ENGINEERING EVALUATION
AUTHORITY TO CONSTRUCT APPLICATION

Company:	Cambridge Healthcare Services dba Watsonville Nursing Center
Mailing Address:	535 Auto Center Drive Watsonville, CA 95076
Contact Person:	Mike Swanson, Director of Environmental Services mswanson@cambridgehs.com
Project Location:	535 Auto Center Drive Watsonville, CA 95076
Authority to Construct:	APP-25-00146 (FAC-3744)
Coordinates:	Latitudes: 36.919964 Longitudes: -121.766636
SIC NO.: **NAISC**: **SCC No**:	8051 (Skilled Nursing Care Facility) 623110 (Nursing Care Facility) 20100102 (Fuel Combustion, Electric Generation, and Oil)
Engineer:	Fernando Pena
Evaluation Date:	April 29, 2026

I. PROPOSAL DESCRIPTION

NATURAL GAS COGENERTION SYSTEM:

Cambridge Healthcare Services submitted two identical permit applications for Authorities to Construct (ATCs) to install new natural gas cogeneration units, designed to provide supplemental prime power and hot water to the Watsonville Nursing Center (WNC) located at 535 Auto Center Drive in Watsonville, and the Watsonville Post Acute Center (WPAC), located at the adjacent property, 525 Auto Center Drive in Watsonville.

Each system will consist of a 2G Energy AG engine-generator set, powered by a 141 brake-horsepower (bhp) rich-burn natural gas engine. The proposed systems will be equipped with heat exchangers. In addition to the engine-generator sets being able to provide supplemental on-site prime electrical power, the heat exchangers will process the heat recovered from the combustion devices which will be used to heat water for on-site use.

The units submitted under these permit applications will be evaluated for prime-use, with an operating schedule of 24 hours per day and 365 days per year. The engines are to be located within 1000 feet from the outer boundary of Cesar Chavez Middel School, located at 440 Arthur Road, Watsonville.

The following engineering evaluation for APP-25-00146, is for the proposed equipment at Watsonville Nursing Center, located at 535 Auto Center Drive, Watsonville. The second proposed unit at Watsonville

Post Acute Center, located at 525 Auto Center Drive, Watsonville, will be reviewed separately under engineering evaluation MOD-25-00064.

II. APPLICABLE RULES

Rule 200: Permits Required
Rule 201: Sources Not Requiring Permits
Rule 207: Review of New and Modified Stationary Sources
Rule 218: Title V Operating Permits
Rule 221: Federal Prevention of Significant Deterioration
Rule 222: Federal Minor New Source Review
Rule 300: MBARD Fees
Rule 400: Visible Emissions
Rule 402: Nuisance
Rule 403: Particulate Matter
Rule 404: Sulfur Compounds & Nitrogen Oxides
Rule 412: Sulfur Content of Fuels
Rule 436: Title V: General Prohibitory Rule
Rule 1000: Toxic Air Contaminants
AB2588 – Air Toxic "Hot Spots" Information and Assessment Act
40 CFR Part 63, Subpart ZZZZ, NESHAP, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR Part 60, Subpart JJJJ, NSPS, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
CA Health & Safety Code, Section 42301.6 – Public Notice

III. PROCESS DESCRIPTION

Stationary Prime-Use Spark Ignited Internal Combustion Engine-Generator Set:

2G Energy AG Engine-Generator Set, Generator Rated At 100 KW. Powered By An EPA Non-Certified Model Year 2024 2G Energy Rich-Burn Natural Gas Engine, Model Aura 404, 141-BHP @ 1800-RPM, Naturally Aspirated, Equipped With An Aftertreatment System Consisting Of A Three-Way Non-Selective Catalyst And Air-To-Fuel Ratio Controller.

IV. DESIGN VIEW AND EMISSIONS CALCULATIONS

Table 1. NG Engine Emission Factors (EF).

Pollutant Species	EF Uncontrolled	EF Uncontrolled (g/hp-hr)	EF Controlled	EF Controlled (g/hp-hr)
NO_x[1]	46.00 (lb/MW-hr)	15.573	0.14 (lb/MW-hr)	4.7E-02
VOC[1]	31.00 (lb/MW-hr)	10.495	0.20 (lb/MW-hr)	6.8E-02
CO[1]	2.00 (lb/MW-hr)	0.677	0.10 (lb/MW-hr)	3.4E-02
SOx[2,3]	5.88E-04 (lb/MMBtu)	2.8E-03	5.88E-04 (lb/MMBtu)	2.8E-03
PM[2,3]	9.91E-03 (lb/MMBtu)	4.7E-02	9.91E-03 (lb/MMBtu)	4.7E-02

PM_{10}[2,3]	9.50E-03 (lb/MMBtu)	4.5E-02	9.50E-03 (lb/MMBtu)	4.5E-02
$PM_{2.5}$[2,3]	9.50E-03 (lb/MMBtu)	4.5E-02	9.50E-03 (lb/MMBtu)	4.5E-02

Notes:

1. Natural Gas engine-generator emission factors for NOx, VOC, and CO were gathered from 2G manufacturer's specification sheet, the emission factors were converted from lb/MW-hr to g/hp-hr:

$$EF\left(\frac{g}{hp-hr}\right) = EF\left(\frac{lb}{MW-hr}\right) * \left(\frac{1\ MW}{1000\ KW}\right) * \left(\frac{454\ g}{lb}\right) * \left(\frac{1\ KW}{1.341\ hp}\right)$$

2. The PM, PM_{10}, $PM_{2.5}$, and SO_x emission factors are from AP-42 Chapter 3.2, Table 3.2-2 for a 4-stroke rich-burn engine.

3. The emission factors were converted from lb/MMBTU to g/hp-hr using Santa Barbara County APCD's "Piston IC Engine Technical Reference Document" dated 11/1/2002 as follows:

$$EF\left(\frac{g}{hp-hr}\right) = EF, \frac{lb}{MMBtu} xBSFC, \frac{Btu}{hp-hr}\ x\ CF1\ x \frac{1}{CF2}$$

Where:

CF1 = grams to pound conversion factor, 454 g/lb
CF2 = BTU to MMBTU conversion factor, 1,000,000 BTU/MMBTU

$$EF_{PM}\left(\frac{g}{hp-hr}\right) = 9.91E-3 \frac{lb}{MMBTU} * 10{,}500 \frac{BTU}{hp-hr} * 454 \frac{g}{lb} * \frac{MMBTU}{1{,}000{,}000\ BTU} = 0.0472$$

$$EF_{SOx}\left(\frac{g}{hp-hr}\right) = 5.88E-4 \frac{lb}{MMBTU} * 10{,}500 \frac{BTU}{hp-hr} * 454 \frac{g}{lb} * \frac{MMBTU}{1{,}000{,}000\ BTU} = 0.0028$$

Table 2. Prime NG Engine Specifications.

