

DRAFT ENGINEERING EVALUATION

Facility ID No. 203748
California Fire Hood Mountain Fire Center
538 Eliza Way
Santa Rosa, CA 95409
Application No. 716535

BACKGROUND

The applicant has requested an Authority to Construct and Permit to Operate for the following:

S-1 Gasoline Dispensing Facility

The facility configuration is described below:

Proposed Construction
One 1000-gal Split AST w/500-gallon gasoline & 500-gallon diesel
Phase I Morrison Brother EVR (VR-402)
Phase II Hirt VCS 100-2 VaporTek Processor (VR-501)
1 single product gasoline nozzle
1 diesel nozzle
200000 -gallons of gasoline per year throughput limit

This is a new GDF with no historical throughput.

This application is being processed as a new source defined in Regulation 2-1-232.

EMISSION CALCULATIONS

Table 1 summarizes annual and daily permitted emissions.

Table 1. Annual and Daily Emissions

Criteria Pollutant	Emissions Factors (lb/thousand gallon)	Annual Average Emissions (lb/day)	Annual Emissions (lb/year)	Annual Emissions (ton/year)
POC	0.654	0.36	130.84	0.07

Basis:

- Annual throughput of Unleaded Gasoline: 200,000-gallons per year
- Operation schedule: 8 hr/day (max), 8 hr/day (typical), 7 day/week, 52 week/yr
- Phase I EVR for AST
- Phase II EVR for AST
- POC is Precursor Organic Compound.
- Emissions of POC include emissions from loading, breathing, refueling and spillage
- Emission factors are taken from the California Air Resources Board's 1997 Industrywide Risk Assessment for Gasoline Dispensing Facilities.

FACILITY CUMULATIVE INCREASE

Table 2 summarizes the cumulative increase in criteria pollutant emissions that will result from this application.

Table 2. Facility Cumulative Emissions Increase, Post 4/5/91

Cumulative Increase	Existing Emissions (ton/yr)	Application Emissions (tons/yr)	Total Emissions (tons/yr)
POC	0	0.07	0.07

TOXIC EMISSIONS AND HEALTH RISK ASSESSMENT (HRA)

A Health Risk Assessment (HRA) is required when the emissions of toxic air contaminants (TACs) are at or exceed the trigger levels outlined in Regulation 2, Rule 5, Table 2-5-1. An HRA is not required, based on the toxic emissions for this source, summarized in Table 3.

Table 3. Toxic Emissions

TACs	Category	Emissions (Chronic) (lb/yr)	Emissions (Maximum) (lb/hr)	Reg 2-5 Chronic Trigger (lb/yr)	Reg 2-5 Acute Trigger (lb/hr)	HRA Required
Benzene	Both Carcinogen and Other	0.622	0.00083	2.9	0.012	No
Ethylbenzene	Both Carcinogen and Other	0.258	0.00031	33	n/a	No
Hexane	TAC - Other	2.389	0.00321	270000	n/a	No
Naphthalene	TAC - Other	0.018	0.00002	2.4	n/a	No
Toluene	TAC - Other	1.913	0.00242	16000	2.2	No
Xylene	TAC - Other	1.152	0.00134	27000	9.7	No

Basis:

- Emission factors are taken from the California Air Resources Board’s 1997 Industrywide Risk Assessment for Gasoline Dispensing Facilities.
- Composition Data is from ARB Organic Gas Speciation Profiles for E10 Gasoline Fuels (Liquid and Headspace for both Summer and Winter blends), revised 2013 and 2015
- Hourly emissions are calculated in accordance with BAAQMD’s Air Toxics NSR Program HRA Guidelines for GDFs, dated December 2016.

STATEMENT OF COMPLIANCE

The owner/operator is expected to comply with all applicable requirements. Key requirements are listed below:

California Environmental Quality Act (CEQA), Regulation 2-1-311

This permit application is not subject to CEQA because the evaluation is a ministerial action conducted using the fixed standards and objective measurements outlined in the Permit Handbook Chapter 3.2. The Procedures for Ministerial Evaluation (Section 2-1-427) and Criteria for Approval of Ministerial Permit Applications (Section 2-1-428) have been complied with in the determination that this application is exempt from CEQA.

Public Notification, Regulation 2-1-412

The public notification requirements of Regulation 2-1-412 apply to applications which result in any increase in toxic air contaminants or hazardous air contaminant emissions at facilities within, either 1,000 feet of the boundary of a K-12 school or an Overburdened Community.

The facility is within 1000 feet of the outer boundary of the Sonoma County Juvenile Hall Center, located at 7425 Rancho Los Guilicos in Santa Rosa and therefore subject to public notification requirements.

Best Available Control Technology (BACT), Regulation 2-2-301

Because this GDF will not emit 10 or more pounds per day of POC, the facility is required to install BACT. BACT for GDFs is considered the use of CARB-certified Phase I and Phase II enhanced vapor recovery equipment.

Offsets, Regulation 2-2-302

Because the total facility emissions will be less than 10 tons per year, the facility is not required to provide offsets.

Regulation 2-5-110

This project is not subject to Regulation 2, Rule 5 because toxic air contaminant emissions are below the acute and chronic trigger levels listed in Table 2-5-1.

Best Available Control Technology for Toxics (TBACT), Regulation 2-5-301

The expected increased health risk from this project will not exceed 1 per million, thus TBACT requirement is not triggered.

