apcd air pollution control district
SANTA BARBARA COUNTY

November 18, 2025

Anthony Nguyen
Crestwood Behavioral Health, Inc.
520 Capitol Mall, Suite 800
Sacramento, CA 95814

FID: 03543
Permit: A 16398
SSID: 03543

Re: Draft Authority to Construct 16398

Dear Anthony Nguyen:

Enclosed is a draft Authority to Construct (ATC) No. 16398 for the linear generator at 303 S. C Street in Lompoc. Please carefully review the enclosed documents to ensure that they accurately describe your facility and that the conditions are acceptable to you. Note that your permitted emission limits may, in the future, be used to determine emission fees.

If you have any comments on this draft permit, submit them in writing to the Air Pollution Control District (District) within 21 days from the date of this letter. We will consider your comments before we issue your final permit. If we receive no comments within this period, we will issue a final permit with the enclosed conditions. If you have no comments and wish to receive the final permit earlier, please call the number below.

This is a draft permit. Please be advised that construction of your facility without a final Authority to Construct is a violation of District rules and the California Health and Safety Code.

Please include the facility identification (FID) and permit numbers as shown at the top of this letter on all correspondence regarding this permit. If you have any questions, please contact me at (805) 979-8317.

Sincerely,

Agnieszka Letts , Air Quality Engineer
Engineering Division

enc: Draft ATC 16398
Draft Permit Evaluation

cc: Champion Healing Center 03543 Project File
Engr Chron File
21-Day Suspense File
Agnieszka Letts (Cover letter only)
Gerard Randolph

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air pollution control district
SANTA BARBARA COUNTY

DRAFT

Authority to Construct 16398

EQUIPMENT OWNER:

Champion Healing Center

EQUIPMENT OPERATOR:

Crestwood Behavioral Health, Inc.

EQUIPMENT LOCATION:

303 S. C Street, Lompoc

STATIONARY SOURCE/FACILITY:

Champion Healing Center

SSID: 03543
FID: 03543

AUTHORIZED MODIFICATION:

This permit authorizes the installation of a 250 kW natural gas linear generator to be used for prime power at the facility.

EQUIPMENT DESCRIPTION:

The equipment subject to this permit is listed in the table at the end of this permit.

PROJECT/PROCESS DESCRIPTION:

The Champion Healing Center Stationary Source consists of a linear generator which provides prime power for the facility and an emergency standby diesel engine permitted under Reeval 14306 R3 that may provide backup power in the event that both the linear generator and grid power are non-operational. The linear generator converts motion along a straight line into 60 Hz electric power using a low temperature natural gas reaction without combustion.

CONDITIONS:

1. **Emission Limitations.** The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 1. Compliance shall be based on the operational, monitoring, recordkeeping, source testing, and reporting conditions of this permit.

   a. Emissions from the linear generator shall not exceed 2.5 ppmv NO_x @ 15% O_2, 10 ppmv CO @ 15% O_2, and 12 ppmv ROC @ 15% O_2. Compliance shall be based on the operational, monitoring, recordkeeping, reporting, and source testing conditions of this permit.

2. **Operational Restrictions.** The equipment permitted herein is subject to the following operational restrictions:

   a. *Heat Input Limits*. The hourly, daily and annual heat input limits for the linear generator shall not exceed the values listed in Table 3. These limits are based on the design rating of the unit and the annual heat input value as listed in the permit application. Unless otherwise designated by the District, the following fuel content shall be used for determining compliance: PUC quality natural gas = 1,050 Btu/scf.

   b. *Fuel Type Restiction*. The linear generator shall only be operated using PUC quality natural gas.

   c. *PUC Quality Natural Gas Fuel Sulfur Limit*. The total sulfur and hydrogen sulfide (H_2S) content (calculated as H_2S at standard conditions, 60^oF and 14.7 psia) of the PUC quality natural gas used as fuel in the linear generator shall not exceed 80 ppmv and 4 ppmv, respectively. Compliance with this condition shall be based on billing records or other data showing that the fuel gas is obtained from a public utility gas company.

   d. *Visible Emissions.* There shall be no visible emissions from the exhaust stacks of the linear generator.

   e. *Oxidation Catalyst.* The oxidation catalysts shall be fully functional and operating at all times when the linear generator is in use.

3. **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements:

   a. *Fuel Usage Metering*. The permittee shall install and operate dedicated, temperature and pressure-corrected, totalizing, non-resettable type fuel meters to measure the amount of natural gas used in the linear generator.

b. *Hour Metering.* The permittee shall install and operate a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the linear generator and the owner or operator's compliance history.

c. *Electrical Output Meter.* This equipment shall be equipped with a non-resettable financial transaction meter, which measures cumulative electricity output in kWh.

d. *Source Testing*. The permittee shall source test each exhaust stack within the linear generator system in accordance with the Source Testing Condition of this permit to demonstrate compliance with Condition 1 above. Table 4 of this permit shows the pollutants and process parameters that are to be monitored when the linear generator is source tested.

e. *Portable Analyzer Monitoring.* For each unit within the linear generator system, the permittee shall perform portable analyzer NO_x, ROC, CO, and O_2 at 15% O_2 monitoring biennially (every two years) in which a source test is not performed using a District-approved portable emission analyzer, and comply with the following requirements:

i. All monitoring parameter emission readings shall be taken with the unit operating at conditions representative of normal operations. No unit or control system maintenance or tuning may be conducted within 1 week prior to the portable analyzer monitoring, unless it is an unscheduled, required repair.

ii. The portable analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and in accordance with South Coast AQMD's Combustion Gas Periodic Monitoring Protocol of Nitrogen Oxides, Carbon Monoxide, and Oxygen from Combustion Sources subject to South Coast Air Quality Management District Rules 1110.2, 1146, and 1146.1, or subsequent protocol approved by the District.

iii. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period.

iv. A source test pursuant to Condition 3.d shall be an acceptable substitute emission check to satisfy the portable analyzer monitoring requirements.

v. A portable analyzer instrument reading in excess of the emission compliance values shall not be considered a violation, so long as the linear generator is brought into compliance and a follow-up portable analyzer reading is conducted within 15 days of the initial out-of-compliance reading. If the linear generator is found to be operating outside the acceptable range for control equipment parameters, operating

parameters, exhaust NO_x, CO, or ROC concentrations, the permittee shall bring the linear generator into compliance within 15 days. If compliance is not demonstrated by a retest within 15 days of the initial reading, a source test shall be required in accordance with the Source Testing Condition of this permit within 60 days of the initial reading.

f. *Process Monitoring, Maintenance, and Calibration Plan.* The District-approved Process Monitoring, Maintenance, and Calibration Plan shall be implemented for the life of the project.

4. **Recordkeeping.** The permittee shall record and maintain the following information. This data shall be maintained for a minimum of three (3) years from the date of each entry and made available to the District upon request:

a. *Fuel Gas Use*. The total amount of PUC quality natural gas used in the linear generator shall be recorded on a monthly and annual basis in units of standard cubic feet and million Btus.

b. *Operational Hours.* The total hours of operation of the linear generator shall be recorded on a monthly and annual basis.

c. *Electrical Output*. The net electrical output of the generator system, which is the difference between the electrical output of the generator and the electricity consumed by the auxiliary equipment necessary to operate the generator, shall be recorded on a monthly and annual basis.

d. *Source Test Reports.* Source test reports for all District-required stack emission tests.

e. *Portable Analyzer Records.* Records of all portable analyzer readings, including:

i. The date and time of NO_x, ROC, CO, and O_2 measurements.

ii. The O_2 concentration in percent and the measured NO_x, ROC, and CO concentrations corrected to 15% O_2.

iii. Make and model of the portable analyzer.

iv. Portable analyzer calibration records.

f. *Process Monitoring, Maintenance, and Calibration Plan*. Records required to be maintained by the Process Monitoring, Maintenance, and Calibration Plan.

