



FEB 13 2014

Mr. Michael Kummer
Hilmar Cheese Company
PO Box 910
Hilmar, CA 95234

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # N-1275
Project # N-1133731**

Dear Mr. Kummer:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification is for the installation of a diesel fired emergency engine.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

**San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Diesel-Fired Emergency Standby IC Engine**

Facility Name: Hilmar Cheese Company
Mailing Address: PO Box 910
Hilmar, CA 95324

Date: February 3, 2014
Engineer/ Mark Schonhoff
Specialist:

Contact Person: Michael Kummer
Telephone: (209) 656-1171
Application #: N-1275-37-0
Project #: N-1133731
Complete: January 22, 2014

I. Proposal

Hilmar Cheese Company is proposing to install a 389 bhp diesel-fired emergency standby internal combustion (IC) engines powering an electrical generator.

This permitting action will be a Minor Modification to the Title V permit and the applicant has chosen to proceed with a Certificate of Conformity.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (6/16/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702 Stationary Internal Combustion Engines (11/14/13)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
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

9001 North Lander Avenue
Hilmar, CA

The facility is not within 1,000 feet of a K-12 school.

IV. Process Description

The emergency standby engine will power an electrical generator. Other than emergency standby operation, the engine may be operated up to 50 hours per year for maintenance and testing purposes.

V. Equipment Listing

389 BHP IVECO/FPT MODEL F2CE9685A-E TIER 3 CERTIFIED DIESEL-FIRED
EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

The applicant has proposed to install a Tier 3 certified diesel-fired IC engine that will be fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

NO_x, CO, VOC and PM₁₀:

The proposed engine does not meet the latest published Tier Certification requirements; however, compliance with both BACT and CARB's stationary ATCM requirements will be met as described below (see Appendix C for a copy of the emissions data sheet and/or the ARB/EPA executive order).

Although Tier 4i requirements for this category of engine went into effect in 2011, CARB regulations and District policy allows for the availability of Tier 4i units to be accounted for. CARB's Stationary ATCM exemption §93115.3(u) says, "If the Executive Officer or District finds, based on verifiable information from the engine manufacturer, distributor, or dealer, that current model year engines meeting the current emission standards are not available or not available in sufficient numbers or in a sufficient range of makes, models, and horsepower ratings, then the Executive Officer or the District may allow the sale, purchase, or installation of a new stock engine meeting the emission standards from the previous model year to meet the new stationary diesel-fueled engine emission standards pursuant to title 13 of the California Code of Regulations or 40 CFR part 89." The District has thoroughly investigated, with each of the common manufacturers', the availability of Tier 4i units in this size range, and has found them to be currently

unavailable. Since Tier 4i units are not available, as described above, the installation of a Tier 3 unit is acceptable, as Tier 3 is the prior published Tier in this engine's size range.

SO_x:

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

VII. General Calculations

A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	50 hours/year
Density of diesel fuel:	7.1 lb/gal
EPA F-factor (adjusted to 60 °F):	9,051 dscf/MMBtu
Fuel heating value:	137,000 Btu/gal
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Thermal efficiency of engine:	commonly ≈ 35%
PM ₁₀ fraction of diesel exhaust:	0.96 (CARB, 1988)

B. Emission Factors

The NO_x + VOC emission factor is 2.6 g/bhp-hr. Per District guidance document GEAR-11d, 95% of this would be expected to be NO_x and 5% would be expected to be VOC (Carl Moyer Program).

$$EF_{NO_x} = (2.6 \text{ g/bhp-hr})(0.95) = 2.47 \text{ g/bhp-hr}$$
$$EF_{VOC} = (2.6 \text{ g/bhp-hr})(0.05) = 0.13 \text{ g/bhp-hr}$$

$$EF_{CO} = 0.4 \text{ g/bhp-hr (manufacturer)}$$

$$EF_{SO_x} = 0.0047 \text{ g/bhp-hr – see below}$$

Sulfur Content of Diesel:	15 ppmw
Density of Diesel:	7.1 lb/gal
Fuel Use:	19.1 gal/hr (manufacturer)
Engine Rating:	389 bhp

$$EF_{SO_x} = [(15 \text{ lb S}/10^6 \text{ lb fuel})(7.1 \text{ lb fuel/gal})(19.1 \text{ gal/hr})(2 \text{ lb SO}_2/\text{lb S}) \\ \times (453.6 \text{ g/lb})] / (389 \text{ bhp}) = 0.0047 \text{ g/bhp-hr}$$

$$EF_{PM_{10}}: \quad 0.10 \text{ g/bhp-hr (manufacturer)}$$

C. Calculations

1. Pre-Project Emissions (PE1)

The unit is new, therefore, PE1 = 0.