Maximum Fuel Consumption Rate (ft^3/min)[2]	16.3
Maximum Fuel Consumption Rate ($MMft^3$/day)	0.023472
Engine Horsepower (hp)[1]	141
Exhaust Flowrate (cfm)[2]	175
Exhaust Temperature (˚F)[2]	1039
Exhaust Stack Height (ft.)[1]	15
Exhaust Stack Diameter (in.)[1]	4

Notes:

1. The exhaust stack height and diameter, and horsepower were provided by the applicant.
2. The fuel consumption, exhaust flowrate, and exhaust temperature specs referred to the 2G manufacturer specification sheet for engine model Aura 404.

Table 3. Uncontrolled Prime NG Engine Emission Calculations

Pollutant	Operating Schedule (hr/day)	Power Rating (hp)	Emission Factor (g/hp-hr)	PTE Emissions (lb/day)	Emission Factor[2] ($lb/MMft^3$)	PTE Emissions (tons/yr)[1]

NO_x	24	141	15.57	116.05	4944.19	21.18
VOC	24	141	10.50	78.26	3334.19	14.28
CO	24	141	0.68	5.07	216.00	0.93
SO_x	24	141	2.8E-03	0.02	0.85	0.00
PM	24	141	4.7E-02	0.35	14.91	0.06
PM_{10}	24	141	4.5E-02	0.38	14.49	0.06
$PM_{2.5}$	24	141	4.5E-02	0.34	14.49	0.06
Total Annual Emissions of NOx + VOC + CO + PM + SOx:						36.45

Notes:
1. Annual emissions are based on full operations 24 hours per day & 365 days per year.
2. Emission factors converted to lb/MMft3 for emission reporting purposes.

Table 4. Controlled Prime NG Engine Emission Calculations

Pollutant	Operating Schedule (hr/day)	Power Rating (hp)	Emission Factor (g/hp-hr)	PTE Emissions (lb/day)	Emission Factor ($lb/MMft^3$)	PTE Emissions (tons/yr)[1]
NO_x	24	141	4.7E-02	0.35	14.91	0.06
VOC	24	141	6.8E-02	0.51	21.73	0.09
CO	24	141	3.4E-02	0.25	10.65	0.05
SO_x	24	141	2.8E-03	0.02	0.85	0.00
PM	24	141	4.7E-02	0.35	14.91	0.06
PM_{10}[2]	24	141	4.5E-02	0.34	14.49	0.06
$PM_{2.5}$[2]	24	141	4.5E-02	0.34	14.49	0.06
Total Annual Emissions of NOx + VOC + CO + PM + SOx:						0.26

Notes:
1. Annual emissions are based on full operations 24 hours per day & 365 days per year.

V. RULE COMPLIANCE

The following MBARD rules apply to the operation as specified:

MBARD Rule 200 – Permits Required

The purpose of this Rule is to identify when MBARD permits are issued. The provisions of this Rule shall apply to any person who builds, erects, alters, or replaces any article, machine, equipment or other contrivance which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants.

Pursuant to Section 3.1, no person shall build, erect, alter, or replace any article, machine, equipment or other contrivance which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants unless the facility owner or operator has obtained a separate written Authority to Construct for each permit unit from the Air Pollution Control Officer. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted or denied or the application is cancelled.

Exceptions to MBARD Rule 200 are identified in MBARD Rule 201.

MBARD Rule 201 – Sources Not Requiring a Permit

MBARD Rule 201, Section 4.14 exempts engines with a power rating of less than 50-BHP from obtaining permits. The prime natural gas engine proposed in this application is rated at 141-BHP. Therefore, an Authority to Construct is required prior to construction.

MBARD Rule 207 – Review of New of Modified Sources (as adopted on 4/20/2011)

This Rule provides for the review of new and modified stationary air pollution sources to meet requirements for the review of new and modified stationary sources (NSR) and for the Prevention of Significant Deterioration (PSD), under the provisions of the federal Clean Air Act; and requirements for NSR under the provisions of the California Clean Air Act. The intent of this Rule is to ensure that the most stringent requirements of these programs shall be applied.

This Rule shall apply to all new stationary sources and all modifications to existing stationary sources which, after construction or modification, emit or have the potential to emit any affected pollutants. Thus, the proposed project is subject to the requirements of Rule 207. Per Section 2.60 *Stationary Source* definition, since the two respective Cambridge Healthcare Services, WNC and WPAC, located at 535 Auto Center Drive, and 525 Auto Center Drive, Watsonville, are adjacent properties, they will be considered as belonging to the same stationary source under Rule 207.

Federal Best Available Control Technology (BACT) Analysis

Pursuant to Section 4.1.1, an applicant shall apply Best Available Control Technology (BACT) to a new stationary source or modification of an existing source, which has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1 or a modification of an existing stationary source which has the potential to result in a new emissions increase, as defined in Section 2.37, occurring after October 20, 2010 for $PM_{2.5}$ or after August 19, 1983 for PM_{10} or after July 15, 1976 for any other affected pollutant.

Table 5 shows the emissions from the uncontrol emissions per manufacturer specifications, the facility-wide new emissions and the Federal BACT thresholds of Table 4.1.1.

Table 5. Federal New Emission Increase – BACT Determination (Uncontrolled Emissions)

Permit No. (Installation)	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
APP-25-00146 Prime Spark IC Engine (2026)	**116.05**	**78.26**	**5.07**	**0.02**	**0.35**	**0.34**	**0.34**
MOD-25-00064 Prime Spark IC Engine (2026)	116.05	78.26	5.07	0.02	**0.35**	**0.34**	**0.34**

Total	**232.10**	**156.52**	**10.14**	**0.04**	**0.70**	**0.64**	**0.64**
Federal Threshold	150	150	550	150	150	82	54.79

Table 5 shows that the new emissions, as defined in Section 2.37, exceed the Federal BACT thresholds of Section 4.1.1 for NOx and VOC.

The facility is proposing to install a three-way catalyst (TWC) aftertreatment control device that meets MBARD BACT standards for non-emergency, electrical generators, internal combustion (IC) Engines. As outline MBARD's *Clarification of Permit Requirements for Natural Gas/Propane (LPG) IC Engines Serving Generators & Water Pumps*, April 25, 2018, Table 3, summarized below in Table 6:

Table 6. BACT Guidelines For Stationary Non-Emergency Engines

Engine Rating/Size	NO_x	VOC	CO
≥ 50 HP & < 2,064 HP (for all engines not included in any categories described below)	0.07 g/bhp-hr, or 5 ppmvd @ 15% O_2	0.15 g/bhp-hr, or 25 ppmvd @ 15@ O_2	0.60 g/bhp-hr, or 56 ppmvd @15% O_2
Four Stroke Lean Burn > 500 HP & < 2064 HP			0.51 g/bhp-hr, or 47 ppmvd @15% O_2
≥ 2,064 HP			0.35 g/bhp-hr, or 33 ppmvd @ 15% O_2

In addition, per 40 CFR Part 60, Subpart JJJJ, Section 60.4243 (b)(2) an initial source test will be required. This source test will ensure the manufacture can meet MBARD BACT requirements and will help verify the controlled manufacturer's proposed emissions factors used in Rule 207.