5. **Reporting.** By March 1 of each year, a written report documenting compliance with the terms and conditions of this permit for the previous calendar year shall be provided by the permittee to the District (Attn: *Annual Report Coordinator*). The report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit. The report shall be in a format approved by the District. All logs and other basic source data not included in the report shall be made available to the District upon request. The report shall include the following information:

   a. *Fuel Gas Use*. The total amount of PUC quality natural gas used in the linear generator shall be recorded on a monthly and annual basis in units of standard cubic feet and million Btus.

   b. *Operational Hours.* The total hours of operation of the linear generator on a monthly and annual basis.

   c. *Electrical Output*. The net electrical output of the generator system on a monthly and annual basis.

   d. *Source Test Reports.* Source test reports shall be submitted to the District within 45 days of test completion.

   e. *Portable Analyzer Records.* Records of all portable analyzer readings.

   f. *Process Monitoring, Maintenance, and Calibration Plan*. Records required to be maintained by the Process Monitoring, Maintenance, and Calibration Plan.

6. **Source Testing.** The following source testing provisions shall apply:

   a. Source testing shall be performed every five years, using the date of the initial SCDP source test as the anniversary date. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the APCO, occur. The permittee shall conduct source testing of air emissions and process parameters listed in Table 4 of this permit. Source testing shall be performed on both units within the linear generator package. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur.

      Source testing of the linear generator shall be required for NO_x, CO, and ROC if the result of a portable analyzer reading (e.g., a result obtained during the monitoring required by Condition 3.e) exceeds the thresholds outlined in Table 1 and 2, unless compliance with this threshold is demonstrated by a retest within 15 days of the initial reading. A source test shall be conducted within 60 days of the initial reading if triggered by these criteria. If the linear generator demonstrates compliance with the NO_x, CO and

ROC emission limits of this permit in a source test, the engine shall not be subject to another source test for five years from the date of the initial compliant source test.

b. The permittee shall submit a written source test plan to the District (e-mail to sourcetest@sbcapcd.org) for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified (e-mail to sourcetest@sbcapcd.org) at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.

c. Source test results shall be submitted to the District (e-mail to sourcetest@sbcapcd.org) within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, mass emission rates in Section 5 and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.

d. A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test can not be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without the District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District (e-mail to sourcetest@sbcapcd.org) by the close of the business day following the scheduled test day.

The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District.

7. **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file) and the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.

8. **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.

9. **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.

10. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.

11. **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.

12. **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.

13. **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be affixed to the equipment in a permanent and conspicuous position.

14. **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors.

15. **Reimbursement of Costs.** All reasonable expenses, as defined in District Rule 210, incurred by the District, District contractors, and legal counsel for the activities listed below that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the permittee as required by Rule 210. Reimbursable activities include work involving: permitting, compliance, CEMS, modeling/AQIA, ambient air monitoring and air toxics.

16. **Nuisance.** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material 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.

17. **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq*.

18. **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form –01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.

19. **Documents Incorporated by Reference.** The documents listed below, including any District-approved updates thereof, are incorporated herein by reference and shall have the full force and effect of a permit condition for this permit. These documents shall be implemented for the life of the Project and shall be made available to District inspection staff upon request.

    a. *Process Monitoring, Calibration and Maintenance Plan (to be submitted)*

20. **Source Compliance Demonstration Period.** Equipment permitted herein is allowed to operate temporarily during a 150-day SCDP. Initial operations of the permitted equipment (defined as the commencement of any activities applied for and authorized by this permit) define the start of the SCDP. If the equipment has already been installed under an IPAP Agreement, the issuance of this permit defines the start of SCDP. During the SCDP, the permittee shall comply with all operational, monitoring, recordkeeping and reporting requirements as specified in this permit.

    During the SCDP, the permittee shall:

    a. Begin recordkeeping as specified in the *Recordkeeping* condition of this permit.

    b. Within 14 of days of the start of the SCDP, the permittee shall provide the District written notification of the SCDP start date using the attached yellow SCDP notification card or by e-mail to enfr@sbcapcd.org.

    c. Source Test Plan: The permittee shall submit a written source test plan to the District for review and approval at least thirty (30) calendar days prior to initiation of the source test. The source test plan shall be prepared consistent with the District's *Source Test Procedures Manual* (revised May 1990 and any subsequent revisions).

d. Source Test: Conduct stack emission source testing within seventy-five (75) days of the start of the SCDP. This testing shall be performed consistent with Table 3 and the source testing permit condition of this permit. Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the compliance status with mass emission limits and applicable permit conditions and rules.

e. Process Monitoring, Calibration, and Maintenance Plan: The permittee shall submit a *Process Monitoring, Calibration and Maintenance Plan* to the District for review and approval within seventy-five (75) days of the start of the SCDP. This plan shall include the make, model, and technical specifications of the meters to be used as well as detailed procedures to ensure the linear generator complies with the annual operating and heat input limits.

f. Arrange for District inspection not more than 30 calendar days (or other mutually agreed to time period) after the SCDP begins. An inspection can be arranged via e-mail to enfr@sbcapcd.org or by calling the District Compliance Division at (805) 979-8050. A minimum of three calendar days advance notice shall be given to the District. The Compliance Division may waive this inspection requirement if an initial inspection is deemed unnecessary to verify that the modifications authorized by this permit are in compliance with District rules and permit conditions.

g. Submit a Permit to Operate (PTO) application and the appropriate filing fee not more than 120 calendar days after the SCDP begins pursuant to District Rule 201.E.2. Upon the District's determination that the permit application is "complete", the permittee may continue temporary operations under the SCDP until such time the PTO is issued final or one year from the date of PTO application completeness, whichever occurs earlier. Failure to submit the PTO application within the specified time period shall constitute a violation of this permit.

SCDP extensions may be granted by the District for good cause. Such extensions may be subject to conditions. When good cause cannot be demonstrated, no administrative extension is available and the permittee shall cease operations. Alternatively, the permittee may submit an application to revise the ATC permit and upon the District finding the application complete the SCDP can be extended. A written request to extend the SCDP shall be made by the permittee at least seven days prior to the SCDP expiration date.

AIR POLLUTION CONTROL OFFICER

DATE

Attachments:

- Table 1 – Permitted Emission Limits
- Table 2 – Emission Factors
- Table 3 – Heat Input Limits
- Table 4 – Source Test Requirements
- Permit Equipment List(s)
- Permit Evaluation for Authority to Construct 16398

Notes:

- This permit is valid for one year from the date stamped above if unused.

TABLE 1. MASS EMISSION LIMITS

Device ID #	NOx		ROC		CO		SOx		PM		PM10		PM2.5	
	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy
399504	0.48	0.09	0.80	0.15	1.16	0.21	0.66	0.12	0.13	0.02	0.13	0.02	0.13	0.02

Table Notes:

(a) NO_x as NO_2, SO_x as SO_2, lb/day = pounds per day, tpy = tons per year
(b) Device ID # from permit equipment list.
(c) lb/day = pounds per day. tpy = tons per year.
(d) Emission data that rounds down to 0.00 has been set to a default of 0.01.

TABLE 2. EMISSION FACTORS

Device ID #	NOx	ROC	CO	Units	Basis
399504	2.5	12	10	ppmvd @ 15% O2	Manufacturer Specifications

TABLE 3. HEAT INPUT LIMITS

Device ID #	Fuel	MMBtu/hr	MMBtu/day	MMBtu/yr
399504	PUC Natural Gas	2.152	51.648	18,851.520

TABLE 4. SOURCE TESTING REQUIREMENTS

Linear Generator Source Test Requirements[g]						
Emission & Limit Test Points	**Pollutants**	**Parameters[b]**	**Test Methods[a][c]**	**Concentration Limits** (ppmvd @ 15% O_2)	**Mass Emission Limits[h]** (lb/hr)	**Emission Rate Limits** (lb/MMBtu)
Linear Generator Exhaust[b][g]	NO_x	ppmv, lb/hr, lb/MMBtu	EPA Method 7E, ARB 1-100	2.5	0.02	0.0092
	ROC	ppmv, lb/hr, lb/MMBtu	EPA Method 18	12	0.03	0.0155
	CO	ppmv, lb/hr, lb/MMBtu	EPA Method 10, ARB 1-100	10	0.05	0.0225
	Sampling Point Det.		EPA Method 1			
	Stack Gas Flow Rate		EPA Method 2 or 19			
	O_2	Dry, Mol. Wt	EPA Method 3			
	Moisture Content		EPA Method 4			
Fuel Gas	Fuel Gas Flow Rate		Fuel Gas Meter[f]			
	Higher Heating Value	BTU/scf	ASTMD 1826-88			
	Total Sulfur Content[d]	ppmv as H_2S	ASTMD 1072			

(a) Alternative methods may be acceptable on a case-by-case basis.