2. Post-Project PE (PE2)

The daily and annual PE's are calculated as follows:

Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO _x	2.47	389	24	50	50.8	106
SO _x	0.0047	389	24	50	0.1	0
PM ₁₀	0.100	389	24	50	2.1	4
CO	0.400	389	24	50	8.2	17
VOC	0.13	389	24	50	2.7	6

The annual SO_x emissions were calculated to be less than 1 lb/yr and were therefore set to zero in accordance with District Policy APR-1105.

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.

The following are from the Application Review document for project N-1131453.

Permit #	SSPE1 (lb/yr)				PM10
	NOx	CO	VOC	SOx	
N-1275-2-8	34,996	8,140	2,628	621	29,200
N-1275-4-9		8,140	913	621	
N-1275-5-6		0	0	0	
N-1275-6-3		0	0	0	
N-1275-7-4		0	0	0	
N-1275-9-7		8,140	2,639	627	
N-1275-12-5		13,615	730	511	
N-1275-14-2		0	0	0	
N-1275-15-2		0	0	0	
N-1275-16-3		0	0	0	
N-1275-17-3		13,701	819	424	
N-1275-18-4		10,877	1,168	840	
N-1275-22-3		17,666	2,190	1,241	
N-1275-23-8		66,661	444	667	
N-1275-24-1		0	0	0	
N-1275-25-3		0	0	0	
N-1275-26-1		0	0	0	
N-1275-28-1		17,608	323	167	
N-1275-30-1		16,513	1,887	2,463	
N-1275-35-2		0	0	0	
ATC N-1275-36-0	122	10	0		
ERC	0	0	0	0	
Total	34,996	181,183	13,751	8,182	29,200

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.

Permit #	SSPE1 (lb/yr)				
	NOx	CO	VOC	SOx	PM10
N-1275-2-8	34,996	8,140	2,628	621	29,200
N-1275-4-9		8,140	913	621	
N-1275-5-6		0	0	0	
N-1275-6-3		0	0	0	
N-1275-7-4		0	0	0	
N-1275-9-7		8,140	2,639	627	
N-1275-12-5		13,615	730	511	
N-1275-14-2		0	0	0	
N-1275-15-2		0	0	0	
N-1275-16-3		0	0	0	
N-1275-17-3		13,701	819	424	
N-1275-18-4		10,877	1,168	840	
N-1275-22-3		17,666	2,190	1,241	
N-1275-23-8		66,661	444	667	
N-1275-24-1		0	0	0	
N-1275-25-3		0	0	0	
N-1275-26-1		0	0	0	
N-1275-28-1		17,608	323	167	
N-1275-30-1		16,513	1,887	2,463	
N-1275-35-2		0	0	0	
ATC N-1275-36-0		122	10	0	
ATC N-1275-37-0		17	6	0	
ERC		0	0	0	
Total	34,996	181,200	13,757	8,182	29,200

5. Major Source Determination

Rule 2201 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."

No ERCs for onsite emission reductions have banked, therefore, no adjustment to SSPE2 is necessary.

Major Source Determination					
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Major Source Threshold (lb/yr)	Existing Major Source?	Becoming a Major Source?
NO _x	34,996	34,996	20,000	Yes	No
SO _x	8,182	8,182	140,000	No	No
PM ₁₀	29,200	29,200	140,000	No	No
CO	181,183	181,200	200,000	No	No
VOC	13,751	13,757	20,000	No	No

As seen in the table above, the facility is an existing Major Source for NO_x and it will not become a Major Source for any other pollutants as a result of this project.

Rule 2410 Major Source Determination:

The Major Source thresholds, the current facility potentials to emit and whether or not the facility is currently a PSD Major Source are shown on the following table.

Pollutant	Threshold (tons/yr)	Facility PE (ton/yr)	PSD Major Source
NOx	250	17.5	No
CO	250	90.6	No
VOC	250	6.88	No
SOx	250	4.09	No
PM10	250	14.6	No
PM	250	14.6	No
CO _{2e}	100,000	130,221 ¹	Yes

6. Baseline Emissions (BE)

The unit is new, therefore, its Baseline Emissions are zero.