With the aftertreatment control devices, the facility's new emissions increase is calculated below in Table 7.

Table 7. Federal New Emission Increases (Controlled Emissions)

Permit No. (Installation)	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
APP-25-00146 Prime Spark IC Engine (2026)	**0.35**	**0.51**	**0.25**	**0.02**	**0.35**	**0.34**	**0.34**
MOD-25-00064 Prime Spark IC Engine (2026)	0.35	0.51	0.25	0.02	0.35	0.34	0.34
Total	**0.70**	**10.2**	**0.50**	**0.04**	**0.70**	**0.64**	**0.64**
Federal Threshold	150	150	550	150	150	82	54.79

California BACT Analysis

Pursuant to Section 5.2, BACT shall be required for any new or modified permit unit with a potential to emit 25 pounds per day or more of VOCs or NO_x.

Table 8. California BACT determination.

Pollutant	BACT threshold (lb/day)	Uncontrolled Project emissions (lb/day)	Controlled Project emissions (lb/day)	BACT Applicability
NO_x	25	116.05	0.35	BACT triggered
VOC	25	78.26	0.51	BACT triggered

Table 8 demonstrates that the facility's uncontrolled emissions exceed the California BACT thresholds for NOx and VOC.

As discussed in the *Federal BACT Analysis* above, the facility is proposing to install a three-way catalyst (TWC) aftertreatment control device that meets MBARD BACT standards for non-emergency, electrical generators, internal combustion (IC) Engines. As outline MBARD's *Clarification of Permit Requirements for Natural Gas/Propane (LPG) IC Engines Serving Generators & Water Pumps*, April 25, 2018, Table 3, summarized in Table 6 above:

Federal & California Stationary Source Offsets Analysis

Pursuant to Section 4.2, Offsets are required for any new or modified source, which has net emissions increases equal to exceeding thresholds specified in Rule 207, Table 4.2.2. The net emission increase is the sum of all increase in potential emissions of any pollutant except for PM_{10}, from a new or modified source occurring after 1976, minus any reduction emissions of that pollutant occurring since July 15, 1976. Or sum of increase and decreasing since August 19, 1983, for PM_{10}.

Table 9 shows the emissions from the new project and the net emissions increase for the facility and the Federal offset thresholds.

Table 9. Federal Facility-Wide Emissions Increase - Offset Determination

Permit No. (Installation)	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)
APP-25-00146 Prime Spark IC Engine (2026)	**0.35**	**0.51**	**0.25**	**0.02**	**0.35**	**0.34**
MOD-25-00064 Prime Spark IC Engine (2026)	0.35	0.51	0.25	0.02	0.35	0.34
Total	**0.70**	**10.2**	**0.50**	**0.04**	**0.70**	**0.64**
Federal Threshold	150.00	150.00	550.00	150.00	150.00	82.00

Table 9 shows that the proposed project does not exceed the Federal Offset thresholds of Section 4.2.2.

Table 10. California Facility-Wide Potential To Emit - Offset Determination

Permit No. (Installation)	NO_x (lb/day)	VOC (lb/day)
APP-25-00146 Prime Spark IC Engine (2026)	**0.35**	**0.51.**
MOD-25-00064 Prime Spark IC Engine (2026)	0.35	0.51
Total	**0.70**	**1.02**
California Threshold	137	137

As shown in Table 10, the proposed project does not exceed the California Offset thresholds of Section 5.3.

MBARD Rule 207 – Review of New of Modified Sources (as adopted on 2/15/2017)

Note that the MBARD has not received approval for the 2/15/2017 version of Rule 207 and the MBARD is implementing Rule 207 as adopted on 4/20/2011. For informational purposes only, the Rule applicability of Rule 207 as adopted on 2/15/2017 is as follows:

The purpose of this Rule is to provide for the review of new and modified stationary air pollution sources to meet the New Source Review requirements under the provisions of the California Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of California ambient air quality standards. Each project subject to New Source Review shall undergo a review under the federal requirements contained within Rule 220 and Rule 221, and a parallel review under the requirements of this Rule and the most stringent applicable provisions shall apply.

Rule 207 applies to all new stationary sources and all modifications to existing stationary sources, which after construction or modification, emit or have the potential to emit any affected pollutants. This project is subject to the requirements of this Rule.

Best Available Control Technology (BACT) requirements

Pursuant to Section 4.1.1, BACT shall be required for any new or modified permit unit with a potential to emit 25 pounds per day or more of VOCs or NO_x.

Table 11. Permit Unit BACT Determination

Pollutant	BACT threshold (lb/day)	Uncontrolled Project emissions (lb/day)	Controlled Project emissions (lb/day)	BACT Applicability
NO_x	25	116.05	0.35	BACT triggered
VOC	25	78.26	0.51	BACT triggered

As shown in Table 11, the facility's uncontrolled emissions exceed the BACT thresholds of Section 4.1.1 for NOx and VOC.

Pursuant to Section 4.1.2, BACT shall be required for a new or modified stationary source which has the potential to emit greater than or equal to any one of the affected pollutant levels listed in Table 4.1.1.

Table 12. Facility-Wide BACT Determination (Uncontrolled Emissions)

Permit No. (Installation)	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
APP-25-00146 Prime Spark IC Engine (2026)	**116.05**	**78.26**	**5.07**	**0.02**	**0.35**	**0.34**	**0.34**
MOD-25-00064 Prime Spark IC Engine (2026)	116.05	78.26	5.07	0.02	**0.35**	**0.34**	**0.34**
Total	**232.10**	**156.52**	**10.14**	**0.04**	**0.70**	**0.64**	**0.64**
Federal Threshold	150	150	550	150	150	82	54.79

Table 12 shows that the uncontrolled facility-wide emissions, exceed the Federal BACT thresholds of Section 4.1.1 for NOx and VOC.

As discussed in the Rule 207 Version 2011 *Federal & CA BACT Analysis* sections above, the facility is proposing to install a three-way catalyst (TWC) aftertreatment control device that meets MBARD BACT standards for non-emergency, electrical generators, internal combustion (IC) Engines. As outline MBARD's *Clarification of Permit Requirements for Natural Gas/Propane (LPG) IC Engines Serving Generators & Water Pumps*, April 25, 2018, Table 3, summarized in Table 6 above.

With the proposed aftertreatment control devices, the facility-wide emissions increase is summarized in Table 13.

Table 13. Facility-Wide BACT Determination – BACT Determination (Controlled Emissions)

Permit No.	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
APP-25-00146 Prime Spark IC Engine	**0.35**	**0.51**	**0.25**	**0.02**	**0.35**	**0.34**	**0.34**
MOD-25-00064 Prime Spark IC Engine	0.35	0.51	0.25	0.02	0.35	0.34	0.34
Total	**0.70**	**10.2**	**0.50**	**0.04**	**0.70**	**0.64**	**0.64**
Threshold	150	150	550	150	150	82	54.79

Stationary Source Offsets

Offsets shall be required from a new or modified stationary source that has the potential to emit greater than

or equal to the thresholds for any affected pollutant list in Table 4.2.1.

