | 2.6        |
| Quarterly Net Emissions Change (lb/Qtr)              |            |            |             |           |            |
| Q1:  | -1715.0    | -2.0       | -64.0       | -159.0    | -96.0      |
| Q2:  | -1715.0    | -2.0       | -64.0       | -159.0    | -96.0      |
| Q3:  | -1715.0    | -2.0       | -64.0       | -159.0    | -96.0      |
| Q4:  | -1715.0    | -2.0       | -64.0       | -159.0    | -96.0      |
| Check if offsets are triggered but exemption applies | N          | N          | N           | N         | N          |
| Offset Ratio   |            |            |             |           |            |
| Quarterly Offset Amounts (lb/Qtr)                    |            |            |             |           |            |
| Q1:  |            |            |             |           |            |
| Q2:  |            |            |             |           |            |
| Q3:  |            |            |             |           |            |
| Q4:  |            |            |             |           |            |

|                         |                  |
|-------------------------|------------------|
| Permit #: S-1329-32-0   | Last Updated     |
| Facility: HUNTER EDISON | 06/06/2011 TORID |
| OIL DEVELOPMENT         |                  |

Equipment Pre-Baselined: NO

|  | <u>NOX</u> | <u>SOX</u> | <u>PM10</u> | <u>CO</u> | <u>VOC</u> |
|--|------------|------------|-------------|-----------|------------|
| Potential to Emit (lb/Yr):                           | 226.0      | 9.0        | 16.0        | 6784.0    | 381.0      |
| Daily Emis. Limit (lb/Day)                           | 0.6        | 0.0        | 0.2         | 18.6      | 1.0        |
| Quarterly Net Emissions Change (lb/Qtr)              |            |            |             |           |            |
| Q1:  | 57.0       | 2.0        | 16.0        | 1696.0    | 95.0       |
| Q2:  | 57.0       | 2.0        | 16.0        | 1696.0    | 95.0       |
| Q3:  | 57.0       | 2.0        | 16.0        | 1696.0    | 95.0       |
| Q4:  | 57.0       | 2.0        | 16.0        | 1696.0    | 95.0       |
| Check if offsets are triggered but exemption applies | N          | N          | N           | N         | N          |
| Offset Ratio   |            |            |             |           |            |
| Quarterly Offset Amounts (lb/Qtr)                    |            |            |             |           |            |
| Q1:  |            |            |             |           |            |
| Q2:  |            |            |             |           |            |
| Q3:  |            |            |             |           |            |
| Q4:  |            |            |             |           |            |

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**APPENDIX B**  
**PTO S-1329-25-0**

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1329-25-0

**EXPIRATION DATE:** 03/31/2012

**EQUIPMENT DESCRIPTION:**

230 BHP DIESEL-FIRED TRANSPORTABLE IC ENGINE POWERING AN ELECTRICAL GENERATOR (VARIOUS LOCATIONS IN HEAVY OIL CENTRAL KERN COUNTY FIELDS)

## PERMIT UNIT REQUIREMENTS

---

1. Engine shall only be operated at locations east of U.S. Interstate 5 in Kern County. [District Rule 1020]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. Engine shall not be attached to a foundation or operate at any one location for more than 12 consecutive months. [District Rule 4701]
5. The equipment shall not be operated within 1000 feet of any K-12 school. [CH&SC 42301.6]
6. The cumulative time of the original and replacement engines, including the time between the removal of the original unit and installation of the replacement unit, shall not exceed 12 months. [District Rule 4701]
7. The permittee shall keep accurate records of location and duration of operation. [District Rule 4701]
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 4623 and 4701]

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

Facility Name: HUNTER EDISON OIL DEVELOPMENT  
Location: HEAVY OIL CENTRAL, CA

S-1329-25-0: Apr 29 2011 1:18PM - TORID

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**APPENDIX C**  
**SSPE1 Calculations**