(b) The emission rates shall be based on EPA Methods 2 and 4, or Method 19 along with the heat input rate. Measured NO_x, ROC, and CO ppmvd shall not exceed the limits specified in Condition 1.b of this ATC.

(c) For NO_x, ROC, CO, and O_2 a minimum of three 40-minute runs shall be obtained during each test.

(d) Total sulfur content fuel samples shall be obtained using EPA Method 18 with Tedlar Bags (or equivalent) equipped with Telon tubing and fittings. Turnaround time for laboratory analysis of these samples shall be no more than 24 hours from sampling in the field.

(e) All emission determinations shall be made in the as-found operating condition, at the maximum attainable firing rate to be approved by the source test plan. No determination shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.

(f) Fuel meter shall be calibrated and metered volume corrected.

(g) Source testing shall be required every five years for both exhaust stacks from each unit within the linear generator package.

(h) Lb/hour mass emission limits are based on combined emissions from both exhaust stacks within the linear generator system.

PERMIT EQUIPMENT LIST - TABLE A

ATC 16398 / FID: 03543 Champion Healing Center / SSID: 03543

A PERMITTED EQUIPMENT

1 Linear Generator

Device ID #	**399504**	***Device Name***	**Linear Generator**
Rated Heat Input	2.152 MMBtu/Hour	*Physical Size*	250.00 Kilowatts
Manufacturer	Mainspring	*Operator ID*	
Model	MSE-250	*Serial Number*	
Location Note			
Device Description	250-kilowatt Natural Gas Fueled (kW) LGEN consisting of two individual identical cores within the linear generator package. Each core is vented to an oxidation catalyst.		

air pollution control district
SANTA BARBARA COUNTY

DRAFT

PERMIT EVALUATION FOR AUTHORITY TO CONSTRUCT 16398

1.0 BACKGROUND

1.1 General: The application for Authority to Construct (ATC) 16398 was received on April 11, 2025 and deemed complete by the District on July 28, 2025. The application was submitted for the installation of a 250 kW natural gas fired linear generator to provide primary power for the facility located at 303 South C Street in Lompoc.

1.2 Permit History:

PERMIT	FINAL ISSUED	PERMIT DESCRIPTION
Reeval 14306 R3	03/23/2023	Reevaluation
Trn O/O 14306 01	04/04/2025	Transfer of owner operator from Lompoc Valley Medical Center to Champion partners LLC & Monterey/Pleasant Hill/Champion Healing Center.

1.3 Compliance History: According to recent District inspections, no violations of District rules and the permit have been found. The permitted equipment has no compliance history.

2.0 ENGINEERING ANALYSIS

2.1 Equipment/Processes: A PUC natural gas fueled linear generator is used for prime electrical power generation. Emissions from the project are from the low temperature natural gas reaction. Linear generators utilize a low temperature reaction to convert sensible energy into kinetic energy, which is converted into alternating current electric power

The linear generator has two cores consisting of a center reaction cylinder with two opposed oscillators and two outer air springs. The reaction section has intake and exhaust ports for uni-flow breathing and two stroke operation. Each of the two oscillators has attached magnets that generate electricity as they move past copper coils (stators). The linear generator has separate exhaust points for each of the cores, vented through oxidation catalysts to control CO and ROC emissions. Because reaction temperatures are low, NO_X emissions are low without the need for added air pollution control devices.

An operating cycle of the linear generator begins with compression of the fuel/air mixture that is driven by energy stored in the air springs from the previous cycle. Compression continues until a low-temperature reaction occurs when the volume in the reaction section is at or near its minimum. The reaction occurs uniformly through the chamber without a flame when the fuel/air mixture reaches its auto-ignition temperature. The reaction causes the oscillators, equipped with magnets,

to move outward for an expansion stroke, during which a portion of the kinetic energy is converted into electricity through the copper coils, and the remaining kinetic energy is stored in the air springs for use during the next compression cycle. Following an expansion stroke, gas exchange replaces the exhaust products with fresh fuel/air mixture.

2.2 Emission Controls: The linear generator operates on natural gas as a fuel source. The system is designed with a low-flame, high-reactant-temperature configuration, optimizing combustion conditions to minimize NO_x formation. Additionally, the unit is equipped with an air-to-fuel ratio monitoring system and an oxidation catalyst which controls CO and ROC emissions.

2.3 Emission Factors: Emission factors are documented in Emission Calculations Attachment A and Table 2. The emission factors for the linear generator are 2.5 ppmv @ 15% O_2 for NO_x, 10 ppmv @ 15% O_2 for CO, 12 ppmv @ 15% O_2 for ROC, and 0.0025 lb/MMBtu for $PM/PM_{10}/PM_{2.5}$. Sulfur dioxide emissions from the linear generator are based on mass balance calculations, assuming a maximum total sulfur content of fuel of 80 ppmvd as H_2S.

NO_x, CO, and VOC emission limits are based on the linear generator emission limits from SCAQMD Rule 1110.3 and manufacturer specifications.

2.4 Reasonable Worst Case Emission Scenario: The linear generator operates 24 hours/day and 365 days/year and is operated on PUC quality natural gas.

2.5 Emission Calculations: Detailed emission calculation spreadsheets may be found in the Emission Calculations Attachment A. These emissions define the Potential to Emit for the permitted equipment.

2.6 Special Calculations: There are no special calculations.

2.7 BACT Analyses: Best Available Control Technology was not required for this project.

2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the equipment is operated properly.

2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. source testing of the linear generator is required every five years. Every two years, in which the linear generator is not source tested, annual portable analyzer monitoring is required.

2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the District.

3.0 REEVALUATION REVIEW (not applicable)

4.0 REGULATORY REVIEW

4.1 Partial List of Applicable Rules:

Rule 201.	Permits Required
Rule 202.	Exemptions to Rule 201
Rule 205.	Standards for Granting Permits
Rule 301.	Circumvention
Rule 302.	Visible Emissions
Rule 303.	Nuisance
Rule 310.	Odorous Organic Sulfides
Rule 311.	Sulfur Content of Fuels
Rule 801.	New Source Review- Definitions and General Requirements
Rule 802.	New Source Review
Rule 809.	Federal Minor Source New Source Review
Rule 810.	Federal Prevention of Significant Deterioration

4.2 Rules Requiring Review: None.

5.0 AQIA

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

6.0 OFFSETS/ERCs

6.1 Offsets: The emission offset thresholds of Regulation VIII are not exceeded.

6.2 ERCs: This source does not generate emission reduction credits.

7.0 AIR TOXICS

The Santa Barbara County Air Pollution Control District (District) conducted an air toxics Health Risk Assessment (HRA) as part of the permitting process for Authority to Construct No. 16398 for the installation of a linear generator to be used for prime power at 303 South C Street in Lompoc. The only other permitted equipment at this stationary source is an existing emergency standby diesel-fired engine; the HRA also included emissions from this device. The HRA was completed using AERMOD Build 24142 in Lakes' AERMOD View, Version 13.0.0 and the Hotspots Analysis and Reporting Program software Version 2 (HARP 2), Build 22118. Cancer risk and non-cancer Hazard Index (HI) risk values were calculated and compared to *significance thresholds* adopted by the District's Board of Directors. The calculated risk values and applicable thresholds are as follows:

	303 South C Street Max Risks	Significance Threshold
Cancer risk:	8.8	≥10/million
Chronic non-cancer risk:	<0.1	>1
8-hour chronic non-cancer risk:	<0.1	>1
Acute non-cancer risk:	0.2	>1

Based on these results, the operations at 303 South C Street in Lompoc, permitted under Authority to Construct No. 16398, do not present a significant risk to the surrounding community.

