San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 10 2016

Chief Dennis Bitters
Ripon Fire District
142 S Stockton Avenue
Ripon, CA 95366

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-9228
Project Number: N-1153474

Dear Chief Bitters:

Enclosed for your review and comment is the District's analysis of Ripon Fire District's application for an Authority to Construct for the permitting of an existing natural gas fired emergency engine powering an electrical generator, located at 142 South Stockton Avenue, Ripon, CA.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:fjc

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email

Seyed Sadredin
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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Natural Gas Fired Emergency Standby IC Engine

Facility Name:	Ripon Fire District	Date:	February 2, 2016
Mailing Address:	142 S Stockton Avenue Ripon, CA 95366	Engineer:	Fred Cruz
		Lead Engineer:	Nick Peirce
Contact Person:	Chief Dennis Bitters		
Telephone:	(209) 599-4209		
Email:	chief22@riponfire.com		
Application No:	N-9228-1-0		
Project No:	N-1153474		
Complete:	January 12, 2016		

I. Proposal:

The applicant submitted an application to permit an existing natural gas fired emergency IC engine that was installed in 2003. At the time the engine was installed it would have required a permit.

II. Applicable Rules:

Rule 2201 New and Modified Stationary Source Review Rule (4/21/2011)
Rule 2410 Prevention of Significant Deterioration (6/16/2011)
Rule 2520 Federally Mandated Operating Permits (6/21/2001)
Rule 4001 New Source Performance Standards (4/14/1999)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/2004)
Rule 4101 Visible Emissions (2/17/2005)
Rule 4102 Nuisance (12/17/1992)
Rule 4201 Particulate Matter Concentration (12/17/1992)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/2003)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (8/18/2011)
Rule 4801 Sulfur Compounds (12/17/1992)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location:

The facility is located at 142 South Stockton Avenue, Ripon, CA.
The project is not located within 1,000 feet of a K-12 school. Therefore, the school notification requirements of CH&SC Section 42301.6 are not required.

IV. Process Description:

The 150 bhp General Motors natural gas fired emergency engine powers an electrical generator and will engage when electrical power is lost to this site.

V. Equipment Listing:

N-9228-1-0:
150 BHP GENERAL MOTORS MODEL INDUSTRIAL VORTEX 8.1L NATURAL GAS FIRED EMERGENCY ENGINE POWERING AN ELECTRICAL GENERATOR.

VI. Emission Control Technology Evaluation:

The engine is equipped with:
[x] Positive Crankcase Ventilation (PCV) or 90% efficient control device
[ ] Non-Selective Catalytic Reduction
[ ] Air/Fuel Ratio or an O_2 Controller
[ ] Rich Burn Technology

VII. Emission Calculations:

A. Assumptions:

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	100 hours/year
EPA F-factor (adjusted to 60 °F):	8,578 dscf/MMBtu (40 CFR 60 Appendix B)
Fuel heating value:	1,000 Btu/dscf (District Policy APR-1720, dated 12/20/2001)
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Sulfur concentration:	2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/2001)
Thermal efficiency of engine:	commonly~35%

B. Emission Factors:

The emissions factor for NO_x, CO, VOC and PM_{10} emissions are based on the emission data as provided by the engine manufacturer (see attached engine emissions sheet).

Pollutant	Emission Factor (g/bhp-hr)	Source[1]
NO_x	7.6	Engine manufacturer
CO	19.8	Engine manufacturer
VOC	0.4	Engine manufacturer
PM_{10}	0.158	AP-42 (7/00) Table 3.2-1
SOx	0.0094	Mass Balance Equation Below *

*PM_{10} value includes both filterable (3.84×10^{-2} lb/MMBtu) and condensable (9.91×10^{-3} lb/MMBtu) emissions.

**SO_X is calculated as follows:

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

C. Calculations:

1. Pre-Project Emissions (PE1)

This emergency engine is considered as a new emissions unit and PE1 emissions will equal zero for all pollutants.

2. Post Project PE (PE2)

The potential to emit emissions from this emergency IC engine is based on the maximum operating capacity of the engine for 24 hours per day. The following calculation for NO_x emissions is representative of emission calculations for all pollutants. Annual emissions are based on 100 hours per year for non-emergency operation.