Table 14. Facility-Wide Emissions Increase - Offset Determination New Methodology

Permit No.	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM_{10} (lb/day)
APP-25-00146 Prime Spark IC Engine	**0.35**	**0.51**	**0.25**	**0.02**	**0.35**	**0.34**
MOD-25-00064 Prime Spark IC Engine	0.35	0.51	0.25	0.02	0.35	0.34
Total	**0.70**	**10.2**	**0.50**	**0.04**	**0.70**	**0.64**
Threshold	137.00	137.00	550.00	150.00	150.00	82.00

Table 14 shows that the proposed project does not exceed the offset thresholds.

As pointed out, the Rule as amended on 2/15/2017 has not been approved and the version as adopted on 4/20/2011 will be implemented.

Rule 207 Parallel Stringency Review

After reviewing the two different versions of Rule 207, the project is in compliance with all the requirements of the Rule as adopted on 4/20/2011 and amended on 2/15/2017.

MBARD Rule 218 – Title V: Federal Operating Permits

Title V is not applicable to the unit since this rule only applies to a stationary source which has the potential to emit (PTE) air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants (100 tons/yr) or a major source of hazardous air pollutants (25 tons/yr combination HAPS or 10 tons/yr single HAP).

Table 16 shows the PTE for this facility does not trigger these thresholds.

MBARD Rule 221 – Federal Prevention of Significant Deterioration

The federal Prevention of Significant Deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant. This Rule provides for the review of new and modified major stationary sources to meet requirements for PSD, under the provisions of the federal Clean Air Act. The purpose of this Rule is to incorporate the federal PSD rule requirements into the District's Rules and Regulations by incorporating the federal requirements by reference.

This Rule shall apply to any source and owner or operator of any source subject to any requirements under Title 40 Code of Federal Regulations, Part 52, Section 21 (40 CFR 52.21), as incorporated into this Rule. The proposed project does not meet the definition of a new major stationary source, or a major modification to an existing stationary source. Since the Prevention of Significant Deterioration (PSD) program only applies to new major stationary sources or major modifications to stationary sources, this project is not

subject to District Rule 221.

MBARD Rule 222 – Minor New Source Review

This Rule provides for the review of new and modified stationary air pollution sources to meet the requirements for the review of such sources, under the new source review (NSR) provisions of the federal Clean Air Act. This Rule provides mechanisms by which Authorities to Construct may be granted to such sources without interfering with the attainment or maintenance of ambient air quality standards.

This Rule shall apply to any new or modified stationary source that emits an air pollutant (or its precursors) subject to any National Ambient Air Quality Standard (NAAQS).

Compliance with the New Source Review (NSR) provisions of the California Clean Air Act, as defined in District Rule 207, ensures compliance with District Rule 222, Federal Minor NSR.

MBARD Rule 300 – Fees

According to the MBARD Fee Determination Protocol, latest version, affirmed by the Board, fees for Stationary Prime-Use Engine Generators will be based on 75% of the potential to emit (PTE), which is 0.20 tons per year assessed under the fee category 502.

Table 15. PTE (tons/year) For Prime-Use Natural Gas Spark Internal Combustion Engine

NOx	0.06
VOC	0.09
CO	0.05
SOx	0.00
PM	0.06
PTE Emissions (tons/yr)	0.26
Billable Emissions 75% of PTE (tons/yr)	0.20
Fee Category	502

MBARD Rule 400 – Visible Emissions:

The purpose of this Rule is to provide limits for the visible emissions from sources within MBARD. The provisions of this Rule shall apply to all sources of air pollutant emissions in the MBARD.

According to MBARD Rule 400 Section 3.1, 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 or darker than Ringelmann 1, or equivalent 20% opacity.

MBARD Rule 402 – Nuisance:

The purpose of this Rule is to provide an explicit prohibition against sources creating public nuisances while operating within the MBARD. The provisions of this Rule shall apply to all sources of air pollutant emissions within the Air MBARD.

According to MBARD Rule 402, Part 3, no person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such persons or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property. This requirement will be included as a permit condition.

MBARD Rule 403 – Particulate Matter:

The purpose of this Rule is to provide particulate matter emission limits for sources operating within the MBARD. Per Section 1.3.1, stationary internal combustions are exempt from the requirements of this Rule.

MBARD Rule 404 – Sulfur Compounds & Nitrogen Oxides

The purpose of this Rule is to provide limits for the emissions of sulfur compounds, nitrogen oxides and nitrogen dioxide from sources within the MBARD. The provisions of this Rule shall apply to sources of sulfur compounds, nitrogen oxides, and nitrogen dioxide subject to Rule 200 *Permits Required*. Section 3.1 prohibits any single emission unit from exceeding the following concentration or amount at the point of discharge to the atmosphere:

Sulfur compounds, calculated as sulfur dioxide, 0.2% by volume (2,000 ppm), and compliance with the 0.2% by volume (2,000 ppm) limit for SO2 for the diesel engine is assured based on the SO_2 emissions factor 0.0028 g/(hp.hr). See calculation below:

$$SO_2\ ppm = \frac{\left(\frac{mg}{m^3}\right)(V/n)_{T,P}}{MW_{S02}} = \frac{1.36\frac{mg}{m^3} * 68.26\frac{m^3}{mmol}}{64\frac{mg}{mmol}} = 1.42\ ppm$$

Where:

$$\frac{mg}{m^3} = \frac{0.0028\frac{g}{hp.hr} * 141\ hp * 1000\frac{mg}{g}}{175\frac{ft^3}{min} * 60\frac{min}{hr} * 0.0283\frac{m^3}{ft^3}} = 1.32\frac{mg}{m^3}$$

$$\frac{V}{n} = \frac{RT}{P} = \frac{0.082\frac{L.atm}{mol\,K} * 832.44K}{1\ atm} = 68.26\frac{L}{mol} = 68.26\frac{m^3}{mmol}$$

mg/m^3 = is calculated from the emission factor times engine horsepower over the exhaust volumetric flow rate.

V/n = is the molar volume from the ideal gas law at the exhaust temperature and pressure.

Nitrogen oxides, calculated as nitrogen dioxide (NO_2), 140 pounds per hour.

As shown in Table 3, the hourly NO_x emission rate for the diesel engine is 0.015 lb/hr [(0.35 lb/day) ÷ (24 hr/day) = 0.015 lb/hr], which is well below the 140 lb/hr limit.

Record Keeping Requirements

MBARD Rule 404 Section 3.5 requires records of testing, dates of testing, time of testing, parameters which were measured, and emission concentrations or rates to be kept for a period of five years. However, the manufacturer certified testing data will suffice for the above record keeping requirements.

