



**Lane Regional Air Protection Agency
Standard Air Contaminant Discharge Permit**

Review Report

**Costco Wholesale Corp.
Costco Gasoline (Loc. No. 17)**
2828 Chad Drive
Eugene, Oregon 97408
<https://www.costco.com/>

Permit No. 201304

Source Information:

Primary SIC	5541 – Gasoline Service Stations
Secondary SIC	--
Primary NAICS	457120 – Other Gasoline Stations
Secondary NAICS	--

Source Categories: LRAPA Title 37 Table 1	Part B: 32. Gasoline dispensing facilities
	Part C: 4. All sources that requested a PSEL equal to or greater than the SER for a regulated pollutant
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	N
Emissions credits	N
Compliance schedule	N
Source test [date(s)]	Triennially

COMS	N
CEMS	N
Ambient monitoring	N

Reporting Requirements:

Annual report (due date)	Feb 15
Semi-Annual Report (due date)	N
GHG Report (due date)	N
Monthly report (due date)	N

Quarterly report (due dates)	N
Excess emissions report	Y
Other report	N

Air Programs:

NSPS (list subparts)	NA
NESHAP (list subparts)	CCCCC
CAM	N
Synthetic Minor (SM)	N
SM-80	N
Title V	N
Part 68 Risk Management	N
Major FHAP Source	N
CAO	N

Federal Major Source	N
NA New Source Review (NSR)	N
Prevention of Significant Deterioration (PSD)	N
Acid Rain	N
Clean Air Mercury Rule (CAMR)	N
TACT	N
RACT	N
>20 Megawatts	N

Permittee Identification

1. Costco Wholesale Corporation – Costco Gasoline (Loc. No. 17) (“Costco”, “facility” or “source”) operates a gasoline dispensing facility at 2828 Chad Drive, Eugene, Oregon.

General Background Information

2. Costco has operated a wholesale supercenter with gasoline dispensing facility (GDF) since 1989. The facility’s GDF has three (3) 30,000-gallon underground gasoline storage tanks (UST) with twelve (12) Gilbarco Encore 700S Series NG3 two-product dispensers. The facility currently dispenses approximately 16 million gallons of gasoline a year. The facility has stage I vapor balance system on the USTs. Stage II vapor collection system on the dispensers are not required in Eugene.
3. In August 2010 and again in May 2016, Costco was assigned to General Air Contaminant Discharge Permit (ACDP) AQGP-022. In September 2019 the facility applied for a Simple ACDP to increase the annual throughput from 13,900,000 gallons to 29,400,000 gallons, which was issued January 2020. In September 2020, LRAPA did an agency-initiated modification to adjust the emission factors (EFs) to DEQ amended EFs for gasoline dispensing facilities. The facility amended the annual throughput to 16,250,000 gallons per year to keep the facility below the Standard ACDP thresholds.

Reasons for Permit Action and Fee Basis

4. Costco has applied for a Standard ACDP requesting a throughput increase to 39,900,000 gallons per year. The facility operates a process listed under LRAPA Title 37, Table 1, Part B: 32 – Gasoline dispensing facilities (GDF), but the facility’s operations will require a Standard ACDP due to the change in throughput that will increase the annual VOC emissions over the Significant Emission Rate (SER) of 40 tons per year. The facility will also be applicable to LRAPA Title 37, Table 1, Part C: 4 – All sources that request a PSEL equal to or greater than the SER for a regulated pollutant.
5. The Standard ACDP issuance will be a Type 4 change under LRAPA 34-035(4) because the VOC emissions from the source will be above the PSEL or netting basis of the source by more than the SER.
6. The fee is based on an initial application fee for a Standard ACDP, with the prorated the 2022 Annual and Cleaner Air Oregon (CAO) fees for the Simple and Standard ACDPs and the 2023 the Annual and CAO fees (reduced by the 2023 Simple Annual and CAO fees already paid by Costco on October 7, 2022).

Attainment Status

7. The facility is located inside the Eugene-Springfield Air Quality Management Area. The facility is located in an area that has been designated attainment/unclassified for PM_{2.5}, ozone (VOC), NO₂, SO₂, and Pb and a maintenance area for CO and PM₁₀. The facility is located within the 100 kilometers (km) of two (2) Class I air quality protection areas: Diamond Peak Wilderness and Three Sisters Wilderness area.