NO_x: 7.6 g/hp-hr × 150 hp × lb/453.6 g

NO_x: 2.51 lb/hr, 60.3 lb/day, 251 lb/yr
CO: 6.55 lb/hr, 157.1 lb/day, 655 lb/yr
VOC: 0.13 lb/hr, 3.2 lb/day, 13 lb/yr
PM_{10}: 0.05 lb/hr, 1.3 lb/day, 5 lb/yr
SO_x: 0.003 lb/hr, 0.1 lb/day, 0.3 lb/yr[2]

	NO_x	CO	VOC	PM_{10}	SO_x
Daily PE	60.3	157.1	3.2	1.3	0.1
Annual PE	251	655	13	5	0

[1] The applicant did not have any emissions data for this emergency engine. Emission factors are based on emissions data from two existing permitted General Motors model Industrial Vortex 8.1L emergency engines, C-392-29-0 project C-1053121 and C-7560 project C-1080067.

[2] Per District Policy APR 1105, Use of Significant Figures, annual emissions less than 0.5 lb are set to zero.

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 ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. Since this is a new emissions unit at a new facility, SSPE1 will equal zero for all pollutants for this emergency engine.

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 ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) 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 No.	NOx	CO	VOC	PM_{10}	SOx
N-9228-1-0 (ATC)	***251***	***655***	***13***	***5***	***0***
Total	251	655	13	5	0
Major Source Threshold	20,000	200,000	20,000	140,000	140,000
Existing Major Source?	No	No	No	No	No

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 facility does not have ERCs which have been banked at the source; therefore, SSPE2 does not have to be adjusted.

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO_X	0	251	20,000	No	No
SO_X	0	0	140,000	No	No
PM_{10}	0	5	140,000	No	No
CO	0	655	200,000	No	No
VOC	0	13	20,000	No	No

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

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b) (1) (I). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO_2	VOC	SO_2	CO	PM	PM_{10}	CO_{2e}
Estimated Facility PE before Project Increase	0	0	0	0	0	0	0
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

As shown above, the facility is not an existing major source for PSD for any pollutant. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE):

The equipment is considered as a new emissions unit and the baseline emissions will equal zero for all pollutants.

7. SB 288 Major Modification:

The purpose of Major Modification calculations is to determine the following:

A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, Section 4.1.3); and

B. If a public notification is triggered (District Rule 2201, Section 5.4.1).

Based on the pre and post-project stationary source potential to emit calculations (less onsite Emission Reduction Credit's) in this document, the facility is not a Major Source for any pollutant. Therefore, the proposed project cannot trigger a Major modification and no further calculations are required.

8. Federal Major Modification

This facility is not a Major Source for any pollutant. Therefore, this project can not constitute a Federal Major Modification and no further discussion is required.

9. Quarterly Net Emissions Change (QNEC)

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

10. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination:

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO
- PM
- PM_{10}
- Greenhouse gases (GHG): CO_2, N_2O, CH_4, HFCs, PFCs, and SF_6

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII.C.5 of this document).

In the case the facility is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

PSD Major Source Determination: Potential to Emit (tons/yr)						
	NO_2	VOC	SO_2	CO	PM	PM_{10}
Total PE from New and Modified Units	0.13	0.007	0	0.33	0.003	0.003
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

VII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT):

1. BACT Applicability:

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a) Any new emissions unit with a potential to emit exceeding 2.0 pounds per day,
b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding 2.0 pounds per day, and/or
d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

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

a. New emissions units – PE > 2.0 lb/day

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

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -1-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO_X	60.3	> 2.0	N/A	Yes
SO_X	0.1	> 2.0	N/A	No
PM_{10}	1.3	> 2.0	N/A	No
CO	157.1	> 2.0 and SSPE2 ≥ 200,000 lb/yr	655	No
VOC	3.2	> 2.0	N/A	Yes

BACT will be triggered for NO_x and VOC emissions for this engine.

b. Relocation of emissions units – PE > 2.0 lb/day

This engine is not being relocated from one stationary source to another stationary source as a result of this project.

c. Modification of emissions units – Adjusted Increase in Permitted Emissions (AIPE) > 2.0 lb/day

This engine is not being modified. Therefore, BACT is not triggered for the modification of emissions units with an AIPE > 2.0 lb/day.

d. Major Modification

This project does not constitute a Major Modification. Therefore, BACT is not triggered for a Major Modification.