7. SB 288 Major Modification

SB-288 Major Modification:

The purpose of SB-288 Major Modification calculations is to determine the following:

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

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

The facility is a Major Source only for NOx, therefore, an SB-288 Major Modification determination is required only for NOx. Per section 3.36 of Rule 2201, the SB-288 Major Modification threshold is 50,000 lb/yr. As shown in section VII.C.2 of this document, the potential to emit of NOx is less than this threshold, therefore, this permitting action is not an SB-288 Major Modification.

¹ Per the Application Review document for project N-1131453, the facility-wide potential to emit of CO_{2e} is 130,221 tons/yr.

8. Federal Major Modification

As shown in section VII.F of this document, this facility is a Major Source for only NO_x. Therefore, a Federal Major Modification determination is required for only NO_x. Per section 3.18.1.4 of Rule 2201, the Federal Major Modification Emission Increase (EI) threshold for NO_x is 0 lb/yr.

$$EI_{NO_x} = PAE_{NO_x} - BAE_{NO_x}$$

PAE = post-project projected actual emissions

BAE = pre-project baseline actual emissions

PAE (NO_x):

The PAE of NO_x will be assumed to be the Potential to Emit. As shown in section VII.C.2 of this document, the PAE of NO_x is:

$$PAE_{NO_x} = 106 \text{ lb/yr}$$

BAE (NO_x):

The unit is new, therefore BAE is zero.

EI (NO_x) Calculation:

$$EI (NO_x) = 106 \text{ lb/yr} - 0 \text{ lb/yr} = 106 \text{ lb/yr}$$

Federal Major Modification Determination:

Per the District's draft policy titled "Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications", if the average increase in emissions is 0.5 lb/day or less then the project is not to trigger a Federal Major Modification.

$$\begin{aligned} \text{Average IPE (to the tenths place of precision as specified in the policy)} \\ = (106 \text{ lb/yr}) / (365 \text{ days/yr}) = 0.3 \text{ lb/day} \end{aligned}$$

The average IPE will not exceed 0.5 lb/day, therefore, this permitting action is not 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 E.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

- 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.

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

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

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for each unit (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Required?
NO _x	50.8	> 2.0	n/a	Yes
SO _x	0.1	> 2.0	n/a	No
PM ₁₀	2.1	> 2.0	n/a	Yes
CO	8.2	> 2.0 and SSPE2 ≥ 200,000 lb/yr	181,200	No
VOC	2.7	> 2.0	n/a	Yes

As shown above, BACT will be required for NO_x, PM₁₀, and VOC emissions.

2. BACT Guideline

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

3. Top-Down BACT Analysis

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

Pursuant to the attached Top-Down BACT Analysis, which is in Appendix B of this document, BACT is satisfied with:

- NO_x: Tier 3 certified engine
- VOC: Tier 3 certified engine
- PM₁₀: 0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)

The following condition will be included on the ATC to ensure compliance with the PM₁₀ BACT requirement:

- Emissions from this IC engine shall not exceed 0.10 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]

B. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As shown in Section VII.C.2, the daily potential to emit of no pollutant will exceed 100 pounds. Therefore, a public notice is not required.

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

The emission increases associated with this unit will not cause an offset threshold to be surpassed.

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

For this project, the proposed engine is the only emission source. Since the proposed engine emissions are below 20,000 lb/year for all pollutants (See Section VII.C.2), the SSIPE for this project will be below the public notice threshold.

2. Public Notice Action

As shown above, this project will not require public noticing.

D. Daily Emissions Limits

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, 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. Therefore, the following conditions will be included on the ATC to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 2.47 g-NO_x/bhp-hr, 0.4 g-CO/bhp-hr, or 0.13 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
- Emissions from this IC engine shall not exceed 0.10 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. Reporting

No reporting is required to ensure compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

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

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not. As shown in section VII.C.5, the facility is a major PSD source for CO₂e.

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility is an existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

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 further analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO ₂	SO ₂	CO	PM	PM ₁₀	CO ₂ e
Total PE from New and Modified Units	0.053	0	0.009	0.002	0.002	4.0 (shown below)
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	No	No	No	No	No	No

EF_{GHG}: 0.000187 metric tons/bhp-hr (CARB greenhouse gas emission factor)
Rating: 389 bhp
Schedule: 50 hr/yr

$$PE_{GHG} = (0.000187 \text{ MT/bhp-hr})(389 \text{ bhp})(50 \text{ hr/yr})(2,205 \text{ lb/MT})(\text{ton}/2000 \text{ lb}) \\ = 4.0 \text{ tons/yr}$$

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.