# Detailed SSPE Report

| Region | Facility | Unit | Mod | NOx   | SOx  | PM10 | CO     | VOC   | Number of Outstanding ATCs |
|--------|----------|------|-----|-------|------|------|--------|-------|----------------------------|
| S      | 1329     | 0    | 0   |       |      |      |        |       | 0                          |
| S      | 1329     | 3    | 8   | 29188 | 1223 | 3434 | 158819 | 27042 | 0                          |
| S      | 1329     | 4    | 1   | 0     | 0    | 0    | 0      | 30638 | 0                          |
| S      | 1329     | 5    | 1   | 0     | 0    | 0    | 0      | 38308 | 0                          |
| S      | 1329     | 6    | 1   | 0     | 0    | 0    | 0      | 29932 | 1                          |
| S      | 1329     | 7    | 1   | 0     | 0    | 0    | 0      | 29932 | 1                          |
| S      | 1329     | 8    | 1   | 0     | 0    | 0    | 0      | 29932 | 1                          |
| S      | 1329     | 10   | 1   | 0     | 0    | 0    | 0      | 39932 | 1                          |
| S      | 1329     | 11   | 1   | 0     | 0    | 0    | 0      | 29932 | 1                          |
| S      | 1329     | 12   | 1   | 0     | 0    | 0    | 0      | 29932 | 1                          |
| S      | 1329     | 13   | 1   | 0     | 0    | 0    | 0      | 29932 | 0                          |
| S      | 1329     | 14   | 1   | 0     | 0    | 0    | 0      | 29932 | 0                          |
| S      | 1329     | 15   | 1   | 0     | 0    | 0    | 0      | 29932 | 0                          |
| S      | 1329     | 20   | 1   | 0     | 0    | 0    | 0      | 14281 | 0                          |
| S      | 1329     | 21   | 1   | 0     | 0    | 0    | 0      | 14281 | 0                          |
| S      | 1329     | 22   | 7   | 3154  | 701  | 2400 | 14717  | 491   | 1                          |
| S      | 1329     | 23   | 2   | 0     | 0    | 0    | 0      | 14340 | 0                          |
| S      | 1329     | 24   | 2   | 0     | 0    | 0    | 0      | 14340 | 0                          |
| S      | 1329     | 25   | 0   | 23986 | 23   | 888  | 2221   | 1333  | 0                          |
| S      | 1329     | 26   | 1   | 0     | 0    | 0    | 0      | 601   | 0                          |
| S      | 1329     | 27   | 1   | 0     | 0    | 0    | 0      | 1887  | 0                          |
| S      | 1329     | 30   | 0   | 14091 | 451  | 53   | 1372   | 501   | 0                          |
| S      | 1329     | 31   | 1   | 0     | 0    | 0    | 0      | 2175  | 1                          |
| S      | 1509     | 0    | 0   |       |      |      |        |       | 0                          |
| S      | 1509     | 7    | 1   | 0     | 0    | 0    | 0      | 26280 | 0                          |
| S      | 1509     | 8    | 1   | 0     | 0    | 0    | 0      | 486   | 0                          |

Tuesday, May 03, 2011

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**Notes:**

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

| <i>Region Facility</i> | <i>Unit</i> | <i>Mod</i> | <i>NOx</i> | <i>SOx</i> | <i>PM10</i> | <i>CO</i> | <i>VOC</i> | <i>Number of Outstanding ATCs</i> |   |
|------------------------|-------------|------------|------------|------------|-------------|-----------|------------|-----------------------------------|---|
| S                      | 1509        | 9          | 1          | 0          | 0           | 0         | 27861      | 0                                 |   |
| S                      | 1509        | 10         | 1          | 0          | 0           | 0         | 486        | 0                                 |   |
| S                      | 1509        | 11         | 1          | 0          | 0           | 0         | 27861      | 0                                 |   |
| S                      | 1509        | 12         | 1          | 0          | 0           | 0         | 9611       | 0                                 |   |
| S                      | 1509        | 13         | 1          | 0          | 0           | 0         | 486        | 0                                 |   |
| S                      | 1509        | 14         | 1          | 0          | 0           | 0         | 18736      | 0                                 |   |
| S                      | 1509        | 18         | 1          | 0          | 0           | 0         | 18736      | 0                                 |   |
| S                      | 1509        | 19         | 2          | 0          | 0           | 0         | 2081       | 0                                 |   |
| S                      | 1509        | 22         | 1          | 0          | 0           | 0         | 183        | 0                                 |   |
| S                      | 1509        | 23         | 7          | 3154       | 375         | 1629      | 12755      | 1174                              | 0 |
| S                      | 1509        | 27         | 0          | 0          | 0           | 0         | 18797      | 0                                 |   |
| S                      | 1509        | 28         | 0          | 0          | 0           | 0         | 18797      | 0                                 |   |
| <i>SSPE (lbs)</i>      |             |            | 73573      | 2773       | 8404        | 189884    | 611181     |                                   |   |

