DRAFT ENGINEERING EVALUATION

Facility ID No. 202733
Costco Gasoline (Loc. No. 848)
2376 South Evergreen Loop, San Jose, CA 95122
Application No. 664430

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
3 – 40,000 gallons gasoline USTs
Phase I OPW EVR (VR-102)
Phase II Assist EVR with ARID Permeator and Veeder-Root ISD (VR-202)
32 dual product gasoline nozzles
1 – 1,500 gallons Other Liquid Material UST (Gasoline Additive)
36.5 million gallons of gasoline per year throughput limit

This is a new GDF with no historical throughput. This project involves installing 3 – 40,000 gallons gasoline USTs and 1 – 1,500 gallons Gasoline Additive UST, installing Phase I OPW EVR per VR-102, installing Phase II Assist EVR with ARID Permeator and Veeder-Root ISD per VR-202, and installing 32 dual product gasoline nozzles. The facility has requested a throughput of 36.5 million gallons of gasoline per year.

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	0.302	30.19	11018.62	5.51

Basis:

- Annual throughput of Unleaded Gasoline: 36.5 million gallons per year
- Operation schedule: 11.5 hr/day (max), 11.5 hr/day (typical), 6 day/week, 52 week/yr
- Phase I EVR for UST
- Phase II EVR for UST

- 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 "Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities" (12/23/13).

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	5.51	5.51

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 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	54.862	0.01248	2.9	0.06	Yes
Ethylbenzene	Both Carcinogen and Other	33.295	0.00651	33	n/a	Yes
Hexane	TAC - Other	201.515	0.04675	270000	n/a	No
Naphthalene	TAC - Other	3.215	0.00057	2.4	n/a	Yes
Toluene	TAC - Other	205.456	0.04302	12000	82	No
Xylene	TAC - Other	157.735	0.03021	27000	49	No

Basis:

- Emission factors are taken from the California Air Resources Board's "Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities" (12/23/13).
- 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.

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Health Risk estimates were calculated in accordance with BAAQMD's Air Toxics NSR Program HRA Guidelines for Gasoline Dispensing Facilities, dated December 2016. The assessment was performed for this facility using site specific land use data and the report is attached to this application. Results are summarized in Table 4.

Table 4. Maximum Project Risk

Maximally Exposed Receptor	Cancer Risk	Chronic Non-Cancer Hazard Index
Resident	6.1 chances in a million	0.076

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 facility is located within 1000 feet of the outer boundary of LeyVa Middle School, located at1865 Monrovia Drive in San Jose, and therefore subject to the public notification requirements. A public notice has been prepared and sent to all addresses within 1,000 feet of the proposed source and to the parents or guardians of students enrolled at the school.

Best Available Control Technology (BACT), Regulation 2-2-301
Because this GDF will 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.

Best Available Control Technology for Toxics (TBACT), Regulation 2-5-301
The expected increased health risk from this project will exceed 1 per million, thus TBACT requirement is triggered. TBACT for GDFs requires the use of CARB certified Phase I and Phase II vapor recovery equipment.

Project Risk Requirement, Regulation 2-5-302
HRA results show that the increased cancer risk does not exceed 10 in one million, the chronic and acute hazard indexes do not exceed 1, and therefore the project complies with the project risk requirement.

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

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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-102 and VR-204.

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 OPW EVR system in accordance with CARB Executive Order VR-102 and the corresponding System Installation, Operation, and Maintenance Manual.

2. The owner/operator shall install, operate, and maintain the Phase II Assist EVR System with ARID Permeator and Veeder-Root ISD in accordance with CARB Executive Order VR-202 and the corresponding System Installation, Operation and Maintenance Manual.

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- 102 and E.O. VR-202.

    a. Static Pressure Performance Test using CARB Test Procedure TP-201.3.
    b. Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.1B and the applicable CARB Executive Order.
    c. One of the following tests is applicable. 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.
    d. Static Pressure Performance Test using CARB Test Procedure TP-201.3.
    e. Dynamic Back Pressure Test using CARB Test Procedure TP-201.4.
    f. Dispenser Integrity Test

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g. Vapor-to-Liquid Test. NOTE: This test may be performed in lieu of item b (TP-201.4), provided that at least 2 gallons of product are introduced into the system through each dispenser riser, prior to the test.
h. Determination of performance of the ARID Permeator Processor.
i. Nozzle Bag Test on all nozzles.
j. ISD Operability Test applicable to the manufacturer.

Operating Conditions

This GDF is subject to the following Operating Conditions:

Condition Number	Condition Type
100013	Operational, Annual Throughput Limit
100015	Vapor Recovery System, Phase I
100016	Vapor Recovery System, Phase II
100036	Source Testing Notification
100037	Source Testing, Phase I
100051	Record Keeping
100098	Source Testing, Phase II

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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 for the following source:

S-1 Gasoline Dispensing Facility

By: Annie Allen, Air Quality Technician Date: 1/20/2023