Rule 2520 Federally Mandated Operating Permits

The facility is currently operating under a Title V permit and has proposed to receive the Authority-to-Construct permit with a Certificate of conformity. Therefore, the following conditions will be placed on the Authority-to-Construct permit.

This Authority to Construct serves as a written Certificate of Conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Y

Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an Administrative Amendment to its Title V permit. [District Rule 2520] Y

Rule 4001 New Source Performance Standards (NSPS)

40 CFR 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

This unit is subject to the requirements of section 60.4202(a)(2). This section states that subject units must meet the requirements of 40 CFR 89.112 and 40 CFR 89.113.

40 CFR 89.112:

This section states that units manufactured in 2006 and later must meet EPA Tier 3 emission standards. A Tier 3 unit is proposed, therefore, the proposed engine will comply with this requirement.

40 CFR 89.113:

The proposed engine is a constant speed unit and is exempt from this section per 89.113(c)(3).

Rule 4002 National Emission Standards for Hazardous Air Pollutants

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

The unit is new and as shown in appendix D of this document, the facility is an Area Source of HAP emissions. Per 63.6590(c), such units must comply with this subpart by complying with 40 CFR Part 60 Subpart IIII. As shown above, compliance with Subpart IIII will be met.

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. Therefore, a risk management review (RMR) was performed for this project. The RMR results are summarized in the following table, and can be seen in detail in Appendix F.

RMR Results				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required?
N-1275-37-0	N/A	N/A	0.33 in a million	No

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

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
- Emissions from this IC engine shall not exceed 0.10 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]
- The engine shall be operated only for maintenance, testing and required regulatory purposes and during emergency situations. Operation of the engine for maintenance, testing and required regulatory purposes shall not exceed 50 hours per year. [District Rules 2201 and 4702 and 17 CCR 93115]

Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM₁₀ emission factor of 0.4 g-PM₁₀/bhp-hr.

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

The new engine has a PM₁₀ emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:

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

Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO.

The proposed engine(s) are also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

Rule 4702 Internal Combustion Engines

The following table demonstrates how the proposed engine(s) 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.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. 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 the permit: <ul style="list-style-type: none"> • {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] • {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]
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	A condition enforcing this requirement will be included on the ATC and the PTO.
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 the permit: <ul style="list-style-type: none"> • {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]

<p>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.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none">• {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 Rules 4701, 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 (5) years, and shall be made available for District inspection upon request. [District Rules 4701, 4702 and 17 CCR 93115]
---	--

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

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

$$n = \text{moles SO}_2$$

$$T (\text{standard temperature}) = 60 \text{ }^\circ\text{F or } 520 \text{ }^\circ\text{R}$$

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

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

Since 1.0 ppmv is \leq 2,000 ppmv, this engine 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 93115]

California Health & Safety Code 42301.6 (School Notice)

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

Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

The following table demonstrates how the proposed engine(s) will comply with the requirements of Title 17 CCR Section 93115.

<p>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</p>	<p>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</p>
<p>Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.</p>	<p>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.</p>
<p>Section 96115.6(a) – Table 1 limits the emissions to the following:</p> <p>NMHC + NOx: 3.0 g/bhp-hr CO: 2.6 g/bhp-hr PM: 0.15 g/bhp-hr</p>	<p>As shown in section VII.B of this document. The emissions are expected to be:</p> <p>NMHC + NOx: 2.6 g/bhp-hr CO: 0.4 g/bhp-hr PM: 0.10 g/bhp-hr</p>
<p>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
<p>Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM</p>	<p>The District has verified that this engine is not located within 500' of a school.</p>
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>

California Environmental Quality Act (CEQA)

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

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

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

IX. Recommendation

Issue an Authority-to-Construct permit with the conditions on the attached draft Authority-to-Construct.

X. Billing Information

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
N-1275-37-0	3020-10-C	389 bhp IC engine	\$240

Appendices

- A. Draft ATC
- B. BACT Guideline and BACT Analysis
- C. Emissions Data Sheet
- D. Major HAP Source Determination
- E. QNEC Calculations
- F: Health Risk Assessment Summary
- G: Title V Modification – Compliance Certification Form

Appendix A Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT
ISSUANCE DATE: DRAFT

