

ENGINEERING EVALUATION

Facility ID No. 108295
Union Gas
2708 Union Avenue
San Jose, CA 95124
Application No. 470348

BACKGROUND

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

S-1 Gasoline Dispensing Facility

The facility configurations are described below:

Current Configuration	Configuration after Modification
2 – 10,000 gallon gasoline USTs	No change
1 – 8,000 gallon diesel UST	No change
Phase I OPW EVR (VR-102)	No change
Phase II Assist EVR System with HCAS (VR-201)	Phase II Balance System with HCAS and Veeder Root ISD (VR-204)
4 triple product gasoline nozzles	No change
4 diesel nozzles	No change
0.6 million gallons per year throughput limit	3.0 million gallons per year throughput limit

This application is being processed as a modification as defined in Regulation 2-1-234.

EMISSION CALCULATIONS

The current owner started operation in February, 2018 and can't obtain throughput levels for the past 3 years from the previous owner. The owner submitted the following throughput level:

Table 1. Historic Material Throughput

Year	Reported Throughput Level gallons
Feb-Oct 2018	404,054

Table 2 summarizes annual and daily permitted emissions.

Table 2. 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	0.516	4.24	1548	0.77

Basis:

- Annual throughput of Unleaded Gasoline: 3.0 million gallons per year
- Operation schedule: 16 hr/day (max), 16 hr/day (typical), 7 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 3 summarizes the cumulative increase in criteria pollutant emissions that will result from this application.

Table 3. Facility Cumulative Emissions Increase, Post 4/5/91

Cumulative Increase	Existing Emissions (ton/yr)	Application Emissions (tons/yr)	Total Emissions (tons/yr)
POC	0.15	0.62	0.77

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 4.

Table 4. 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	TAC - Carcinogen	8.70	0.0093	2.90	0.06	Yes
Ethylbenzene	TAC - Carcinogen	9.87	0.0042	33.00	n/a	No
Hexane	TAC - Other	27.75	0.0353	270000.00	n/a	No
Naphthalene	TAC - Other	1.21	0.0003	2.40	n/a	No
Toluene	TAC - Other	49.20	0.0301	12000.00	82.00	No
Xylene	TAC - Other	50.10	0.0195	27000.00	49.00	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.

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 approved by the staff toxicologist. Results are summarized in Table 4.

Table 4. Maximum Project Risk]

Maximally Exposed Receptor	Cancer Risk	Chronic Non-Cancer Hazard Index
Resident	9.9 chances in a million	0.056

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 project is ministerial under Regulation 2-1-311(Permit Handbook Permit Handbook Chapter 3.2) and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with and therefore is not discretionary as defined by CEQA.

Public Notification, Regulation 2-1-412

The facility is located within 1000 feet of the outer boundary of Skylar Hadden School located at 2720 So. Bascom Avenue in San Jose, and therefore subject to the public notification requirements.

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

Because this GDF will emit less than 10 pounds of POC per day, the facility is not required to install BACT.

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
- 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 including new vapor flow meters and software.

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

The owner/operator shall install, operate, and maintain the Phase II Balance EVR with FFS Healy Clean Air Separator (HCAS) and Veeder-Root ISD in accordance with CARB Executive Order VR-204 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-204:
 - a. Static Pressure Performance Test using CARB Test Procedure TP-201.3.
 - b. Dynamic Back Pressure Test using CARB Test Procedure TP-201.4
 - c. Liquid Removal Test
 - d. Franklin Fueling Systems HCAS Static Pressure Performance Procedure Test
 - e. Nozzle Bag Test
 - f. Vapor Pressure Sensor Verification Test
 - g. ISD Vapor Flow Meter Operability Test

Operating Conditions

This GDF is subject to the following Operating Conditions:

Condition Number #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:

3.0 million gallons of gasoline – unleaded

Condition Number #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-102.

Condition Number #100016

The owner/operator shall ensure the Phase II Balance System with Healy Clean Air Separator and ISD is installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-204.

Condition Number #100036

The owner/operator shall:

1. Notify Source Test by email (gdfnotice@baaqmd.gov) or Fax (510-758-3087), 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 mailed to the Districts main office.

Condition Number #100037

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 overflow prevention devices ("flapper valves"): a Drop Tube Overflow 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.

Condition Number #100050

The owner/operator shall ensure that the Phase II Balance EVR system with Healy Clean Air Separator (HCAS) and ISD can demonstrate on-going compliance with the vapor integrity requirements of CARB Executive Order E.O. VR-204 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. Liquid Removal Test
3. Vapor Pressure Sensor Verification Test
4. HCAS Static Pressure Test
5. ISD Vapor Flow Meter Operability Test

Condition Number #100051

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.

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 Phase II vapor recovery system and increase annual throughput limit for the following source:

S-1 Gasoline Dispensing Facility

By: Lorna Santiago, Air Quality Permit Technician

Date: 12/3/2018