MBARD Rule 412 – Sulfur Content of Fuels

According to District Rule 412 Part 3, no gaseous fuel shall be burned unless the sulfur content is less than 50 grains per 100 standard cubic feet of gaseous fuel. The Public Utilities Commission of the State of California has issued General Order 58-A titled "Standards For Gas Service In The State Of California" (latest revision April 12, 1989). Title 7 (Purity of Gas of the General Order specifies hydrogen sulfide and total sulfur standards for any gas supplied by a utility. Section (a) limits hydrogen sulfide to 0.25 grains per 100 standard cubic feet. Accordingly, with the use of utility line natural gas, compliance is expected with this rule.

MBARD Rule 436 – Title V: General Prohibitory Rule

The purpose of this Rule is to provide federally enforceable potential to emit limitations limiting emissions below the thresholds requiring federal Title V operating permits under Rule 218.

Table 16. Facility PTE emissions (tons per year)

Equipment Description	NOx	VOC	CO	SOx	PM	PM_{10}	$PM_{2.5}$
	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)
APP-25-00146 Prime Spark IC Engine	0.06	0.09	0.05	0.00	0.06	0.06	0.06
MOD-25-00064 Prime Spark IC Engine	0.06	0.09	0.05	0.00	0.06	0.06	0.06
Total	**0.12**	**0.18**	**0.10**	**0.00**	**0.12**	**0.12**	**0.12**

The General Applicability of this Rule shall apply to any stationary source which would, if it did not comply with the limitations set forth in this rule, have the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants or a major source of hazardous air pollutants (HAPs) and which meets one of the following conditions:

Title V is not applicable because this rule only applies to a stationary source which has the potential to emit air contaminants equal to or in excess of:

- 100 tons/year of criteria pollutants, or
- 25 tons/year of combined hazardous air pollutants combination (HAP), or
- 10 tons/year for any single HAP.

Table 16 shows that the annual potential emissions are below the applicability thresholds.

Pursuant to Section 1.2 and 3.1 the facility is exempt from Title V permitting process because it is expected that the actual emissions, will not exceed, in every 12-month period the following:

- 50 tons per year for regulated (criteria) pollutants
- 5 tons single Hazardous Air Pollutant (HAP) per year
- 12.5 tons per year of any combination of HAPs per year, or
- 50% of any lesser threshold for a single HAP as the EPA may establish.

Table 16 shows that the annual potential emissions are below the applicability thresholds.

Pursuant to Section 1.3.2.1, allows an exemption from Title V record keeping requirements of Part 4 if actual emissions do not have the potential to exceed in every 12-month period the following limits:

- 5 tons per year for a regulated (criteria) pollutant
- 2 tons single Hazardous Air Pollutant (HAP) per year
- 5 tons per year of any combination of HAPs per year, or
- 20% of any lesser threshold for a single HAP as the EPA may establish.

As shown in Table 16, the facility is entitled to exemption from record keeping requirements of Rule 436 Part 4.

A facility is entitled to the exemption from reporting requirements of Part 5, pursuant to Section 5.2, if actual emissions, based on annual renewal information sheets, will not exceed in every 12-month period the following quantities:

- 25 tons per year including a regulated air pollutant for which the MBARD has a federal area designation of attainment, unclassified transitional, or moderate nonattainment
- 15 tons per year for regulated (criteria) pollutants for which the MBARD has federal area designation of serious nonattainment.
- 6.25 tons per year for regulated (criteria) pollutants for which the MBARD has federal area designation of severe nonattainment.
- 2.5 tons per year of a single HAP.
- 6.25 tons per year of any combination of HAPs.
- 25% of any lesser threshold for a single HAP as the U.S. EPA may establish.

As shown in Table 16, the facility is entitled to exemption from reporting requirements of Rule 436 Part 5.

<u>Rule 1000 – Toxic Air Contaminants</u>:

MBARD Rule 1000 Part 3 requires new or modified sources of toxic air contaminants (TAC) and carcinogenic toxic air contaminants (CATC) to meet the following, as demonstrated by a health risk assessment:

- 3.1.1 The acute hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location;

- 3.1.2 The chronic hazard index for any target organ or organ system due to TAC emissions from the new or modified permit unit shall not exceed 1.0 at any receptor location;
- 3.1.3 The cancer risk due to TAC emissions from the new or modified permit unit shall not exceed 10 in one million at any receptor location.

The Rule allows the use of the current California Air Pollution Control Associations Prioritization Guidelines in lieu of a risk assessment. However, an air modeling and Health Risk Assessment (HRA) was conducted instead of the CAPCOA prioritization methodology since the natural gas engine is located within 1000 feet of the outer boundary of a K through 12-grade school. In addition to determining compliance with Rule 1000, the HRA will be used to determine if the public noticing requirements of the CA Health & Safety Code (H&SC) Section 42301.6, and applicability, and reporting requirements of the State's Air Toxic "Hot Spots" Information and Assessment Act, AB2588.

Lakes Environmental AERMOD was used to model the concentrations for the Prime-Use Spark Internal Combustion Engine. For the modeling, the engine subject to this evaluation is located at UTM coordinates 609851.1 m Easting & 4086706.8 m Northing, which is the location the applicant requested for the installation. The air modeling will be done on residential receptors and worker receptors including the building downwash effect in the area of influence determined in AERMOD to obtain the worst-case scenarios emission profile. The terrain parameters were set elevated. The map used in AERMAP was gathered from WebGIS Dem 7.5-min, and the map type is USGS DEM/CDED. In addition, AERMET data from Watsonville, CA, was applied. The highest concentration obtained from AERMOD for one year is 114.54 ug/m3 for a single engine. Figure 1 indicates graphically what was mentioned above. The HARP2 Cancer Risk, Chronic Risk, and Acute Risk (non-cancer) analysis was done, for the residential receptors outside the facility boundary using the San Joaquin Valley APCD, AB 2588 "Hot Spots" Air Toxics Profiles.