Tuesday, May 03, 2011

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**Notes:**

**Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.**

**For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.**

**ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.**

**ERC's for onsite reductions must be added in separately per Rule 2201 as well.**



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**APPENDIX D**  
**BACT Guideline 3.2.4**

[Per » B A C T » Bact Guideline.asp?category Level1=3&category Level2=2&category Level3=4&last Update=3 » 5 :](#)

INSTRUCTIONS: click on "Details" for Permit Specific BACT Determinations.

[Back](#)      [Details Page](#)

**Best Available Control Technology (BACT ) Guideline 3.2.4  
Last Update: 3/5/2001**

**Transportable and Multi-location Diesel I.C. Engine**

| <b>Pollutant</b> | <b>Achieved In Practice or In the SIP</b>   | <b>Technologically Feasible</b> | <b>Alternate Basic Equipment</b>     |
|------------------|---|---------------------------------|--------------------------------------|
| CO               |   | Oxidation catalyst              |                                      |
| NOx              | Certified NOx emissions of 6.9 g/bhp-hr or less   |                                 | LPG-Fired Engine with a NOX catalyst |
| PM10             | A Performance Standard of - = or < 0.02 grams/bhp-hr and - very low-sulfur fuel (15 ppmw sulfur) where available. or a Minimum Technology Standard - 0.1 grams PM10/bhp-hr, and - a catalytic particulate filter (or equal), and - very low-sulfur fuel (15 ppmw sulfur) where available. |                                 | LPG-Fired Engine with a PCV system   |
| SOx              | Low-sulfur fuel (< 500 ppm sulfur, by weight). or Very low sulfur fuel (< 15 ppm sulfur by weight), where available.  |                                 |                                      |
| VOC              | Positive Crankcase Ventilation (PCV) or Crankcase Control Device that is at least 90% efficient   |                                 |                                      |

*Any engine model included in the ARB or EPA diesel engine certification lists and identified as having a PM10 emission rate of 0.149 grams/bhp-hr or less, based on ISO 8178 test procedure, shall be deemed to meet the 0.1 grams/bhp-hr requirement.*

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.

**This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Details Page.**

Hunter Edison  
S-1329, 1110921

**APPENDIX E**  
**BACT Guideline 3.2.12**

1-32

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 3.3.12\***

Last Update: 10/1/2002

**Fossil Fuel\*\* Fired IC Engine > 50 hp**

| <b>Pollutant</b> | <b>Achieved in Practice or contained in the SIP</b>                 | <b>Technologically Feasible</b>   | <b>Alternate Basic Equipment</b>    |
|------------------|---|---|-------------------------------------|
| CO               | 56 ppmvd @ 15% O <sub>2</sub> ,<br>0.6 g/bhp-hr, or<br>1.9 lb/MW-hr |   |                                     |
| NOx              | 9 ppmvd @ 15% O <sub>2</sub> ,<br>0.15 g/bhp-hr, or<br>0.5 lb/MW-hr | 5 ppmv @ 15% O <sub>2</sub><br>(Selective Catalytic<br>Reduction, or equal) | 2 ppmv natural gas<br>fired turbine |
| PM10             | 0.02 g/bhp-hr, or<br>0.06 lb/MW-hr                                  |   |                                     |
| SOx              | PUC quality natural gas,<br>or equal.                               |   |                                     |
| VOC              | 25 ppmvd @15% O <sub>2</sub> ,<br>0.15 g/bhp-hr, or<br>0.5 lb/MW-hr |   |                                     |

\*\* For the purposes of this determination, fossil fuels includes diesel, gasoline, natural gas, propane, kerosene, and similar hydrocarbon compounds derived from petroleum oil or natural gas. Fossil fuels also include similar synthetic fuels such as biodiesel and/or any fuel containing one or more fossil fuels.