2. BACT Guideline:

When this emergency engine was installed it would have been subject to the BACT requirements of the San Joaquin Valley APCD. The applicable BACT Guideline for this emergency gas fired emergency engine is BACT Guideline 3.1.6 (see Appendix C).

3. Top Down BACT Analysis:

Based on the information available to the District concerning BACT requirements top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the

Clearinghouse without further analysis." Pursuant to the attached Top-Down BACT Analysis, which appears in Appendix C of this report, BACT is satisfied with:

NO_X:	Use of natural gas or propane as the fuel
VOC:	Use of a Positive Crankcase Ventilation (PCV) system and use of natural gas or propane as fuel

Based on the guidance provided in District Policy FYI-98, the District's BACT analysis is based on the requirements for the "achieved-in-practice" control technology for the source or category of sources that was in effect at the time the equipment was installed. Per the applicant, this emergency engine is equipped with a PCV system and uses natural gas as the fuel. Therefore, this emergency engine meets the District's BACT requirements. See Appendix C for the applicable BACT Guideline.

B. Offsets:

Since emergency standby IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and offset calculations are not required.

C. Public Notification:

1. Applicability:

Public noticing is required for:

a. New Major Sources, which is a new facility that also becomes a Major Source,
b. Major Modifications,
c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
d. Any project which results in the offset thresholds being surpassed, and/or
e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant,
f. Title V Significant Modification.

a. New Major Source

A New Major Source is a new facility, which also becomes a major source. This is a new facility and does not become a Major Source from this project; public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated previously in Sections VII.C.7 and VII.C.8, this project does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not required.

c. PE > 100 lb/day

The Daily PE for this new emission unit is compared to the daily PE Public Notice Thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	Daily PE for unit -1-0 (lb/day)	Public Notice Threshold (lb/day)	Public Notice Triggered?
NO_X	60.3	100	No
SO_X	0.1	100	No
PM_{10}	1.3	100	No
CO	157.1	100	Yes
VOC	3.2	100	No

As detailed in the preceding table, CO emissions exceed the 100-lb/day threshold and public noticing is required for this project.

d. Offset Threshold

The following table compares the SSPE1 and SSPE2 with the offset thresholds to determine if any offset thresholds have been surpassed.

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Public Notice Required?
NO_X	0	251	20,000	No
SO_X	0	0	54,750	No
PM_{10}	0	5	29,200	No
CO	0	655	200,000	No
VOC	0	13	20,000	No

As detailed in the preceding table, there are no offset thresholds surpassed with this project. Therefore, public noticing is not required for this project

e. 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:

SSIPE Public Notice Threshold					
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)	SSIPE Threshold (lb/yr)	Public Notice Required?
NO_X	251	0	251	20,000	No
SO_X	0	0	0	20,000	No
PM_{10}	5	0	5	20,000	No
CO	655	0	655	20,000	No
VOC	13	0	13	20,000	No

As detailed in the preceding table, there are no SSIPE thresholds surpassed with this project. Therefore, public noticing is not required for exceeding the SSIPE thresholds.

f. Title V Significant Modification:

This facility is not a Major Source and has not been issued a Title V permit. Therefore, public noticing for a Title V Significant Modification is not required.

2. Public Notice Action

As discussed above, this project will result in CO emissions exceeding the 100-lb/day threshold from this engine, which would subject the project to the noticing requirements listed above. Therefore, public notice will be required for this project.

D. Daily Emissions Limits

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. For this emergency standby IC engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of 24 hours per day. The emission factors are the same for each engine. Therefore, the following conditions will be listed on each ATC to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 7.6 g-NOx/bhp-hr, 0.158 g-PM10/bhp-hr, 19.8 g-CO/bhp-hr, 0.0094 g-SOx/bhp-hr or 0.4 g-VOC/bhp-hr. [District Rule 2201]

- This IC engine shall be fired on PUC quality natural gas only. [District Rule 2201]

E. Compliance Assurance:

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

Monitoring is not required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

4. Reporting

Reporting is not required to ensure compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix D** of this document for the AAQA summary sheet.