Permitting History

8. LRAPA has reviewed and issued the following permitting actions to this facility:

Date Reviewed/ Approved	Permit Action Type	Description
03/03/2010	Initial application to be assigned to the General ACDP	Initial application was submitted to LRAPA for a GDF General ACDP.
08/30/2010	Initial Assignment to the General ACDP	Issuance of Initial Assignment to the GDF General ACDP.
08/20/2013	Notice of Intent to Construct	Expansion of the GDF to add two (2) additional dispensers and extend underground product lines.
03/27/2015	Notice of Intent to Construct	Decommissioned stage II Vapor Recovery System.
04/27/2016	Re-assignment application for General ACDP	Application to be re-assigned to the 4/11/16 revised/reissued General ACDP AQGP-022.
09/07/2016	Notice of Intent to Construct	Removed and replace twelve (12) existing dispensers.
09/08/2017	Notice of Intent to Construct	Remove and replace two-product dispensers; replace hoses nozzles, and breakaway valves, replaced siphon line; and relocate one (1) tank turbine sump and remove one (1) existing turbine pump.
08/20/2019	Simple ACDP Application	Application to use different EFs than allowed/used in the General ACDP AQGP-022 and associated throughput increase request (there is no physical change occurring).
Upon Issuance	New Standard ACDP	An annual throughput increase that will increase the annual emissions rate of VOC over the SER threshold of 40 tons per year.

Emission Units Description

9. The emission units regulated by the permit are the following:

EU ID	Emission Units Description	Control Device Description
EU-1	Three (3) – Gasoline Underground Storage Tanks (USTs – 30,000 gallons each) with 12 Dispensers	Vapor Balance System (stage I) on USTs

Specific Emission Limitations

10. Basis for Emission Factors (EF):

10.a. VOC Emission Basis:

The gasoline VOC emission factors (EFs) are based on EPA AP-42: *Compilation of Air Emission Factors*, Chapter 5, Table 5.2-7 for balance submerge filling (Loading and Filling) and

the underground tank breathing and emptying (Breathing and Emptying). These are the same EFs applied in LRAPA's current General ACDP (AQGP-022).

The VOC EF for Vehicle Refueling with onboard refueling vapor recovery (ORVR) control is based on information from two documents. One part of the EF calculation comes from the California Air Resource Board (CARB), *Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities*, December 23, 2013, Table I-I, Revised (lb/kgal) Pre-EVR for Non-ORVR and ORVR Vehicles. Costco used 2.4 lb/kgal for Non-ORVR vehicles and 0.12 lb/kgal for ORVR vehicles as the base factors for their calculations. The second part of the EF calculations comes from Table I: 2014 Estimated ORVR fleet penetration: total vehicles vs. ORVR vehicles from Oregon DEQ, *2014 Oregon Gasoline Dispensing Facility (GDF) Volatile Organic Compound (VOC) Emissions Estimates and GDF Vapor Recovery System (VRS) Impact Evaluation*, June 14, 2018. Costco then multiplied the CARB factors by the percentage of ORVR and Non-ORVR vehicles within Lane County. The DMV ORVR fleet penetration estimates from 2014 were 65% for ORVR and 35% for Non-ORVR vehicles. Taking the base factors from CARB and multiplying them by the ORVR and Non-ORVR fleet percentages, Costco derived the EF of 0.918 lb/kgal for Vehicle Refueling.

The VOC EF for Hose Permeation and Liquid Spillage were taken from CARB, *Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities*, December 23, 2013, Table I-I, using Pre-EVR data Year 2017.

10.b. HAPs Emissions Basis:

The most significant HAPs emitted from a GDF are benzene, toluene, ethyl benzene, and xylene (BTEX). Costco is requesting new updated emission factors for these HAPs based on information from the California Air Pollution Control Officers Association (CAPCOA), *CAPCOA Air Toxics "Hot Spots" Program, Gasoline Service Station Industrywide Risk Assessment Guideline*, November 1997. Based on the CAPCOA information the HAP emissions at a GDF primarily result from the USTs, considered as vapor or from spillage when vehicles are refueling, considered as liquid. CAPCOA defines vapor in the UST as headspace. CAPCOA assumes that approximately 30% of the vapor in the headspace is considered to be volatilized gasoline and the remaining 70% is air. Benzene is the only HAP that CAPCOA has documented as a percent weight in the vapor. An EF of 0.3 percent by weight benzene is used calculate the amount of HAPs emitted when a UST is being filling/loading, breathing/emptying, vehicle refueling, and hose permeation. CAPCOA defines liquid as the spillage of gasoline when vehicles are refueling. To calculate the HAPs emitted from the liquid, CAPCOA utilizes the percent of each component of BTEX in gasoline and assumes that percentage is emitted. Using the amount of VOC emitted from "Liquid Spillage" and using the EFs for each of the four HAPs, a conservative HAPs total for liquid is derived. The total Aggregate HAP emitted from both vapor and liquid equals 1.84 tons per year and is over the Aggregate HAP de minimis level as defined in LRAPA title 12.