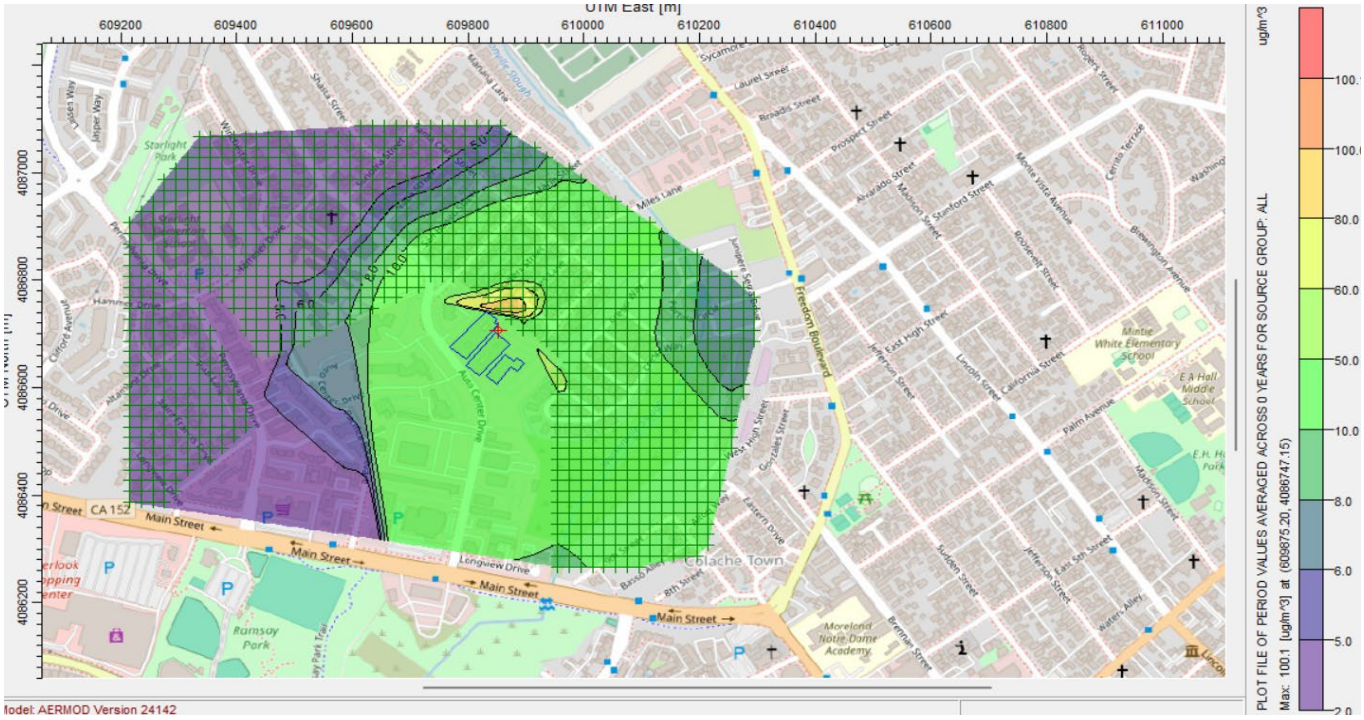

Figure 1: AERMOD Concentration 1-Year Profile for Residential Receptors

Table 17: AERMOD Modeling For Residential Data

UTM X Coordinate (m)	609851.10
UTM Y Coordinate (m)	4086706.80
Exhaust Height	15 feet
Exhaust Diameter[1]	4 inches
Exhaust Flow Rate	175 cfm
Exhaust Temperature	75 ºF
Configuration	Vertical
Maximum 1-hr Concentration	2400.98 µg/m^3
Maximum Period Concentration	114.54 µg/m^3

Table 18. Health Risk Assessment Results for Residential Receptors.

Risk	Receptor	UTM Location (X, Y)	Value	Limit	Compliance
Acute Max HI	661	(6098535.2, 4086767.15)	7.2293E-2	<1	Yes
Chronic Max HI	697	(609875.2, 4086747.15)	2.9070E-2	<1	Yes
Cancer Risk	697	(609875.2, 4086747.15)	2.8874E-6	<10E-6	Yes

Table 18 shows that the Health Risk Assessment values of the proposed project for residential receptors did not exceed the Rule 1000 thresholds of 1.0 for Acute and Chronic Health Index, and the excess cancer risk is below 10 in a million. Thus, the project complies with Rule 1000. A copy of the TAC emissions is attached to the permit file, as summarized AERMOD and HARP2 results, and input files are saved as attachments in the permit file.

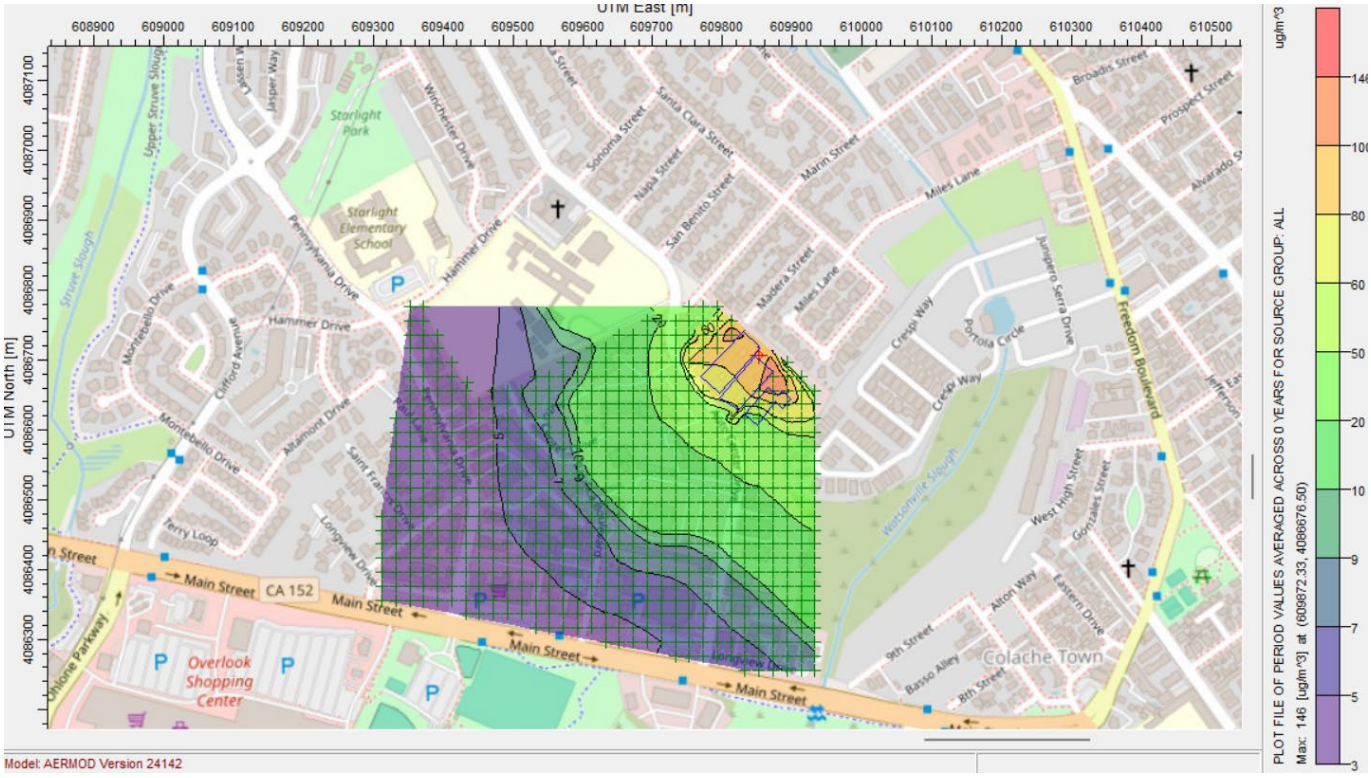

Figure 2: AERMOD Concentration 1-Year Profile for Worker Receptors

Table 19. Health Risk Assessment Results for Worker Receptors.