8.0 CEQA / LEAD AGENCY

The District is the lead agency under CEQA for this project. This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County APCD (revised April 30, 2015). Appendix A (APCD Projects Exempt from CEQA and Equipment or Operations Exempt from CEQA) provides exemptions specifically for: Projects at new or existing sources or facilities with a potential to emit less than the Best Available Control Technology (BACT) thresholds specified in APCD Regulation VIII.

9.0 SCHOOL NOTIFICATION

A school notice pursuant to the requirements of Health and Safety Code Section 42301.6 is required. A school notice will be conducted prior to final permit issuance.

10.0 PUBLIC and AGENCY NOTFICATION PROCESS/COMMENTS ON DRAFT PERMIT

10.1 This project is subject to public notice.

10.2 Draft comments, if any are received, will appear in the final permit.

11.0 FEE DETERMINATION

Fees for this permit are assessed under the cost reimbursement provisions of Rule 210.

12.0 RECOMMENDATION

It is recommended that this permit be granted with the conditions as specified in the permit.

Agnieszka Letts	11/13/2025		
AQ Engineer/Technician	Date	Supervisor	Date

13.0 ATTACHMENT(S)

A. Emission Calculations
B. IDS Tables
C. HRA Documentation

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Authority to Construct 16398

ATTACHMENT A
Emission Calculations

LINEAR GENERATOR EMISSION CALCULATIONS (PPMV BASIS)

Attachment: A-1
Permit Number: ATC 16398
Facility: 3543

Linear Generator Data

Parameters	*Value*	*Units*	*Reference / Notes*
Linear Generator Rating	250	kW	Permit application
Heat Input Rate	8,608	Btu/KWh	Permit application
Daily Hours of Operation	24	hours/day	Permit application
Annual Hours of Operation	8,760	hours/year	Permit application

Fuel Data

Parameters	*Value*	*Units*	*Reference*
Fuel Type	PUC NG		Permit application
Sulfur Content of Fuel	80	ppmv	SBCAPCD TRD Table 5
Heat Content of Fuel	1,050	Btu/scf	SBCAPCD TRD Table 5

Emissions Data

Parameters	*Value*	*Units*	*Reference*
Stack NO_x (as NO_2)	2.5	ppmvd @ 15% O_2	Permit application
Stack ROC (as CH_4)	12.0	ppmvd @ 15% O_2	Permit application
Stack CO	10.0	ppmvd @ 15% O_2	Permit application
PM	0.00250	lb/MMBtu	Permit application
PM_{10}	0.00250	lb/MMBtu	Permit application
$PM_{2.5}$	0.00250	lb/MMBtu	Permit application
Molecular Weight of NO_x	46.01	lb/lb-mole	As NO_2
Molecular Weight of ROC	16.04	lb/lb-mole	As Methane
Molecular Weight of CO	28.01	lb/lb-mole	None
Molecular Weight of SO_x	64.07	lb/lb-mole	As SO_2
F-Factor (F_D)	8,608	dscf/MMBtu	SBCAPCD TRD Table 5
Molar Volume	379.7	dscf/lb-mole	At 1 atm and 60 °F

Unit Conversions

Parameters	*Value*	*Units*	*Reference*
Hourly Heat Input	2.15200	MMBtu/hr	Calculated Value
Daily Heat Input	51.648	MMBtu/day	Calculated Value
Annual Heat Input	18,851.520	MMBtu/year	Calculated Value
Daily Stack Flow (0% O_2)	4.45E+05	dscf/day	Calculated Value
Daily Stack Flow (15% O_2)	1.57E+06	dscf/day	Calculated Value
Annual Stack Flow (0% O_2)	1.62E+08	dscf/year	Calculated Value
Annual Stack Flow (15% O_2)	5.75E+08	dscf/year	Calculated Value

Linear Generator Potential to Emit

Pollutant	NO_x	ROC	CO	SO_x	PM	PM_{10}	$PM_{2.5}$
lb/day	0.48	0.80	1.16	0.71	0.13	0.13	0.13
TPY	0.09	0.15	0.21	0.13	0.02	0.02	0.02

Processed By: AXL Date: 6/18/2025

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ATTACHMENT B
IDS Tables

PERMIT POTENTIAL TO EMIT

	NO_x	ROC	CO	SO_x	PM	PM_{10}	$PM_{2.5}$
lb/day	0.48	0.80	1.16	0.66	0.13	0.13	0.13
lb/hr							
TPQ							
TPY	0.09	0.15	0.21	0.12	0.02	0.02	0.02

FACILITY POTENTIAL TO EMIT

	NO_x	ROC	CO	SO_x	PM	PM_{10}	$PM_{2.5}$
lb/day	15.46	1.80	9.82	0.73	0.63	0.63	0.63
lb/hr							
TPQ							
TPY	0.28	0.16	0.32	0.14	0.03	0.03	0.03

STATIONARY SOURCE POTENTIAL TO EMIT

	NO_x	ROC	CO	SO_x	PM	PM_{10}	$PM_{2.5}$
lb/day	15.46	1.80	9.82	0.73	0.63	0.63	0.63
lb/hr							
TPQ							
TPY	0.28	0.16	0.32	0.14	0.03	0.03	0.03

Notes:
(1) Emissions in these tables are from IDS.
(2) Because of rounding, values in these tables shown as 0.00 are less than 0.005, but greater than zero.

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Authority to Construct 16398

ATTACHMENT C
HRA Documentation

1.0 SUMMARY

The Santa Barbara County Air Pollution Control District (District) conducted an air toxics Health Risk Assessment (HRA) as part of the permitting process for Authority to Construct No. 16398 for the installation of a linear generator to be used for prime power at 303 South C Street in Lompoc. The only other permitted equipment at this stationary source is an existing emergency standby diesel-fired engine; the HRA also included emissions from this device. The HRA was completed using AERMOD Build 24142 in Lakes' AERMOD View, Version 13.0.0 and the Hotspots Analysis and Reporting Program software Version 2 (HARP 2), Build 22118. Cancer risk and non-cancer Hazard Index (HI) risk values were calculated and compared to *significance thresholds* adopted by the District's Board of Directors. The calculated risk values and applicable thresholds are as follows:

	303 South C Street Max Risks	Significance Threshold
Cancer risk:	8.8	≥10/million
Chronic non-cancer risk:	<0.1	>1
8-hour chronic non-cancer risk:	<0.1	>1
Acute non-cancer risk:	0.2	>1

Based on these results, the operations at 303 South C Street in Lompoc, permitted under Authority to Construct No. 16398, do not present a significant risk to the surrounding community.

2.0 BACKGROUND

2.1 Stationary Source Overview

Crestwood Behavioral Health's facility at 303 South C Street in Lompoc is currently powered via grid power, with an emergency standby diesel-fired internal combustion engine (E/S DICE) providing backup power in the event that grid power fails. The permitting action for Authority to Construct No. 16398 (ATC 16398) includes the installation of a new natural gas fueled 250-kilowatt linear generator (LGEN). The proposed linear generator is a Model MSE-3 with two cores, manufactured by Mainspring. The linear generator will provide primary power to the facility, with backup power being provided by the grid. In the event both the linear generator and grid power are unavailable, the existing E/S DICE is the final backup power source.

2.2 Health Risk

As used in this report, the term "health risk" addresses the likelihood that exposure to a given toxic air contaminant under a given set of conditions will result in an adverse health effect. Health risk is affected by several factors, such as: the amount, toxicity, and concentration of the contaminant; the meteorological conditions; the distance from emission sources to people; the distance between emission sources; the age, health, and lifestyle of the people living or working at a location; and the duration of exposure to the toxic air contaminant.