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

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

Rule 2520 Federally Mandated Operating Permits

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

Rule 4001 New Source Performance Standards (NSPS)

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

Pursuant to § 60.4230 of Subpart JJJJ, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce the requirements of this regulation. The applicant will be so notified in a permit condition.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)

Pursuant to § 63.6585 of Subpart ZZZZ, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce the requirements of 40 CFR 63 Subpart ZZZZ for non-Part 70 sources (Major Sources). The applicant will be so notified in a permit condition.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (dated 3/2/01) specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Technical Services received a request on January 12, 2016, to perform a Risk Management Review for a proposed installation of a 150 bhp natural gas fired emergency IC engine powering an electric generator. (See RMR Summary in Appendix D).

Toxic emissions for this proposed unit were calculated using 2000 AP-42 emission factors for natural gas fired internal combustion 4 stroke rich burn engine. 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. The prioritization score for this proposed unit was greater than 1.0 (see RMR Summary Table below). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2009-2013 from the Stockton area to determine the dispersion factors for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

RMR Summary			
Categories	**NG ICE (Unit 1-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	2.26	2.26	>1.0
Acute Hazard Index	0.23	0.23	0.23
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	5.19E-08	5.19E-08	5.19E-08
T-BACT Required?	**No**		
Special Permit Conditions?	**Yes**		

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is greater than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

The following conditions will be listed on the ATC to ensure compliance with the RMR:

Unit N-9228-1-0:

1. The exhaust stack of each engine 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]
2. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

Rule 4201 Particulate Matter Concentration

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

$$0.063 \quad \frac{g-PM_{10}}{bhp-hr} \times \frac{1\,bhp-hr}{2{,}542.5\,Btu} \times \frac{10^6\,Btu}{8{,}578\,dscf} \times \frac{0.35\,Btu_{out}}{1\,Btu_{in}} \times \frac{15.43\,grain}{g} = \quad 0.016 \quad \frac{grain-PM}{dscf}$$

Since 0.016 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

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

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

Rule 4701 Internal Combustion Engines – Phase 1

District Rule 4701 is applicable to diesel-fired emergency standby or emergency IC engines. Rule 4702 is at least as stringent as this rule in all aspects; therefore, compliance with that rule will ensure compliance with Rule 4701.

Rule 4702 Internal Combustion Engines – Phase 2

The following table demonstrates how the proposed engine will comply with the requirements of District Rule 4702.

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.	This emergency engine will be limited to 100 hours per calendar year for non-emergency purposes. Thus, compliance is expected.
Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system, or in conjunction with a voluntary utility demand reduction program or interruptible power contract.	The following conditions will be included on this permit: • {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rules 4701 and 4702] • {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rules 4701 and 4702]

The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.	The following condition will be included on this permit: • {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rules 4701 and 4702]
Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.	The following conditions will be included on this permit: • {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] • The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115] • {3475} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 4701 and 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

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

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2

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

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

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

Since 1.97 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Consistent with California Environmental Quality Act (CEQA) and CEQA Guidelines requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are

thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA.

The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's *Guidelines for Expedited Application Review* (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District's Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. RECOMMENDATION:

Compliance with all applicable prohibitory rules and regulations is expected. Issue the Authority to Construct permit subject to the conditions on the attached permit.

X. BILLING INFORMATION:

Permit Number	Fee Schedule	Fee Description
N-9228-1-0	3020-10-B	150 bhp ($123)

Appendix A – Authority to Construct permit N-9228-1-0
Appendix B – QNEC Calculations
Appendix C – BACT Top-down Analysis
Appendix D - RMR Summary

Appendix A

Authority to Construct Permit
N-9228-1-0

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-9228-1-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: RIPON FIRE DISTRICT
MAILING ADDRESS: 142 S STOCKTON AVE
RIPON, CA 95366

LOCATION: 142 S STOCKTON AVE
RIPON, CA 95366

EQUIPMENT DESCRIPTION:
150 BHP GENERAL MOTORS MODEL INDUSTRIAL VORTEX 8.1L NATURAL GAS FIRED EMERGENCY ENGINE POWERING AN ELECTRICAL GENERATOR.