Risk	Receptor	UTM Location (X, Y)	Value	Limit	Compliance
Acute Max HI	520	(609812.33, 4086736.5)	1.8115E-1	<1	Yes
Chronic Max HI	584	(609872.33, 4086676.5)	4.2524E-2	<1	Yes
Cancer Risk	584	(609872.33, 4086676.5)	8.9576E-7	<10E-6	Yes

Table 19 shows that the Health Risk Assessment values of the proposed project for worker receptors did not exceed the Rule 1000 Acute and Chronic Health Index threshold score of 1.0, and the excess cancer risk is below 10 in a million. Thus, the project complies with Rule 1000. A copy of the TAC emissions is attached to the permit file, as summarized AERMOD and HARP2 results, and input files are saved as attachments in the permit file.

AB2588 – Air Toxic "Hot Spots" Information and Assessment Act

The emission inventory criteria and guidelines reporting requirements of AB2588, which are based upon actual annual emissions from a facility's overall emissions, designates facilities into levels for purposes of update reporting based upon prioritization scores or risk assessment results. To be conservative, the potential emissions from this project were used to determine if the facility may be subject to future reporting in the AB2588 program. Table 20 summarizes the Health Risk Assessment scores, and MBARD's corresponding facility designations based upon the threshold score ranges for this equipment.

Table 20. Health Risk Assessment

Risk Type	Receptor Type	Health Risk Assessment (HRA)	Threshold Score (TS)	Equipment Unit Designation
Acute	Worker	1.8115E-1	TS ≤ 1	Low
Chronic	Worker	4.2524E-2	TS ≤ 1	Low
Cancer	Residential	2.8874E-6	1 < TS < 10	Intermediate

Based upon this single unit and its potential to emit, the facility will be subject to the reporting requirements of AB2588. Note, the HRA values in Table 20 are taken from residential and worker receptor scenarios with higher estimated risks, as demonstrated in Table 18 and Table 19.

40 CFR Part 63, Subpart ZZZZ, NESHAP, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. An area source of HAP is defined as a plant site that emits or has the potential to emit any single HAP at a rate of less than 10 tons per year or any combination of HAPs at a rate of less than 25 tons per year. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

Pursuant to Section §636590(a)(2)(iii), an affected source includes new stationary RICEs located at an area source of HAP emissions. This unit is considered a new stationary RICE at an area source of HAP since construction will commence after June 12, 2006.

As an affected source, pursuant to §63.6590(c) & §63.6590(c)(1), any new or reconstructed stationary Rice located at an area source must meet the requirements of this part by meeting the requirements of 40 CFR Part 60 Subpart JJJJ, NSPS for spark ignition engines and no further requirements apply for such engines under this part. Therefore, the facility will comply with NESHAP ZZZZ by complying with NSPS JJJJ, as outlined in the next section below.

NSPS JJJJ Performance Standards for Stationary Spark Ignition ICE

NATURAL GAS, NON-EMERGENCY USE ONLY, NON-CERTIFIED, 100 ≤ HP < 500

40 CFR Part 60, Subpart JJJJ, NSPS For Stationary Spark Ignition Internal Combustion Engines

The requirements of this subpart apply to stationary spark ignition (SI) internal combustion engines (ICE) that commence construction after June 12, 2006. The non-emergency natural gas-fired engine-generator set is a model year 2024 unit, which makes it subject to the requirements of this subpart.

Emission Standards: 60.4233(e) and 60.4234

Pursuant to §60.4233(e) requires owners/operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their non-emergency stationary SI ICE.

Table 21: Emission Standards Table1 to Subpart JJJJ of Part 60-NOx, CO, and COC Emission Standards

Engine Type & Fuel	Engine Horsepower	Manufacture Date	Emissions Standards[2]					
			g/HP-hr			ppmvd @ 15% O_2		
			NOx	CO	VOC[1]	NOx	CO	VOC[1]
Non-Emergency SI Natural Gas & LPG	(100<HP<500)	7/1/2008	2.0	4.0	1.0	160	540	86
Non-Emergency SI Natural Gas	**141 HP**	**2024**	**0.047**	**0.068**	**0.034**	**-------**	**-------**	**-------**

Note:
1. For purpose of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.
2. Owner and operator of a non-certified SI engine may choose to comply with emissions in units of either g/hp-hr or ppmvd at 15 percent 0_2.

The engine proposed meets the emissions standards of Table 1 of this subpart for control emissions as shown in Table 21.

Pursuant to §60.4234, owners and operators of stationary SI ICE must operate and maintain stationary spark-ignition internal combustion engines that achieve the emission standards as required in §60.4233 over the entire life of the engine.

Fuel Requirements: 60.4235

There are no fuel requirements for non-emergency natural gas fired engines.

Importing/Installing Requirements: 60.4236(b)

After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that does not meet the applicable requirements in §60.4233. As stated above, the proposed SI ICE meets the requirements of §60.4233.

Compliance Requirements for Owners and Operators: §60.4243

Section *§60.4243 (b)(2)* requires an owner or operator of a stationary SI ICE subject to the emission standards specified in §60.4233(d) or (e) who purchases a non-certified engine to demonstrate compliance with the emission standards according to the requirements specified in §60.4233 (d) or (e) and according to the requirements specified in §60.4244, as applicable, and to keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions In addition, you must conduct an initial performance test to demonstrate compliance. This source test requirements to meet emissions standards of 60.4233(b)(2)(i) will be listed as a permit condition. The test methods are outlined in *§60.4244.*

Section *§60.4243 (g)* requires that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. This will be included as a requirement of the authority to construct.

Section *§60.4243 (f)* requires owners or operators of a non-certified stationary SI internal combustion engine that is less than or equal to 500 HP to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine undergoes rebuild, major repair or maintenance. Engine rebuilding means to overhaul an engine or to otherwise perform extensive service on the engine (or on a portion of the engine or engine system). For the purpose of this paragraph (f), perform extensive service means to disassemble the engine (or portion of the engine or engine system), inspect and/or replace many of the parts, and reassemble the engine (or portion of the engine or engine system) in such a manner that significantly increases the service life of the resultant engine.

Notification, Reports, and Records Requirements: 60.4245

Cambridge Healthcare Services must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

1. All notifications submitted to comply with this subpart and all documentation supporting any notification.

2. Maintenance conducted on the engine.

3. If the stationary SI internal combustion engine is not a certified engine documentation that the engine meets the emission standards.

Per §60.4245(d), owners and operators of stationary SI ICE that are subject to performance testing are required to submit a copy of each performance test conducted in §60.4244 within 60 days after the test has been completed. Source test will be due within 60 days after test has been completed.