District Rules (Limits to emissions of pollutants or performance standards)

Regulation 8-7 (Organic Compounds – Gasoline Dispensing Facilities)

Section 8-7-301 – Phase I Requirements

Section 8-7-302 – Phase II Requirements

Section 8-7-304 – Certification Requirements

California Air Resources Board (CARB) Vapor Recovery Certification

Phase I and Phase II Vapor Recovery System Executive Orders VR-402 and VR-501.

California Air Resources Board (CARB) Vapor Recovery Certification

Standing Loss Control requirements per VR-302, the requirements of AST Filling/Dispensing Vapor Recovery System

Airborne Toxic Control Measure for Benzene for Retail Service Stations

ATCM, 5/13/1988, Section 93101, Title 17, CA Code of Regulations.

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

40 CFR 63, Subpart CCCCCC (*Gasoline Dispensing Facilities*)

CONDITIONS

Authority to Construct Conditions

This GDF is subject to the following Construction Conditions:

1. The owner/operator shall install, operate, and maintain the Phase I Morrison Brothers EVR system in accordance with CARB Executive Order VR-402 and the corresponding System Installation, Operation and Maintenance Manual.
2. The owner/operator shall install, operate, and maintain the Phase II Hirt System VCS 100-2 VaporTek with Vapor Processing in accordance with CARB Executive Order VR-501 and the corresponding System Installation, Operation and Maintenance Manual.
- 3.

Start-up Conditions

This GDF is subject to the following Start-up Conditions:

1. The owner/operator shall ensure the performance tests are successfully conducted at least ten (10) days, but no more than thirty (30) days after start-up. To comply with this condition, all tests shall be conducted after back-filling, paving, and installation of all required Phase I and Phase II components.
2. The owner/operator shall ensure the following vapor recovery system tests are successfully conducted in accordance with the latest version of CARB E.O. VR- 402 and E.O. VR-501.
 - a. A Static Pressure Performance Test using CARB procedure TP-206.1.

Operating Conditions

This GDF is subject to the following Operating Conditions:

100013

The owner/operator shall not allow the total fuel dispensed at this source to exceed the following limits during any consecutive 12-month period:

- 200,000-gallons of gasoline - unleaded

100015

The owner/operator shall ensure the Phase I OPW EVR is installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-402.

100016

The owner/operator shall ensure the Phase II Balance System with Hirt Vapor Processing is installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-501.

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The owner/operator shall:

1. Notify Source Test by email (gdfnotice@baaqmd.gov) or online form (<https://baaqmd.agency/gdfnotice>), at least 48 hours prior to any required testing.
2. Submit test results in a District-approved format within thirty (30) days of testing.
 - For start-up tests results, cover sheet shall include the facility number (Facility ID) and application number of the Authority to Construct permit.
 - For annual test results, cover sheet shall include the facility number (Facility ID) and identified as 'Annual' in lieu of the application number.
 - Test results shall be emailed (gdfresults@baaqmd.gov) or submitted through the online form (<https://baaqmd.agency/gdfresults>).

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The owner/operator shall conduct and pass the following tests at the indicated intervals:

1. A Static Pressure Performance Test, in accordance with CARB procedure TP-201.3 at least once in each 12-month period.
2. Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.1B at least once in each 36-month period.
3. One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:
 - Stations equipped with drop tube overfill prevention devices ("flapper valves"): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.
 - All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.

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The owner/operator of the facility shall maintain the following records. Records shall be maintained on site and made available for inspection for a period of 24 months from the date the record is made.

1. Monthly totals of throughput (sales) of gasoline (all-grades) and other fuels pumped and summarized on an annual basis for each type of fuel (excluding diesel).
2. All scheduled testing and maintenance activities, including:
 - the date of maintenance, inspection, failure and, if applicable, ISD alarm history;
 - the date and time of maintenance call;
 - the maintenance performed;
 - Certified Technician ID number or name of individual conducting maintenance and their phone number.
3. Weekly, quarterly and annual inspection sheets as required by the appropriate CARB Executive Orders.

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The owner/operator shall conduct and pass a Static Pressure Performance Test in accordance with CARB Executive Order VR-402 at least once in each 12-month period following successful completion of start-up testing. Measured leak rates of each component shall not exceed the levels specified in E.O. VR-402.

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The owner/operator shall ensure that The Phase II Balance EVR system with Hirt VCS 100-2 VaporTek Processor can demonstrate on-going compliance with the vapor integrity requirements of CARB Executive Order VR-501 by conducting and passing the following tests at least once in each consecutive 12-month period following successful completion of start-up testing. The owner/operator shall ensure tests are conducted and evaluated using the referenced test methods and standards from the latest version of the applicable executive order and/or test procedure.

1. Dynamic Back Pressure Test using CARB Test Procedure TP-201.4
2. A Static Pressure Performance Test using CARB test procedure TP-206.3
3. Liquid Removal Test
4. Hirt VCS 100-2 VaporTek Processor Operability Test

RECOMMENDATION

The District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state and federal air quality-related regulations. The preliminary recommendation is to issue an Authority to Construct for the equipment listed below. However, the proposed source will be located within 1000 feet of a school which triggers the public notification requirements of District Regulation 2-1-412. After the comments are received and reviewed, the District will make a final determination on the permit.

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of an Authority to Construct/Permit to Operate to change permit conditions for the following source:

S-1 Gasoline Dispensing Facility

By: Sheryl Wallace, Senior Air Quality Permit Technician Date:1/14/2025