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.

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

Hunter Edison  
S-1329, 1110921

**APPENDIX F**  
**Top-Down BACT Analysis**

**BACT for Fossil Fuel Fired IC Engine:**

**1. Applicability:**

Hunter is proposing to install a 163 bhp rich-burn natural gas-fired IC engine. BACT is triggered for NOx and VOC.

**2. BACT Guidance:**

San Joaquin Valley Unified Air Pollution Control District BACT Guideline 3.3.12 applies to Fossil Fuel Fired IC Engine > 50 hp.

**3. Top Down BACT Analysis:**

**NOx**

**Step 1 - Identify All Control Technologies**

1. 2 ppmv natural gas fired turbine (alternate basic equipment)
2. 5 ppmv @ 15% O2 (Selective Catalytic Reduction, or equal)
3. 9 ppmvd @ 15% O2, 0.15 g/hp-hr, or 0.5 lb/MW hr. (Achieved-in-practice).

**Step 2 - Eliminate Technologically Infeasible Options**

Natural gas fired turbines capable of achieving 2 ppmv are not manufactured in the horse power range of the proposed IC engine. Therefore, this option is eliminated.

**Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

1. 5 ppmv @ 15% O2 (Selective Catalytic Reduction, or equal)
2. 9 ppmv @ 15% O2, 0.15 g/hp-hr, or 0.5 lb/MW hr. - Achieved-in-Practice

**Step 4 - Cost Effectiveness Analysis – Detailed Costs Follow**

5 ppmvd @ 15% O2 has been proposed; therefore, a cost effectiveness analysis is not required.

**Step 5 - Select BACT**

The applicant has proposed the most stringent control identified in step 3 that was not eliminated in step 4:

- 5 ppmv @ 15% O2 with NSCR

**VOC**

**Step 1 - Identify All Control Technologies**

Hunter Edison  
S-1329, 1110921

25 ppmvd @ 15% O<sub>2</sub>, 0.15 g/hp-hr, or 0.5 lb/MW hr. - Achieved-in-Practice

**Step 2 - Eliminate Technologically Infeasible Options**

There are no technologically infeasible options.

**Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

25 ppmvd @ 15% O<sub>2</sub>, 0.15 g/hp-hr, or 0.5 lb/MW hr. - Achieved-in-Practice

**Step 4 - Cost Effectiveness Analysis**

There are no technologically feasible or alternate basic equipment requirements. Therefore a cost effectiveness analysis is not required.

**Step 5 - Select BACT:**

25 ppmvd @ 15% O<sub>2</sub>, 0.15 g/hp-hr, or 0.5 lb/MW hr. - Achieved-in-Practice

Therefore, the BACT requirement is satisfied.

Hunter Edison  
S-1329, 1110921

**APPENDIX G**  
**HRA/AAQA**



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

To: Richard Edgehill, AQE – Permit Services  
 From: Trevor Joy, AQS – Technical Services  
 Date: April 18, 2011  
 Facility Name: Vaquero Energy  
 Location: HOCSS  
 Application #(s): S-1329-25-1 and 32-0  
 Project #: 1110921

**A. RMR SUMMARY**

| Categories  | Waste Gas IC Engine (Unit 32-0) | Project Totals | Facility Totals |
|---|---------------------------------|----------------|-----------------|
| <b>Prioritization Score</b>                             | 0.2                             | 0.2            | >1              |
| <b>Acute Hazard Index</b>                               | 0.01                            | 0.01           | 0.01            |
| <b>Chronic Hazard Index</b>                             | 0.00                            | 0.00           | 0.00            |
| <b>Maximum Individual Cancer Risk (10<sup>-6</sup>)</b> | 2.5                             | 2.5            | 7.0             |
| <b>T-BACT Required?</b>                                 | Yes                             |                |                 |
| <b>Special Permit Conditions?</b>                       | Yes                             |                |                 |

**Proposed Permit Conditions**

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

Unit # 32-0

{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] N

Unit 32 shall not operate within 100 meters of the property line.