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
6. {1897} This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]
7. Emissions from this IC engine shall not exceed any of the following limits: 7.6 g-NOx/bhp-hr, 0.158 g-PM10/bhp-hr, 19.8 g-CO/bhp-hr, 0.0094 g-SOx/bhp-hr or 0.4 g-VOC/bhp-hr. [District Rule 2201]
8. This IC engine shall be fired on PUC quality natural gas only. [District Rule 2201]
9. {3405} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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

DRAFT

Arnaud Marjollet, Director of Permit Services
N-9228-1-0 Feb 2 2015 8:09AM – CRUZF Joint Inspection NOT Required

10. {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
11. {3806} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702]
12. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
13. {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
14. {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
15. {3497} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]
16. U.S. EPA administers the requirements of 40 CFR Part 60 Subpart JJJJ and 40 CFR Part 63 Subpart ZZZZ. The owner or operator shall comply with the emission and operating limitations, testing requirements, initial and continuous compliance requirements as specified in these subparts. The owner or operator shall submit all applicable notifications, reports, and records to the administrator by the required compliance dates. [District Rules 4001 and 4002]

Appendix B
QNEC Calculations

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

Using the emission calculations in this evaluation, $PE2_{quarterly}$ and $BE_{quarterly}$ can be calculated as follows:

This calculation is required for application emission profile purposes. It is assumed that each unit's annual emissions are evenly distributed throughout the year as follows: ΔPE (lb/qtr) = PE (lb/yr) ÷ 4 qtr/yr

N-9228-1-0:

ΔPE_{NOx}	= 251 lb-NOx/year – 0 lb-NOx/year	= 251 lb/year
ΔPE_{CO}	= 655 lb-CO/year – 0 lb-CO/year	= 655 lb/year
ΔPE_{VOC}	= 13 lb-VOC/year – 0 lb-VOC/year	= 13 lb/year
ΔPE_{PM10}	= 5 lb-PM10/year – 0 lb-PM10/year	= 5 lb/year
ΔPE_{SOx}	= 0 lb-SOx/year – 0 lb-SOx/year	= 0 lb/year

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx	62	63	63	63
CO	163	164	164	164
VOC	3	3	3	4
PM_{10}	1	1	1	2
SOx	0	0	0	0

Per » B A C T » Bact Guideline.asp?category Level1=3&category Level2=1&category Level3=6&last Update=6 » 20 :

Back

Best Available Control Technology (BACT) Guideline 3.1.6
Last Update: 6/20/1995

Emergency Gas Fired I.C. Engine > or = 132 hp, Rich Burn

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Natural gas, LPG, or propane as fuel	CO catalyst and natural gas, LPG, or propane as fuel	
NOx	Natural gas, LPG or propane as fuel	NOx Catalyst and natural gas, LPG, or propane as fuel	
PM10	Positive Crankcase Ventilation (PCV) and natural gas, LPG or propane as fuel		
SOx	Natural gas, LPG or propane as fuel		
VOC	Positive Crankcase Ventilation (PCV), and natural gas, LPG, or propane as fuel	VOC Catalyst, Positive Crankcase Ventilation (PCV), and natural gas, LPG, or propane as fuel	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.6*

Last Update: 6/20/1995

Emergency Gas Fired I.C. Engine > or = 132 hp, Rich Burn

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Positive Crankcase Ventilation (PCV), and natural gas, LPG, or propane as fuel	VOC Catalyst, Positive Crankcase Ventilation (PCV), and natural gas, LPG, or propane as fuel	
SOx	Natural gas, LPG or propane as fuel		
PM10	Positive Crankcase Ventilation (PCV) and natural gas, LPG or propane as fuel		
NOx	Natural gas, LPG or propane as fuel	NOx Catalyst and natural gas, LPG, or propane as fuel	
CO	Natural gas, LPG, or propane as fuel	CO catalyst and natural gas, LPG, or propane as fuel	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is 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**