PERMIT NO: N-1275-37-0

LEGAL OWNER OR OPERATOR: HILMAR CHEESE COMPANY
MAILING ADDRESS: ATTN EHS COORDINATOR
P O BOX 910
HILMAR, CA 95324

LOCATION: 9001 N LANDER AVE
HILMAR, CA 95324

EQUIPMENT DESCRIPTION:
389 BHP IVECO/FPT MODEL F2CE9685A-E TIER 3 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE
POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. This Authority to Construct serves as a written Certificate of Conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an Administrative Amendment to its Title V permit. [District Rule 2520] Federally Enforceable Through Title V Permit
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. {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]
6. {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]
7. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 4701 and 4702 and 17 CCR 93115]

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

DAVID WARNER, Director of Permit Services

N-1275-37-0 Feb 3 2014 8:04AM - SCHONHOM Joint Inspection NOT Required

8. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]
9. The facility-wide NOx emissions shall not exceed 34,996 pounds during any rolling 12-month period. [District Rule 2201]
10. The facility-wide PM10 emissions shall not exceed 29,200 pounds during any rolling 12-month period. [District Rule 2201]
11. Emissions from this IC engine shall not exceed any of the following limits: 2.47 g-NOx/bhp-hr, 0.4 g-CO/bhp-hr, or 0.13 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
12. Emissions from this IC engine shall not exceed 0.10 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]
13. 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]
14. {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]
15. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rules 4701 and 4702 and 17 CCR 93115]
16. 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]
17. 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]
18. 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 Rules 4701 and 4702 and 17 CCR 93115]
19. Records of the facility-wide NOx and PM10 emissions, on a rolling 12-month basis shall be kept. The records shall be updated at least monthly. [District Rule 2201]
20. The permittee shall maintain monthly records of the type of fuel purchased. [District Rules 4701 and 4702 and 17 CCR 93115]
21. 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]

DRAFT

Appendix B
BACT Guideline and BACT Analysis

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.1
Last Update: 7/10/2009
Emergency Diesel IC Engine

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Latest EPA Tier Certification level for applicable horsepower range		
NOX	Latest EPA Tier Certification level for applicable horsepower range		
PM10	0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)		
SOX	Very low sulfur diesel fuel (15 ppmw sulfur or less)		
VOC	Latest EPA Tier Certification level for applicable horsepower range		

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

Top Down BACT Analysis for the Emergency IC Engine(s)

BACT Guideline 3.1.1 (July 10, 2009) applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1. BACT Analysis for NO_x and VOC Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

- *Latest EPA Tier Certification level for applicable horsepower range*

To determine the latest applicable Tier level, the following EPA and state regulations were consulted:

- 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 89 – Control of Emissions from New and In-Use Nonroad Compression – Ignition Engines
- 40 CFR Part 1039 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
- Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the proposed emergency engine(s) do not meet the definition of a nonroad engine. Therefore, only Title 17 CCR, Section 93115 and 40 CFR Part 60 Subpart IIII apply directly to the proposed emergency engine(s).

Title 17 CCR, Section 93115.6(a)(3)(A) (CARB stationary diesel engine ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission levels in Table 1 (below). Please note that these levels are at least as stringent or more stringent than the emission levels in 40 CFR Subpart IIII.

Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)					
Maximum Engine Power	Tier	Model Year(s)	PM	NMHC+NOx	CO
50 ≤ HP < 75 (37 ≤ kW < 56)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	4i	2008+		3.5 (4.7)	
75 ≤ HP < 100 (56 ≤ kW < 75)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	3	2008+		3.5 (4.7)	
100 ≤ HP < 175 (75 ≤ kW < 130)	3	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
		2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
600 ≤ HP < 750 (450 ≤ kW < 560)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
HP > 750 (kW > 560)	2	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
		2008+			

Additionally, 40 CFR Subpart IIII establishes emission standards for emergency diesel IC engines. These emission standards are the same as those specified in the CARB ATCM, except for engines rated greater than or equal to 50 and less than 75 hp. For such IC engines, the CARB ATCM is more stringent.

Therefore, the most stringent applicable emission standards are those listed in the CARB ATCM (Table 1).

For IC engines rated greater than or equal to 50 hp and less than 75 hp the the highest Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp the highest Tier required is Tier 3. For engines rated equal to or greater than 750 hp the highest Tier required is Tier 2.

Also, please note that neither the state ATCM nor the Code of Federal Regulations require the installation of IC engines meeting a higher Tier standard than those listed above for emergency applications, due to concerns regarding the effectiveness of the exhaust emissions controls during periods of short-term operation (such as testing operational readiness of an emergency engine).