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Authority to Construct 16398

ATTACHMENT C
HRA Documentation

Health effects are divided into cancer and non-cancer risks. "Cancer risk" refers to the increased chance of contracting cancer as a result of an exposure and is expressed as a probability: chances-in-a-million. The values expressed for cancer risk do not predict actual cases of cancer that will result from exposure to toxic air contaminants. Rather, they state a possible risk of contracting cancer over and above the background level.

For non-cancer health effects, risk is characterized by a "Hazard Index" (HI), which is a sum of all hazard quotients (HQs) for each toxic air contaminant (TAC). The HQ for a TAC is obtained by dividing the predicted concentration of the TAC by its Reference Exposure Level (REL), which has been determined by health professionals from the Office of Environmental Health Hazard Assessment (OEHHA) and the California Air Resources Board (CARB). RELs are used as indicators of the potential adverse effects of chemicals. An REL is the concentration at or below which no adverse health effects are anticipated for specific exposure duration. Thus, the HQ is a measure of the exposure relative to a level of safety and is appropriately protective of public health. The TACs emitted by a facility can have different emission rates and different RELs. An HQ is calculated separately for each TAC at each modeled receptor location. A composite HI at each receptor is then calculated as the sum of HQs for each individual TAC. A HI of one or less indicates that no adverse health effects are anticipated and is therefore considered safe.

2.3 Health Risk Assessment for Authority to Construct No. 16398

The permit application for ATC 16398 was submitted on April 11, 2025 for the installation of the linear generator. The District required an HRA to be conducted because the facility is located within 1000 feet of a school. The District initially conducted an HRA screening using Lakes' AERSCREEN View and the Risk Assessment Standalone Tool within CARB's HARP 2; because the risk results from the HRA screening were above the significance thresholds, a refined HRA was performed.

3.0 FACILITY INFORMATION

EQUIPMENT OWNER:	Crestwood Behavioral Health, Inc.
EQUIPMENT OPERATOR:	Crestwood Behavioral Health, Inc.
SOURCE IDENTIFICATION NUMBER:	03543
EQUIPMENT LOCATION:	303 South C Street, Lompoc CA 93436
FACILITY UTM COORDINATES:	The District estimated the UTM coordinates for the facility's property boundary based on assessor's parcel data from the County of Santa Barbara. The District estimated the UTM coordinates for the building and emission release points using Google Earth and diagrams provided by the applicant.

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ATTACHMENT C
HRA Documentation

UTM Zone 11
Datum: NAD83
Easting: 733546.50 m
Northing: 3835578.80 m

EQUIPMENT DESCRIPTION: The HRA includes emissions from the proposed linear generator and existing emergency standby diesel-fired internal combustion engine (E/S DICE).

4.0 STACKS AND MODELING PARAMETERS

As stated in Section 3.0, the UTM coordinates for the emission release points, or sources, were estimated using Google Earth and diagrams provided by Crestwood Behavioral Health, Inc. Both sources were modeled as point sources. Based on the manufacturer's specifications and engineering drawings, the linear generator's exhaust stacks are horizontal. The linear generator has a separate exhaust stack for each core within the system; however, because they are located next to each other, they were modeled as one emissions point. The existing E/S DICE source parameters are based on the manufacturer's specification sheet and information provided by the applicant.

The source parameters used in the HRA are shown in Table 4.1 below and can also be found in the AERMOD input file *AERMOD.ADI*, located in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report.

Table 4.1 – Summary of Stack Parameter Inputs

Equipment Description	Source ID	Source Type	UTME (m)	UTMN (m)	Release Height (m)	Temperature (K)	Stack Vel (m/s)	Stack Dia (m)
Linear Generator (LGEN)	STCK1	POINTHOR	733546.50	3835578.80	2.9	373.15	478.495	0.127
Existing Diesel Engine	STCK2	POINT	733538.50	3835576.25	3.05	755.928	93.787	0.152

5.0 EMISSIONS

The District quantified the TAC emissions for this facility. Existing E/S DICE emissions were calculated using the average of the 2022-2024 operating hours per year for maintenance and testing purposes. The linear generator emissions were calculated using maximum permitted annual operating schedule of 8670

hours per year. The linear generator TAC emission factors were based on source testing data conducted by the manufacturer and additional information provided by the applicant. E/S DICE TAC emissions were calculated using ARB's Airborne Toxic Control Measure for Stationary Compression Ignition Engines particulate matter (PM) emission standards.

The emission profiles used in the HRA can be found in the file *Emissions.CSV*; this file is located in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report. The total emissions of each TAC included in this HRA are shown in Table 5.1 and 5.2 below.

Table 5.1 – Linear Generator: STCK1 Emissions Summary

Pollutant	Annual Emissions (lb/yr)	Hourly Emissions (lb/hr)
Acetaldehyde	1.2264	0.00014
Acrolein	0.10512	0.000012
Benzene	0.839208	0.0000958
1,3-Butadiene	0.0471288	0.00000538
Carbon Disulfide (CS_2)	0.059568	0.0000068
Formaldehyde	5.4312	0.00062
Hexane	0.03504	0.000004
Naphthalene	0.0150672	0.00000172

Table 5.2 – Existing E/S DICE: STCK2 Emissions Summary

Pollutant	Annual Emissions (lb/yr)	Hourly Emissions (lb/hr)
Diesel PM	5.742484	0.249673

6.0 BUILDING INFORMATION

Building downwash was selected as a control option in the air dispersion analysis. The building included in the HRA was processed using the Building Profile Input Program for PRIME (BPIPPRM) in AERMOD. The building height and UTM coordinates of the building vertices were estimated by the District using Google Earth. The building information used in the air dispersion analysis can be found in the BPIPPRM input file *AERMOD.bpi*, located in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report.

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ATTACHMENT C
HRA Documentation

7.0 MET DATA & DEM FILES

Meteorological data used in the air dispersion analyses were acquired at the Lompoc H Street site from 2019-2023. These files, *LompocHSt19-23.PFL* and *LompocHSt19-23.SFC*, were processed by the District and can be found in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report. The PROFBASE parameter was set to 41.0 m for the base elevation above mean sea level of the primary met tower at the Lompoc H Street monitoring location; this value comes from the District's Form-15i. The terrain and the receptor, source and building elevations were determined using Version 24142 of USEPA's AERMAP terrain processor and the Digital Elevation Model (DEM) files *lompoc_hills30m.dem* and *lompoc30m.dem*, which are also located in the *ATC-16398-Refined-HRA.zip* file.

8.0 MODEL INFORMATION

The air dispersion modeling was conducted using AERMOD Build 24142 in Lakes' AERMOD View, Version 9.8.3, and the risk assessment was conducted using HARP 2, Build 22118. The regulatory default Control options were selected, and the rural dispersion coefficient was selected.

8.1 Receptor Placement

The receptors were placed in a multi-tier grid, 25 meters apart from the centroid of the source polygon out to 300 meters, 50 meters apart from 300 meters out to 600 meters, and 100 meters apart from 600 meters out to 2100 meters. Receptors were generated along the property boundary 10 meters apart. Four additional sensitive receptors were also included. All receptors had a flagpole height of 1.5 meters. Receptors generated by the multi-tier grid within the property boundary were included, as there are potentially residents living in the buildings within the facility property boundary. All receptor data may be found in the file *AERMOD.ADO* and *AERMOD.ROU*, located in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report.

8.2 Residential Exposure and Pathways

The cancer risks for the residential receptors and the point of maximum impact (PMI) were determined using the "individual resident" receptor type, 30-year exposure duration, and the intake rate from the "RMP using the Derived Method." The chronic non-cancer hazard indices for the residential receptors and the PMI were determined using the "individual resident" receptor type and the intake rate from the "OEHHA Derived Method." The only exposure pathway analyzed for the residential receptors was the inhalation pathway because none of the pollutants emitted from this project are multipathway. There were no schools within the one in a million residential cancer risk isopleth after the initial HRA was ran without fraction of time at residence (FAH) values applied. For this reason, the cancer risks were calculated again using the FAH values for all age bins under the inhalation pathway for the residential receptors and the PMI.