Appendix C
BACT Guideline and BACT Analysis

Top Down BACT Analysis for Emergency IC Engines

Oxides of nitrogen (NO_X) are generated from the high temperature combustion of the natural gas fuel. A majority of the NO_X emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_X emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. BACT Analysis for NO_X Emissions:

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 3.1.6, 2nd quarter 1995, identifies the BACT control technologies BACT for NO_X emissions from emergency gas fired IC engines rated equal to or greater than 132 bhp as follows:

1) Use of natural gas, LPG or propane as fuel (Achieved in practice)
2) Use of NOx catalyst and use of natural gas, LPG or propane as fuel (Technologically feasible)

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) Use of NOx catalyst and use of natural gas, LPG or propane as fuel (Technologically feasible)
2) Use of natural gas, LPG or propane as fuel (Achieved in practice)

d. Step 4 - Cost Effectiveness Analysis

This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than two tons per year of each affected pollutant. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

e. Step 5 - Select BACT

BACT for NO_X emissions from this gas fired emergency engine powering an electrical generator is the use of natural gas as fuel. Therefore, BACT for NO_X emissions is satisfied for this engine.

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel. Some VOCs are emitted from the crankcase of the engine as a result of piston ring blow-by.

2. **BACT Analysis for VOC Emissions:**

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

   The SJVAPCD BACT Clearinghouse guideline 3.1.6, 2nd quarter 1995, identifies achieved in practice BACT for VOC emissions from rich-burn emergency natural gas IC engines $\geq$ 132 bhp as follows:

   1) Use of an engine with positive crankcase ventilation (PCV) system and the use of natural gas, LPG or propane as the fuel (Achieved in practice)
   2) Use of VOC catalyst and positive crankcase ventilation (PCV) system and use of natural gas, LPG or propane fuel

   b. **Step 2 - Eliminate technologically infeasible options**

   There are no technologically infeasible options to eliminate from step 1.

   c. **Step 3 - Rank remaining options by control effectiveness**

   1) Use of VOC catalyst and positive crankcase ventilation (PCV) system and use of natural gas, LPG or propane fuel
   2) Use of an engine with positive crankcase ventilation (PCV) system and the use of natural gas, LPG or propane as the fuel

   d. **Step 4 - Cost Effectiveness Analysis**

   This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than two tons per year of each affected pollutant. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

   e. **Step 5 - Select BACT**

   BACT for VOC emissions from this gas fired emergency engine powering an electrical generator is the use of an engine equipped with a PCV system and the use of natural gas as the fuel. Therefore, BACT for VOC emissions is satisfied for this engine.

Appendix D

RMR Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To: Fred Cruz – Permit Services

From: Tadeh Issakhanian – Technical Services

Date: January 13, 2016

Facility Name: Ripon Fire District

Location: 142 S. Stockton Ave.

Application No: N-9228-1-0

Project No: N-1153474

A. RMR SUMMARY

RMR Summary			
Categories	**NG ICE (Unit 1-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	2.26	2.26	>1.0
Acute Hazard Index	0.23	0.23	0.23
Chronic Hazard Index	0.00	0.00	0.00
Maximum Individual Cancer Risk	5.19E-08	5.19E-08	5.19E-08
T-BACT Required?	**No**		
Special Permit Conditions?	**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 # 1-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **100** hours per calendar year. [District Rule 4702 and 17 CCR 93115]

B. RMR REPORT

I. Project Description

Technical Services received a request on January 12, 2016, to perform a Risk Management Review for a proposed installation of a 150 bhp natural gas fired emergency IC engine powering an electric generator.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2000 AP42 emission factors for Natural Gas Fired internal combustion 4 Stroke Rich Burn Engine. 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. The prioritization score for this proposed unit was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used, with the parameters outlined below and meteorological data for 2009-2013 from Stockton to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 1-0			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	2.1	**Closest Receptor (m)**	23
Stack Diameter. (m)	0.09	**Type of Receptor**	Business
Stack Exit Velocity (m/s)	47	**Max Hours per Year**	100
Stack Exit Temp. (°K)	950	**Fuel Type**	NG
Burner Rating (MMscf/hr)	1.090E-03	**Burner Rating (MMscf/yr)**	0.101

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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.

Attachments

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