**B. RMR REPORT**

**I. Project Description**

Technical Services received a request on April 11, 2011 to perform an Ambient Air Quality Analysis and a Risk Management Review for: unit 25-1, a Diesel IC Engine – the proposed modification is to limit the annual hours of operation, therefore, no further analysis was required; and 32-0, the proposed installation of a 162 BHP natural gas/waste gas-fired 4SRB IC engine to be used at various locations.

**II. Analysis**

*Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using the "Field Gas IC Engine.xls" spreadsheet. In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated meteorological data for Bakersfield 2005 to 2009 to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.*

The following parameters were used for the review:

| Analysis Parameter<br>Unit 32-0 |         |                           |       |
|---------------------------------|---------|---------------------------|-------|
| Waste Gas (MMScf/hr)            | 0.00136 | Business Receptor (m)     | 305   |
| Waste Gas (MMScf/yr)            | 11.879  | Residence Receptor (m)    | 305   |
| Release Ht (m)                  | 2.44    | Stack Inside Diameter (m) | 0.152 |
| Gas Exit Velocity (m/sec)       | 18.4    | Gas Exit Temperature (K)  | 888   |

**AAQA:** In addition to the RMR, Technical Services performed AAQA modeling for NO<sub>x</sub> (0.375 lbs/hr and 344 lbs/yr), SO<sub>x</sub> (0.004 lbs/hr and 34 lbs/yr), CO (0.66 lbs/hr), and PM<sub>10</sub> (0.025 lbs/hr and 228 lbs/yr) using AERMOD.

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

| Three LPG/Propane<br>ICEs | 1 Hour            | 3 Hours | 8 Hours. | 24 Hours | Annual |
|---------------------------|-------------------|---------|----------|----------|--------|
| CO                        | Pass              | X       | Pass     | X        | X      |
| NO <sub>x</sub>           | Pass <sup>2</sup> | X       | X        | X        | Pass   |
| SO <sub>x</sub>           | Pass              | Pass    | X        | Pass     | Pass   |
| PM <sub>10</sub>          | X                 | X       | X        | Pass     | Pass   |

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

**III. Conclusion**

The criteria modeling runs indicate the emissions from the project will not cause or significantly contribute to a violation of a State or National AAQS.

The acute and chronic indices are below 1.0; and the cancer risk is greater than 1, but less than 10. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT) for VOC.**

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

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

Hunter Edison  
S-1329, 1110921

**APPENDIX H**  
**Compliance Certification**

March 28, 2011

Mr. Leonard Scandura  
Permit Services Manager  
San Joaquin Valley Unified  
Air Pollution Control District  
34946 Flyover Ct.  
Bakersfield, CA 93308

**Subject: Project Number 1000XXX  
Compliance Certification**

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.



Signature



Title

Hunter Edison  
S-1329, 1110921

**APPENDIX I**  
**Draft ATCs**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-1329-25-1

LEGAL OWNER OR OPERATOR: HUNTER EDISON OIL DEVELOPMENT  
MAILING ADDRESS: C/O VAQUERO ENERGY  
15545 HERMOSA RD  
BAKERSFIELD, CA 93307

LOCATION: HEAVY OIL CENTRAL  
CA

EQUIPMENT DESCRIPTION:  
MODIFICATION OF 230 BHP DIESEL-FIRED TRANSPORTABLE TIER 1 CERTIFIED IC ENGINE POWERING AN ELECTRICAL GENERATOR (VARIOUS LOCATIONS IN HEAVY OIL CENTRAL KERN COUNTY FIELDS): LIMIT ANNUAL OPERATION

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Engine shall only be operated at locations east of U.S. Interstate 5 in Kern County. [District Rule 1020]
3. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070]
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO-approved alternatives. [District Rules 2201 and 4702]
5. Engine shall not operate more than 6255 hours per year. [District Rule 2201]
6. The equipment shall not be operated within 1000 feet of any K-12 school. [CH&SC 42301.6]
7. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
8. 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]
9. The permittee shall keep accurate records of location and duration of operation. [District Rules 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.