The proposed engine is rated at 389 hp. Therefore, the applicable control technology option is EPA Tier 3 certification.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x and VOC will be the use of an EPA Tier 3 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

3. BACT Analysis for PM₁₀ Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

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

The latest EPA Tier Certification level for an engine of the proposed model year and horsepower rating is Tier 3. Refer to the Top-Down BACT analysis for NO_x for a discussion regarding the determination of the EPA Tier level to be considered.

Please note Tier 3 IC engines do not have a PM emission standard that is more stringent than 0.15 g/hp-hr. Additionally, the ATCM requires a PM emission standard of 0.15 g/hp-hr for all new emergency diesel IC engines.

Therefore, a PM/PM₁₀ emission standard of 0.15 g/hp-hr is required as BACT.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM₁₀ is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine that meets this requirement. Therefore, BACT will be satisfied.

Appendix C
Emissions Data Sheet

EXHAUST EMISSIONS DATA

STATEMENT OF EXHAUST EMISSIONS 2013 FPT DIESEL FUELED GENERATOR

The measured emissions values provided here are proprietary to Generac and its authorized dealers. This information may only be disseminated upon request, to regulatory governmental bodies for emissions permitting purposes or to specifying organizations as submittal data when expressly required by project specifications, and shall remain confidential and not open to public viewing. This information is not intended for compilation or sales purposes and may not be used as such, nor may it be reproduced without the expressed written permission of Generac Power Systems, Inc. The data provided shall not be meant to include information made public by Generac.

Generator Model:	SD250	EPA Certificate Number:	DFPXL08.7TR3-012
kW _e Rating:	250	CARB Certificate Number:	Not Applicable
Engine Family:	DFPXL08.7TR3	SCAQMD CEP Number:	511712
Engine Model:	F2CE9685A-E	Emission Standard Category:	Tier 3
Rated Engine Power (BHP)*:	389	Certification Type:	Stationary Emergency CI (40 CFR Part 60 Subpart IIII)
Fuel Consumption (gal/hr)*:	19.1		
Aspiration:	Turbo/Aftercooled		
Rated RPM:	1800		

*Engine Power and Fuel Consumption are declared by the Engine Manufacturer of Record and the U.S. EPA.

Emissions based on engine power of specific Engine Model. (These values are actual composite weighted exhaust emissions results over the EPA 5-mode test cycle.)			
CO	NOx + NMHC	PM	
0.5	3.5	0.13	Grams/kW-hr
0.4	2.6	0.10	Grams/bhp-hr

- The stated values are actual exhaust emission test measurements obtained from an engine representative of the type described above.
- Values based on 5-mode testing are official data of record as submitted to regulatory agencies for certification purposes. Testing was conducted in accordance with prevailing EPA protocol, which is typically accepted by SCAQMD and other regional authorities.
- No emissions values provided above are to be construed as guarantees of emission levels for any given Generac generator unit.
- Generac Power Systems, Inc. reserves the right to revise this information without prior notice.
- Consult state and local regulatory agencies for specific permitting requirements.
- The emission performance data supplied by the equipment manufacturer is only one element required toward completion of the permitting and installation process. State and local regulations may vary on a case-by-case basis and local agencies must be consulted by the permit application/equipment owner prior to equipment purchase or installation. The data supplied herein by Generac Power Systems cannot be construed as a guarantee of installability of the generating set.

Appendix D
Major HAP Source Determination

The premodification HAP balances for the natural gas fired boilers and driers and the natural gas/digester gas fired boiler are as shown on the following table (from the Application Review document for project N-1130676).

The potentials to emit from the digester gas fired flare were determined at that time but the unit was modified since and that modification resulted in an increase in fuel usage. Therefore, the amounts must be recalculated at this time and are therefore not shown on the table below.

The potentials to emit from the diesel engines are not shown because they must be recalculated to include the contributions from the engine currently under consideration.

Pollutant	Natural Gas Fired Boilers and Driers (lb/yr)	Natural Gas or Digester Gas Fired Boiler (lb/yr)
1,4 Dichlorobenzene	---	8.8
Acetaldehyde	26.2	23.3
Acenaphthylene	---	---
Acrolein	---	---
Anthracene	---	---
Arsenic	---	1.0
Cadmium	---	0.26
Benzene	15.5	3.8
Benzo(a)anthracene	---	---
Benzo(a) pyrene	---	---
Carbon Tetrachloride	---	8.8
Chlorobenzene	---	7.0
Chloroform	---	7.5
Chromium	---	0.53
Dibenz(a,h)anthracene	---	---
Ethylbenzene	---	---
Ethylene Dichloride	---	6.6
fluoranthene	---	---
fluorene	---	---
Formaldehyde	1,198.5	295.5
Hexane	---	---
Indeno(1,2,3-cd)pyrene	---	---
Lead	---	1.5
Methylene Chloride	---	5.7
Napthalene	---	---
Nickel	---	0.88
Phenanthrene	---	---
Propylene	---	---
Pyrene	---	---
Selenium	---	4.8
Tetrachloroethylene	---	9.2
Toluene	---	---
Trichloroethylene	---	7.9
Vinyl Chloride	---	15.8
Vinylidene Chloride	---	6.6
Xylene (total)	---	---
Total Potential HAP		