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HRA Documentation

8.3 Worker Exposure and Pathways

The cancer risk for the worker receptors were determined using the "worker" receptor type, 25-year exposure duration and the intake rate from the "OEHHA Derived Method." The District used the default adjustment factor of 4.2 for when the emitting source and worker's schedules are the same: (24 hours per day/8 hours per shift) * (7 days in a week/5 days in a work week). The chronic non-cancer hazard indices for the worker receptors were determined using the "worker" receptor type and the intake rate from the "OEHHA Derived Method." The chronic non-cancer risk is not affected by the worker adjustment factor. The only exposure pathway analyzed for the worker receptors was the inhalation pathway because none of the pollutants emitted from this project are multipathway.

8.4 8-Hour Chronic Non-Cancer Analysis

The 8-hour chronic hazard indices were calculated for all receptors because the equipment at this facility does not all operate continuously. Therefore, a worker adjustment factor (WAF)[1] was applied for the 8-hour non-cancer risk calculation. The WAF was calculated as shown in Equation 8.4, per Section 4.3.2.2 of Form-15i.

$$\boldsymbol{WAF_{8-hour}} = \frac{H_{residential}}{H_{source}} * \frac{D_{residential}}{D_{source}} = \frac{24\ hr/day}{8\ hr/day} * \frac{7\ days/week}{5\ days/week} = \mathbf{4.2} \qquad \textbf{Eq. 8.4}$$

where:

$WAF_{8\text{-hour}}$ = the worker adjustment factor for 8-hour non-cancer risk

$H_{residential}$ = the number of hours per day on which the long-term residential concentration is based = 24 hours/day

H_{source} = the number of hours per day that the source operates = 8 hours/day

$D_{residential}$ = the number of days per week on which the long-term residential concentration is based = 7 days/week

D_{source} = the number of days per week that the source operates = 5 days/week

8.5 Acute Non-Cancer Analysis

The acute hazard indices were calculated for all receptors using the simple screening analysis. The screening acute risk is a timesaving approximation that is conservative in nature. It is calculated by assuming that the contribution of risk from each source is at its maximum at the same instant in time. The maximum hourly risk from each source is summed to give the screening value, as if they had all occurred at the same time. In reality, the time that the risk from each source is at a maximum will differ depending

[1] Although it is called the worker adjustment factor, the WAF is applied when calculating the 8-hour HI for residential and sensitive receptors for a non-continuous facility.

on location and meteorology. Because no receptors exceeded the significance threshold of 1.0 for the screening acute HI, the refined acute analysis was not performed.

9.0 RESULTS

Risk assessment results at the offsite and onsite point of maximum impact (Offsite/Onsite PMI) and the maximally exposed individual resident (MEIR) and worker (MEIW) receptor locations for cancer and for chronic, 8-hour chronic, and acute non-cancer health effects are shown in Tables 9.1 through 9.4. Risk management decisions are based on the bolded values.

Table 9.1: Cancer Risk at Offsite/Onsite PMI, MEIR and MEIW Receptors

Type of Receptor	Receptor Number	Cancer Risk (in a million)	UTME (m)	UTMN (m)
Offsite PMI	367	8.9295	733596.5	3835578.75
Onsite PMI/MEIR	2821	**8.8207**	733586.82	3835583.93
MEIW	465	0.88422	733696.5	3835528.75

Table 9.2: Chronic Non-Cancer Risk at Offsite/Onsite PMI, MEIR, and MEIW Receptors

Type of Receptor	Receptor Number	Chronic Non-Cancer HI	Health Endpoints	UTME (m)	UTMN (m)
Offsite PMI	367	2.3239E-02	Respiratory	733596.5	3835578.75
Onsite PMI/MEIR	2821	**2.4533E-02**	Respiratory	733586.82	3835583.93
MEIW	465	2.7784E-03	Respiratory	733696.5	3835528.75

Table 9.3: 8-Hour Chronic Non-Cancer Risk at Offsite/Onsite PMI, MEIR and MEIW Receptors

Type of Receptor	Receptor Number	8-Hour Non-Cancer HI	Health Endpoints	UTME (m)	UTMN (m)
Offsite PMI	367	1.7600E-02	Respiratory	733596.5	3835578.75
Onsite PMI/MEIR	342	**1.8959E-02**	Respiratory	733571.5	3835578.75
MEIW	465	1.8262E-03	Respiratory	733696.5	3835528.75

Table 9.4: Screening Acute Non-Cancer Risk at Offsite/Onsite PMI, MEIR and MEIW Receptors

Type of Receptor	Receptor Number	Screening Acute Non-Cancer HI	Health Endpoints	UTME (m)	UTMN (m)
Offsite PMI	2774	3.7432E-02	Eyes	733555.44	3835642.66
Onsite PMI	318	**1.5830E-01**	Eyes	733546.5	3835603.75
MEIR	316	8.9604E-02	Eyes	733546.5	3835553.75
MEIW	346	2.2306E-02	Eyes	733571.5	3835678.75

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ATTACHMENT C
HRA Documentation

The MEIR and onsite PMI for cancer, chronic, and 8-hour non-cancer risk occur onsite in the northern part of the building within the subject property. The offsite PMI occurs on the road east of the facility. Attachment A shows the residential cancer risk isopleth for the final risk analysis with the onsite and offsite PMI and MEIR identified; there is no 10 in a million risk isopleth shown because no receptors have a calculated residential cancer risk greater than 10 in a million. The residential chronic and 8-hour non-cancer hazard index isopleths were not plotted because there were no receptors with a residential chronic or 8-hour non-cancer HI above 0.1.

The MEIW for cancer, chronic non-cancer, and 8-hour non-cancer risk occurs at a building to the east of the facility. Attachment B shows the worker cancer risk isopleth with the MEIW identified; there is no 10 in a million risk isopleth shown because no receptors have a calculated worker cancer risk greater than 10 in a million. The worker chronic and 8-hour non-cancer hazard index isopleths were not plotted because there were no receptors with a worker chronic or 8-hour non-cancer HI above 0.1.

The onsite PMI for screening acute non-cancer risk occurs on the north side of the facility's property, along a sidewalk. The offsite PMI for screening acute non-cancer risk occurs along the north edge of the facility's property boundary. The MEIR for screening acute non-cancer risk occurs onsite, in the central part of the building within the subject property boundary. The MEIW for screening acute non-cancer risk occurs at a building north of the facility's property boundary. Attachment C shows the screening acute non-cancer risk isopleth with the PMI, MEIR and MEIW identified; there is no isopleth for the hazard index of 1.0 because no receptors have a calculated acute HI greater than 1.0.

All resultant HRA risk data by receptor may be found in the *ATC-16398-Refined-HRA.zip* file referenced in the Attachments section of this report.

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10.0 RISK DRIVER POLLUTANTS

10.1 Cancer Risk

The primary cancer risk driver pollutant for the PMI, MEIR and MEIW is Diesel PM, which is emitted by the existing E/S DICE. Tables 10.1-1 through 10.1-3 show the contribution from the risk driver pollutants for the cancer risk at the Offsite PMI, Onsite PMI/MEIR and MEIW, respectively.

Table 10.1-1: Risk Drivers[2] for Cancer Risk at the Offsite PMI – Receptor No. 367

Pollutant	Cancer Risk by Pollutant	Percent of Total Risk
Total	8.93/million	100%
Diesel PM	5.93	66%
Formaldehyde	1.42	16%
Benzene	1.05	12%
1,3-Butadiene	0.353	4%
Acetaldehyde	0.153	2%

Table 10.1-2: Risk Drivers[2] for Cancer Risk at the Onsite PMI/MEIR – Receptor No. 2821

Pollutant	Cancer Risk by Pollutant	Percent of Total Risk
Total	8.82/million	100%
Diesel PM	5.62	64%
Formaldehyde	1.52	17%
Benzene	1.12	13%
1,3-Butadiene	0.377	4%
Acetaldehyde	0.163	2%

Table 10.1-3: Risk Drivers[2] for Cancer Risk at the MEIW – Receptor No. 465

Pollutant	Cancer Risk by Pollutant	Percent of Total Risk
Total	0.884/million	100%
Diesel PM	0.747	85%
Formaldehyde	0.0650	7%
Benzene	0.0478	5%
1,3-Butadiene	0.0161	2%
Acetaldehyde	0.00698	1%

[2] Pollutants contributing less than one percent to the total risk are not included.