Seyed Sadredin, Executive Director APCO

**DAVID WARNER**, Director of Permit Services

S-1329-25-1: Jun 8 2011 12:53PM - TORID : Joint Inspection NOT Required

10. Emissions from this IC engine shall not exceed any of the following limits: 0.125 g-NO<sub>x</sub>/hp-hr, 0.0051 g-SO<sub>x</sub>/hp-hr, 0.2 g-PM<sub>10</sub>/hp-hr, 0.5 g-CO/hp-hr, 0.3 g-VOC/hp-hr. [District Rules 2201 and 4702]
11. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702]
12. 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 Rules 2201 and 4702]
13. {3869} This certified Tier 1 or Tier 2 engine shall be replaced with a new certified Tier 4 engine by January 1, 2015 or 12 years from the installation of the engine, whichever is later, to be in compliance with Rule 4702. Authority to Construct (ATC) application for new certified Tier 4 engine must be submitted to the District at least six months before the compliance date. [District Rule 4702]

DRAFT



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-1329-32-0

LEGAL OWNER OR OPERATOR: HUNTER EDISON OIL DEVELOPMENT  
MAILING ADDRESS: C/O VAQUERO ENERGY  
15545 HERMOSA RD  
BAKERSFIELD, CA 93307

LOCATION: HEAVY OIL CENTRAL  
CA

EQUIPMENT DESCRIPTION:  
163 HP FORD WSG1068T NATURAL GAS-FIRED IC ENGINE WITH NSCR POWERING AN ELECTRICAL GENERATOR  
APPROVED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Engine shall only be operated at locations east of U.S. Interstate 5 in Kern County. [District Rule 1020]
3. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070]
4. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO-approved alternatives. [District Rule 2201]
5. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications. [District Rules 2201 and 4702]
6. 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]
7. This IC engine shall not operate within 100 meters of any off-site business or residential receptor. [District Rule 4102]
8. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
9. 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]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

**DAVID WARNER**, Director of Permit Services  
S-1329-32-0: Jun 6 2011 12:53PM - TORID : Joint Inspection NOT Required

10. {3794} The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, 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. [In-stack O<sub>2</sub> monitors may be allowed if approved by the APCO.] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. 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 if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]
11. {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]
12. {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]
13. {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]
14. The permittee shall update the I&M plan (i.e. monthly NO<sub>x</sub>, CO, and O<sub>2</sub> emissions monitoring with a portable analyzer) 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]
15. The permittee shall keep accurate records of location and duration of operation. [District Rule 4701]
16. Emissions from this IC engine shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 15% O<sub>2</sub> (equivalent to 0.125 g-NO<sub>x</sub>/hp-hr), 0.00285 g-SO<sub>x</sub>/hp-hr, 0.02 g-PM<sub>10</sub>/hp-hr, 250 ppmvd CO @ 15% O<sub>2</sub> (equivalent to 2.155 g-CO/hp-hr), or 25 ppmvd VOC @ 15% O<sub>2</sub> (equivalent to 0.121 g-VOC/hp-hr). [District Rules 2201 and 4702]
17. 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 and at least once every 24 months. [District Rules 2201 and 4702]
18. 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 Rules 2201 and 4702]
19. 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 Rules 2201 and 4702]
20. 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, 2201 and 4702]

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CONDITIONS CONTINUE ON NEXT PAGE

21. 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]
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
23. 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 Rules 2201 and 4702]
24. 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 Rules 2201 and 4702]
25. ATC S-1329-25-1 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]

**DRAFT**