Diesel Fired IC Engines:

The potential HAP emissions from the proposed engine will be as follows. The emission factors are from the CATEF Emission Factor Database:

Fuel Usage (N-1276-36-0): 27.8 gal/hr
Fuel Usage (N-1275-37-0): 19.1 gal/hr
Total 46.9 gal/hr

Op. Schedule: 50 hr/yr (each)

Maximum Usage = (46.9 gal/hr)(50 hr/yr) = 2,345 gal/yr

Toxic Emissions (Emergency Diesel Fired IC Engine)		
Compound	Emission Factor (lb/10 ³ gal)	Potential to Emit (lb/yr)
Acenaphthene	0.000867	0.00203
Acenaphthylene	0.00132	0.00310
Acetaldehyde	0.00646	0.0151
Acrolein	0.00179	0.00420
Anthracene	0.000289	0.000678
Benzene	0.104	0.244
Benzo(a)anthracene	0.0000969	0.000227
Benzo(a)pyrene	0.0000477	0.000112
Dibenz(ah)anthracene	0.000280	0.000657
ethylbenzene	0.00803	0.0188
fluoranthene	0.000330	0.000774
fluorene	0.00124	0.00291
formaldehyde	0.176	0.413
Hexane	0.00147	0.00345
Indeno(1,2,3-cd)pyrene	0.000280	0.000657
Napthalene	0.0319	0.0748
phenanthrene	0.00648	0.0152
propylene	0.345	0.809
pyrene	0.000280	0.000657
toluene	0.111	0.260
Xylene (total)	0.0206	0.0483

Digester Gas Fired Flare (N-1275-23-8):

Fuel Use:

Fuel Use Limit: 608.7 MMBtu/day (ATC N-1275-23-8)

Annual Fuel Use Capacity = (608.7 MMBtu/day)(365 days/yr) = 222,176 MMBtu/yr

Emission Factors and Potentials to Emit:

The digester gas emission factors are from Section 3.1 of EPA guidance document AP-42. The emission factors are actually for digester gas fired turbines, but it is expected that the emissions are most dependent on the fuel type and not the emission unit type. Therefore, in the absence of HAP emission factors for a digester fired boiler/drier, these factors may be substituted.

Flare (While Firing on Digester Gas)		
Compound	Emission Factor (lb/MMBtu)	Potential to Emit (lb/yr)
1,4-Dichlorobenzene	0.00002	4.4
Acetaldehyde	0.000053	11.8
Arsenic	0.0000023	0.51
Cadmium	0.00000058	0.13
Carbon Tetrachloride	0.00002	4.4
Chlorobenzene	0.000016	3.6
Chloroform	0.000017	3.8
Ethylene Dichloride	0.000015	3.3
Formaldehyde	0.00019	42.2
Chromium	0.0000012	0.27
Lead	0.0000034	0.76
Methylene Chloride	0.000013	2.9
Nickel	0.0000020	0.44
Selenium	0.000011	2.4
Tetrachloroethylene	0.000021	4.7
Trichloroethylene	0.000018	4.0
Vinyl Chloride	0.000036	8.0
Vinylidene Chloride	0.000015	3.3

Postmodification Potential HAP Emissions:

Pollutant	Natural Gas Fired Boilers and Driers (lb/yr)	Natural Gas or Digester Gas Fired Boiler (lb/yr)	Digester Gas Fired Flare (lb/yr)	Diesel Fired IC Engines (lb/yr)	Total (each HAP - lb)
1,4 Dichlorobenzene	---	8.8	4.4	---	13.2
Acataldehyde	26.2	23.3	11.8	0.0151	61.3
Acenaphthene	---	---	---	0.00203	0.00203
Acenaphthylene	---	---	---	0.00310	0.00310
Acrolein	---	---	---	0.00420	0.00420
Anthracene	---	---	---	0.000678	0.000678
Arsenic	---	1.0	0.51	---	1.51
Cadmium	---	0.26	0.13	---	0.39
Benzene	15.5	3.8	---	0.244	19.5
Benzo(a)anthracene	---	---	---	0.000227	0.000227
Benzo(a) pyrene	---	---	---	0.000112	0.000112
Carbon Tetrachloride	---	8.8	4.4	---	13.2
Chlorobenzene	---	7.0	3.6	---	10.6
Chloroform	---	7.5	3.8	---	11.3
Chromium	---	0.53	0.27	---	0.80
Dibenz(a,h)anthracene	---	---	---	0.000657	0.000657
Ethylbenzene	---	---	---	0.0188	0.0188
Ethylene Dichloride	---	6.6	3.3	---	9.9
fluoranthene	---	---	---	0.000774	0.000774
fluorene	---	---	---	0.00291	0.00291
Formaldehyde	1,198.5	295.5	42.2	0.413	1,536.6
Hexane	---	---	---	0.00345	0.00345
Indeno(1,2,3-cd)pyrene	---	---	---	0.000657	0.000657
Lead	---	1.5	0.76	---	2.26
Methylene Chloride	---	5.7	2.9	---	8.6
Napthalene	---	---	---	0.0748	0.0748
Nickel	---	0.88	0.44	---	1.32
Phenanthrene	---	---	---	0.0152	0.0152
Propylene	---	---	---	0.809	0.809
Pyrene	---	---	---	0.000657	0.000657
Selenium	---	4.8	2.4	---	7.2
Tetrachloroethylene	---	9.2	4.7	---	13.9
Toluene	---	---	---	0.260	0.260
Trichloroethylene	---	7.9	4.0	---	11.9
Vinyl Chloride	---	15.8	8.0	---	23.8
Vinylidene Chloride	---	6.6	3.3	---	9.9
Xylene (total)	---	---	---	0.0483	0.0483
Total (all HAPs combined - lb)					1,758.4

As can be seen, the combined potential HAP emissions from the permitted equipment at the facility are less than 25 tons per year and the potential to emit of each single HAP is less than 10 tons per year. Therefore, the facility is not a major source of HAP emissions.

Appendix E

QNEC Calculations

Quarterly Net Emissions Change (QNEC)

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

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr

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

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

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

QNEC		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO _x	106	26.5
SO _x	0	0.0
PM ₁₀	4	1
CO	17	4.25
VOC	6	1.5

Appendix F
Health Risk Assessment Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Mark Schonhoff – Permit Services
 From: Cherie Clark- Technical Services
 Date: January 27, 2014
 Facility Name: Hilmar Cheese Co.
 Location: 9001 N. Lander, Hilmar
 Application #(s): N-1275-37-0
 Project #: N-1133731

A. RMR SUMMARY

RMR Summary			
Categories	Emergency Diesel ICE (Unit 37-0)	Project Totals	Facility Totals
Prioritization Score	N/A ¹	N/A ¹	>1
Acute Hazard Index	N/A ²	N/A ²	0.05
Chronic Hazard Index	N/A ²	N/A ²	0.02
Maximum Individual Cancer Risk	3.3E-07	3.3E-07	1.31E-06
T-BACT Required?	NO		
Special Permit Conditions?	Yes		

- 1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
- 2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

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

Unit # 37-0

1. Modified {1901} The PM10 emissions rate shall not exceed **0.10** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]
2. {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
3. Modified {1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District NSR Rule and District Rule 4701]N

B. RMR REPORT

I. Project Description

Technical Services received a request on January 23, 2014, to perform a Risk Management Review for a 389 bhp emergency diesel IC engine powering an electrical generator. Indefinite project life.

II. Analysis

Technical Services performed a screening level health risk assessment using the District's Diesel Exhaust Risk Screening spreadsheet.

The following parameters were used for the review:

Analysis Parameters						
Unit #s	bhp-hr	PM ₁₀ g/hp-hr	Receptor (m)	Quad	Hours/Year	Load%
37-0	389	0.10	243	2	50	100
Location Type			Rural	Receptor Type		Business

III. Conclusion

The individual cancer risk associated with the operation of the proposed emergency diesel IC engine is **3.3E-07**; which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved as proposed **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 the 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.

IV. Attachments

- A. RMR request from the project engineer
- B. DICE Screening Risk Tool
- C. Facility Summary

Appendix G
Title V Modification – Compliance Certification Form