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HRA Documentation

10.2 Chronic Non-Cancer Risk

The chronic non-cancer risk driver pollutant for the Offsite PMI, Onsite PMI/MEIR and MEIW is formaldehyde. Acrolein is the secondary risk driver. The dominant health endpoint is the respiratory system. All pollutants except Diesel PM are emitted by the Linear Generator. Tables 10.2-1 through 10.2-3 show the contribution from the risk driver pollutants for the chronic HI at the Offsite PMI, Onsite PMI/MEIR and MEIW, respectively.

Table 10.1-1: Risk Drivers[3] for Chronic HI at the Offsite PMI – Receptor No. 367

Pollutant	Chronic HI by Pollutant	Percent of Total Risk
Total	2.32E-02	100%
Formaldehyde	1.40E-02	60%
Acrolein	6.98E-03	30%
Diesel PM	2.00E-03	9%

Table 10.1-2: Risk Drivers[3] for Chronic HI at the Onsite PMI/MEIR – Receptor No. 2821

Pollutant	Chronic HI by Pollutant	Percent of Total Risk
Total	2.45E-02	100%
Formaldehyde	1.49E-02	61%
Acrolein	7.44E-03	30%
Diesel PM	1.90E-03	8%

Table 10.1-3: Risk Drivers[3] for Chronic HI at the MEIW – Receptor No. 465

Pollutant	Chronic HI by Pollutant	Percent of Total Risk
Total	2.78E-03	100%
Formaldehyde	1.45E-03	52%
Acrolein	7.24E-04	26%
Diesel PM	5.75E-04	21%

[3] Pollutants contributing less than one percent to the total risk are not included.

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HRA Documentation

10.3 8-hr Chronic Non-Cancer Risk

The primary 8-hour chronic non-cancer risk driver pollutant for the Offsite PMI, Onsite PMI/MEIR and MEIW is formaldehyde. Acrolein is the secondary risk driver. The dominant health endpoint is the respiratory system. The Linear Generator emits all the risk driver pollutants. Tables 10.3-1 through 10.3-3 show the contribution from the risk driver pollutants for the 8-hour chronic non-cancer risk at the Offsite PMI, Onsite PMI/MEIR and MEIW, respectively.

Table 10.3-1: Risk Drivers[4] for 8-Hour Chronic Non-Cancer Risk at the Offsite PMI – Receptor No. 367

Pollutant	8-Hour HI by Pollutant	Percent of Total Risk
Total	1.76E-02	100%
Formaldehyde	1.40E-02	80%
Acrolein	3.49E-03	20%

Table 10.3-2: Risk Drivers[4] for 8-Hour Chronic Non-Cancer Risk at the Onsite PMI/MEIR – Receptor No. 342

Pollutant	8-Hour HI by Pollutant	Percent of Total Risk
Total	1.90E-02	100%
Formaldehyde	1.51E-02	20%
Acrolein	3.76E-03	80%

Table 10.3-3: Risk Drivers[4] for 8-Hour Chronic Non-Cancer Risk at the MEIW – Receptor No. 465

Pollutant	8-Hour HI by Pollutant	Percent of Total Risk
Total	1.83E-03	100%
Formaldehyde	1.45E-03	20%
Acrolein	3.62E-04	80%

[4] Pollutants contributing less than one percent to the total risk are not included.

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10.4 Acute Non-Cancer Risk

The primary screening acute non-cancer risk driver pollutant for the Onsite PMI, Offsite PMI, MEIR and MEIW is Formaldehyde, and the dominant health endpoint is the eyes. The Linear Generator emits all the risk driver pollutants. Tables 10.4-1 through 10.4-4 show the contribution from the risk driver pollutants for the screening acute non-cancer risk at the Onsite PMI, Offsite PMI, MEIR and MEIW, respectively.

Table 10.4-1: Risk Drivers[5] for Screening Acute Non-Cancer Risk at the Onsite PMI – Receptor No. 318

Pollutant	Acute HI by Pollutant	Percent of Total Risk
Total	0.158	100%
Formaldehyde	0.109	69%
Acrolein	0.0464	29%
Acetaldehyde	0.00288	2%

Table 10.4-2: Risk Drivers[5] for Screening Acute Non-Cancer Risk at the Offsite PMI – Receptor No. 2774

Pollutant	Acute HI by Pollutant	Percent of Total Risk
Total	0.0374	100%
Formaldehyde	0.0258	69%
Acrolein	0.0110	29%
Acetaldehyde	0.000681	2%

Table 10.4-3: Risk Drivers[5] for Screening Acute Non-Cancer Risk at the MEIR – Receptor No. 316

Pollutant	Acute HI by Pollutant	Percent of Total Risk
Total	0.0896	100%
Formaldehyde	0.0617	69%
Acrolein	0.0263	29%
Acetaldehyde	0.00163	2%

[5] Pollutants contributing less than one percent to the total risk are not included.

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Table 10.4-4: Risk Drivers[5] for Screening Acute Non-Cancer Risk at the MEIW – Receptor No. 346

Pollutant	Acute HI by Pollutant	Percent of Total Risk
Total	0.0223	100%
Formaldehyde	0.0154	69%
Acrolein	0.00654	29%
Acetaldehyde	0.000406	2%

11.0 CONCLUSION

Per District guidelines, if a facility's toxic emissions result in a cancer risk equal to or greater than 10 in a million, it is considered a *significant risk* facility. For non-cancer risk, if a facility's toxic emissions result in a Hazard Index greater than 1.0, it is considered a *significant risk* facility. The health risk assessment results show that the operations at Crestwood Behavioral Health's facility at 303 South C Street in Lompoc, permitted under ATC 16398, do not present a significant risk to the surrounding community.

12.0 REFERENCES

- Risk notification levels were adopted by the Santa Barbara County Air Pollution Control Board of Directors on June 1993. The risk notification levels were set at 10 per million for cancer risk and a Hazard Index of 1.0 for non-cancer risk.
- Risk reduction thresholds were adopted by the Santa Barbara County Air Pollution Control Board of Directors on September 17, 1998. These risk reduction thresholds were set at the same level as public notification thresholds, i.e., 10 per million for cancer risk and a Hazard Index of 1.0 for non-cancer risk. Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines.* February 2015. California Environmental Protection Agency. http://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.
- Santa Barbara County Air Pollution Control District. 2025. USEPA Emission Standards for Tier 1-4 engines. https://www.ourair.org/dice/emission-factors/.
- Santa Barbara County Air Pollution Control District. 2025. *Meteorological Data*. https://www.ourair.org/metdata/.
- Santa Barbara County Air Pollution Control District. *Modeling Guidelines for Health Risk Assessments* (Form-15i). February 2025. http://www.ourair.org/wp-content/uploads/apcd-15i.pdf.
- ATC 16398 Application and Source Test Data. Received April 2025. \\Nt\shares\Groups\ENGR\WP\IC Engines\ATC\ATC 16398

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13.0 ATTACHMENTS

A – 303 South C Street: Residential Cancer Risk Isopleth

B – 303 South C Street: Worker Cancer Risk Isopleth

C – 303 South C Street: Screening Acute Non-Cancer Risk Isopleth

Source parameter data and HRA input and output files may be found in the following location: \\sbcapcd.org\shares\Toxics\SourceFiles\SSID03543_Champion_Healing_Center\ATC 16398 Refined HRA\ATC-16398-Refined-HRA.zip

14.0 PREPARER

This report was prepared by the Santa Barbara County Air Pollution Control District in November 2025.