Per §60.4245(f), (g), (h), and (i) owners and operators of stationary SI ICE that are subject to performance testing are required to submit the results following the procedures in paragraph (g) of this section. The operator will be required to submit source test results to EPA as required under these paragraphs.

Health & Safety Code (H&SC) Section 42301.6 – Public Notification Requirements:

Pursuant to Section §42301.6(a), prior to approving an application for a permit to construct or modify a source that emits hazardous air emissions, and that source is located within 1,000 feet from the outer boundary of a school site, the air pollution control officer shall prepare a public notice in which the proposed project or modification for which the application for a permit is made is fully described. The notice may be prepared whether or not the material is or would be subject to subdivision (a) of Section 25536, if the air pollution control officer determines and the administering agency concurs that hazardous air emissions of the material may result from an air release, as defined by Section 44303. The notice may be combined with any other notice on the project or permit that is required by law. The proposed engine subject to this evaluation is located within 1,000 feet of the outer boundary of a K through 12-grade school. As summarized in Tables 18 and 19, the excess cancer risk exceeds 1 in a million for residential and worker receptors, therefore, per MBARD policy, the project is subject to the public notification requirements.

VI. CONCLUSIONS

The equipment has the capability to continue to comply with all applicable MBARD rules and regulations.

VII. RECOMMENDATIONS

Issue revised Authority to Construct with the following additional conditions:

1. No later than twenty-four (24) hours prior to start-up of the equipment, Cambridge Healthcare Services dba Watsonville Nursing Center shall notify MBARD and arrange for an inspection of the equipment during normal operations to verify compliance with MBARD rules and regulations. [Basis: MBARD Rule 207]

2. Cambridge Healthcare Services dba Watsonville Nursing Center must conduct an initial performance test within one-hundred eighty (180) days after the start-up of the internal combustion engine, to determine compliance with Condition 6, in accordance with Subpart JJJJ Standards of Performance for Stationary Spark Ignition Combustion Engines, Section 60.4244 (a) through (f). [Basis: District Rule 207 & 40 CFR Part 60 Subpart, JJJJ§60.4243(b)(2)(i)]

A complete test protocol shall be submitted to the MBARD no later than thirty (30) days prior to testing, and MBARD notification at least ten (10) days prior to the actual date of testing shall be provided so that a District observer may be present.

The performance tests shall include, but not be limited to, the determination of the exhaust parameters, as follows:

a) Oxides of Nitrogen (NO_x) as NO_2: ppmv at 15% O_2 dry, and lb/hr;
b) Carbon Monoxide (CO): ppmv at 15% O_2 dry, and lb/hr; and,
c) Methane & Non-Methane Hydrocarbons (VOC): ppmv and lb/hr.

and the following process, fuel, or stack parameters:

d) Stack gas flow rate (SCFM);
e) Oxygen (%);
f) Natural gas consumption rate (therms or cubic feet); and,
g) Engine horsepower output.

The written results of such performance test shall be furnished within sixty (60) days of the test completion.

All source test plans and reports shall be submitted to MBARD via email to report@mbard.org.

3. Cambridge Healthcare Services dba Watsonville Nursing Center shall conduct a performance test within one-hundred eighty (180) days after the engine undergoes rebuild, major repair or maintenance to determine compliance with Condition 6 and tested in accordance with Subpart JJJJ Standards of Performance for Stationary Spark Ignition Combustion Engines, Section 60.4244 (a) through (f). Engine rebuilding means to overhaul an engine or to otherwise perform extensive service on the engine (or on a portion of the engine or engine system). For the purpose of this condition, perform extensive service means to disassemble the engine (or portion of the engine or engine system), inspect and/or replace many of the parts, and reassemble the engine (or portion of the engine or engine system) in such a manner that significantly increases the service life of the resultant engine. [Basis: 40 CFR Part 60, Subpart JJJJ Section 60.4243 (f)]

4. Cambridge Healthcare Services dba Watsonville Nursing Center must submit a copy of each performance test, as required by Conditions 2 and 3, to U.S. EPA within 60 days after the test has been completed. The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) which is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). [Basis: 40 CFR Part 60, Subpart JJJJ, Section 60.4245(d)]

5. Annual use hours of operations and natural gas usage shall be reported to the MBARD, upon request. [Basis: MBARD Rule 207]

6. The emissions from this engine shall not exceed the following concentration limits: [Basis: District Rule 207]

Pollutant	g/bhp-hr	lbs/hr
NO_x	0.047	0.0158
VOC (Non-Methane)	0.068	0.0221
CO	0.034	0.0096

7. Cambridge Healthcare Services dba Watsonville Nursing Center shall maintain a monthly log, to record the following:

   a) Date of operation;
   b) Start and engine hour meter readings;
   c) Hours of operation (hours/day); and,
   d) Fuel usage, (ft3/month). If no fuel records are available, reported fuel usage can be based on a maximum natural gas usage rate of 978 cubic feet per hour (ft3/hr) for this engine.

   Records shall be retained for at three years and made readily available to MBARD staff upon request. [Basis: District Rule 207]

8. The natural gas engine must be operated according to the following parameters: [Basis: District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

   a) Must be vented to the non-selective catalytic reduction system; and
   b) The air-to-fuel ratio control system shall be used in operation with the three-way catalyst reduction system.

   The control systems shall be maintained and operated appropriately to ensure the proper operation of the engine and control devices to minimize emissions at all times.

9. The owner or operator shall install and maintain an exhaust gas oxygen sensor and gauge or other device that monitors the exhaust gas oxygen concentration. The sensor shall keep in good working order to ensure proper function of the air-to-fuel ratio controller. [Basis: District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

10. The owner or operator shall install and maintain an operational temperature gauge to indicate the temperature at the inlet and outlet of the catalyst bed. [Basis: District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

11. Except during engine start-up, the temperature of the engine exhaust gas at the catalyst inlet shall be greater than or equal to 752 °F and less than or equal to 1,382 °F. [Basis: District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

12. The owner or operator shall install and maintain a differential pressure gauge to measure the differential pressure drop across the catalyst bed, in inches of water column. The gauge shall be accurate to within 5% and calibrated once every 12 calendar months. [Basis: District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

13. The pressure drop across the catalyst bed shall not exceed 12 inches of water column. [Basis:

District Rule 207 & 40 CFR Part 60, Subpart JJJJ, Section 60.4243(g)]

14. Cambridge Healthcare Services dba Watsonville Nursing Center shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practices for minimizing emissions. Records shall be retained for at three years and made readily available to MBARD staff upon request. [Basis: 40 CFR Part 60, Subpart JJJJ Section 60.4243(b)(2)(i)]

15. The exhaust stack discharge shall be vertically configured and equipped without a stationary cap. [Basis: MBARD Rule1000].

16. 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 or darker than Ringelmann 1, or equivalent 20 percent opacity. [Basis: MBARD Rule 400]

17. No emissions shall constitute a public nuisance. [Basis: MBARD Rule 402]