Agnieszka Letts	Agnieszka Letts	November 4, 2025
Preparer	Signature	Date
Charlotte Mountain		November 5, 2025
Reviewer	Signature	Date

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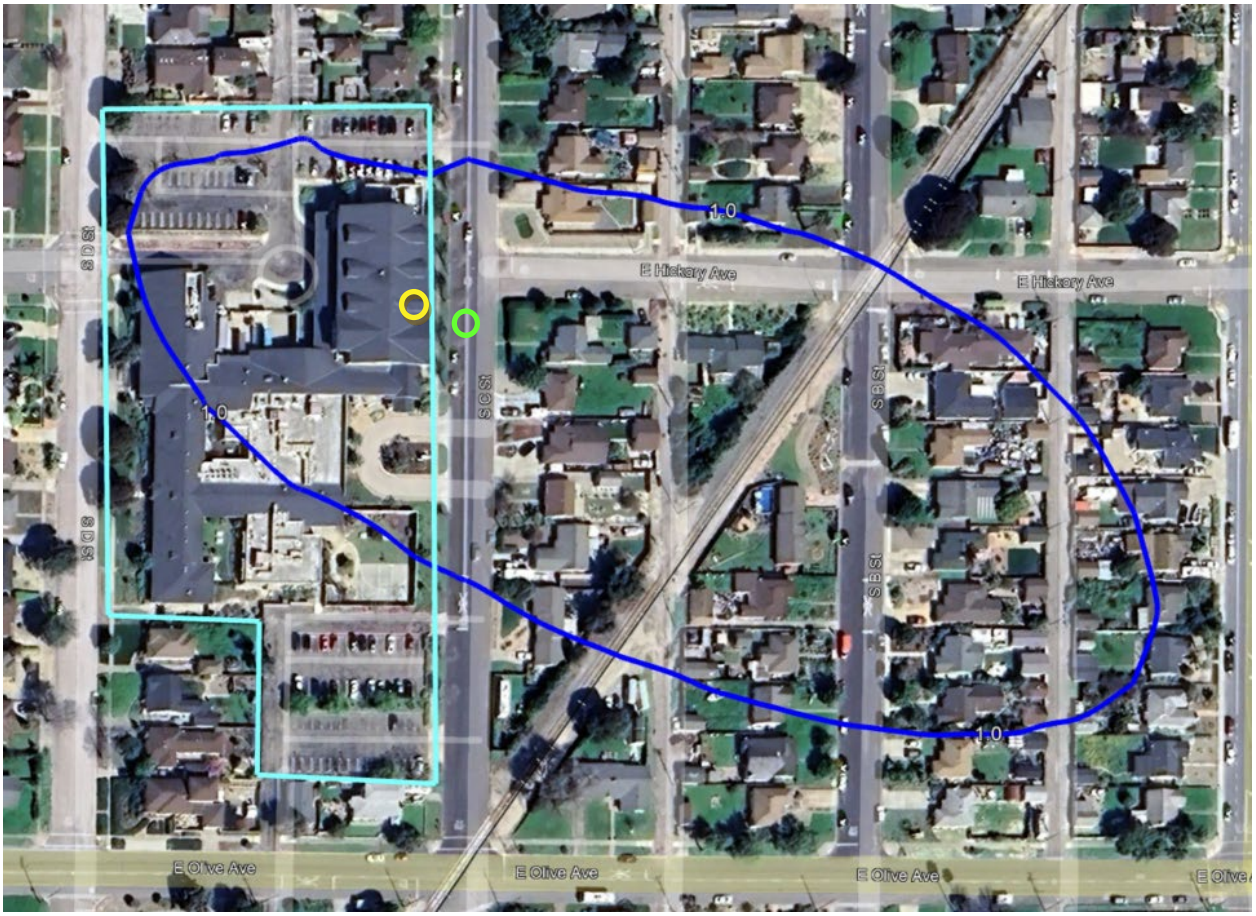
A – 303 SOUTH C STREET

RESIDENTIAL CANCER RISK ISOPLETH



1 IN A MILLION CANCER RISK ISOPLETH[6] OUTLINED IN BLUE
PROPERTY BOUNDARY IN CYAN
ONSITE PMI/MEIR CIRCLED IN YELLOW
OFFSITE PMI CIRCLED IN GREEN

[6] Shown for informational purposes only. No significant acute non-cancer risk is projected offsite.

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B – 303 SOUTH C STREET

WORKER CANCER RISK ISOPLETH

1 IN A MILLION CANCER RISK[7] ISOPLETH OUTLINED IN BLUE
PROPERTY BOUNDARY IN CYAN
MEIW CIRCLED IN PURPLE

[7] Shown for informational purposes only. No significant acute non-cancer risk is projected offsite.

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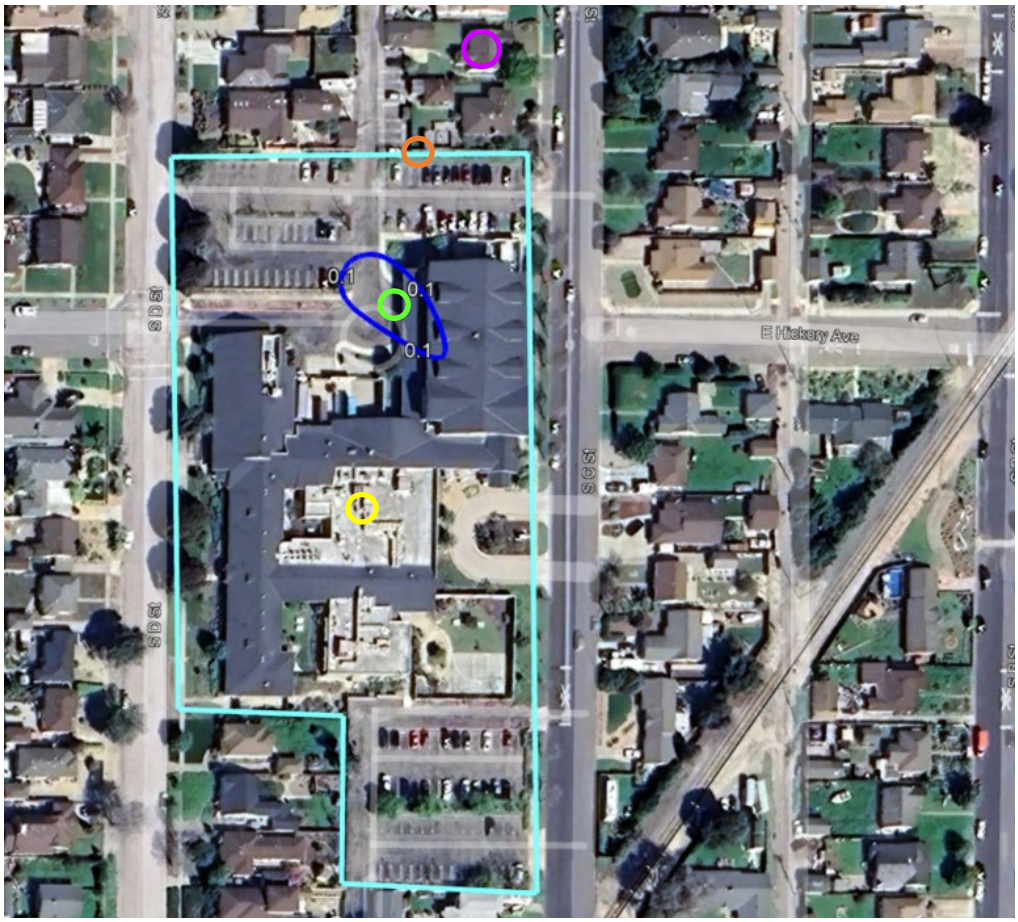
C – 303 SOUTH C STREET

SCREENING ACUTE NON-CANCER RISK ISOPLETH



0.1 HAZARD INDEX[8] ISOPLETH OUTLINED IN BLUE
PROPERTY BOUNDARY IN CYAN
ONSITE PMI CIRCLED IN GREEN
OFFSITE PMI CIRCLED IN ORANGE
MEIR CIRCLED IN YELLOW
MEIW CIRCLED IN PURPLE

[8] Shown for informational purposes only. No significant acute non-cancer risk is projected offsite.