Performance Standards

11. The facility must follow all operational and work practice to reduce emissions from the gasoline underground storage tanks (USTs) and the gasoline dispensers. The facility must operate and maintain the affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices. This includes minimizing spills, no topping off or overfilling vehicle tanks, covering all storage tank fill-pipes with gasketed seals and all gasoline containers when not in use, ensuring that all cargo tanks that unload at the facility are equipped with proper and functioning vapor balance system and is connected correctly and comply with all applicable work practices and have a valid annual certification for vapor tightness. The facility must keep fugitive dust emissions from leaving the property boundary.

Typically Achievable Control Technology (TACT)

12. LRAPA 32-008 requires an existing emission unit at a source to meet TACT if the emissions unit has emissions of criteria pollutants greater than ten (10) tons per year of any gaseous pollutant or five (5) tons per year of particulate, the emissions unit is not subject to the emissions standards under LRAPA Title 30, Title 32, Title 33, Title 38, Title 39, or Title 46 for the pollutants emitted, and the source is required to have a permit. Costco proposed new emission factors based on updated studies of stage I vapor recovery systems at a GDF. Stage I vapor recovery systems are considered TACT for underground storage tanks (USTs).

Plant Site Emissions Limits (PSELS)

13. Provided below is a summary of the baseline emission rate, netting basis, plant site emission limit, and potential-to-emit:

Pollutant	Baseline Emission Rate (TPY)	Netting Basis		Plant Site Emission Limit (PSEL)		PTE (TPY)
		Previous (TPY)	Proposed (TPY)	Previous PSEL (TPY)	Proposed PSEL (TPY)	
PM	NA	0	0	0	0	0
PM ₁₀	NA	0	0	0	0	0
PM _{2.5}	NA	0	0	0	0	0
CO	NA	0	0	0	0	0
NO _x	NA	0	0	0	0	0
SO ₂	NA	0	0	0	0	0
VOC	NA	0	0	39	99	97.79
HAP (Individual)	NA	0	0	0	9	0.97
HAP (Aggregate)	NA	0	0	0	24	1.84
GHG	NA	0	0	0	0	0

- 13.a. The facility has no baseline emission rates for PM, PM₁₀, SO₂, NO_x, CO, and VOC because the facility was not in operation during the 1978 baseline year. A baseline emission rate is not established for PM_{2.5} in accordance with LRAPA 42-0048(3). The facility has no baseline for GHGs because the facility had no GHG emissions during any consecutive 12 calendar month period during calendar years 2000 through 2010.
- 13.b. The netting basis for all pollutants is set at zero because the facility was constructed after the 1978 baseline year and the facility has not had any emission increases approved for any of the reasons listed under LRAPA 42-0046(3)(e).
- 13.c. The PSELS were established based upon the following:
- i. No PSELS were established for PM, PM₁₀, PM_{2.5}, SO₂, NO_x, and GHGs because these pollutants are not emitted by a GDF.

- ii. The facility requested an increase in the VOC PSEL as part of the request to become a Standard ACDP per the application submitted October 19, 2022. Because this increase is considered a Type B State NSR action under LRAPA 38-0010(2)(d)(B), there will be no increase in the netting basis for VOC. Because this increase in VOC emissions will exceed the netting basis by the SER, the facility must perform an air quality modeling analysis under LRAPA 40-0050(1) & (2) and 40-0060. See the Air Quality Analysis section of this review report for more information.
- iii. The facility requested an increase in the annual throughput increased the Individual and Aggregate HAP emissions. No Individual HAP emission was above de minimis, but the Aggregate HAPs emission is over de minimis and therefore, a PSEL for Aggregate HAP is required in the permit.

Significant Emission Rate

- 14. The PSEL increase over the netting basis is less than the Significant Emission Rate (SER) as defined in LRAPA title 12 for all pollutants, except for VOCs. For VOCs, the increase over netting basis is due to the proposed modification.

Pollutant	Proposed PSEL (TPY)	PSEL Increase Over Netting Basis (TPY)	PSEL Increase Due to Utilizing Existing Baseline Period Capacity (TPY)	PSEL Increase Due to Modification (TPY)	SER (TPY)
PM	NA	NA	NA	NA	25
PM ₁₀	NA	NA	NA	NA	15
PM _{2.5}	NA	NA	NA	NA	10
CO	NA	NA	NA	NA	100
NO _x	NA	NA	NA	NA	40
SO ₂	NA	NA	NA	NA	40
VOC	99	99	0	60	40
HAP (Individual)	9	9	0	9	9
HAP (Aggregate)	24	24	0	24	24
GHGs	NA	NA	NA	NA	75,000

New Source Review (NSR) and Prevention of Significant Deterioration (PSD)

- 15. The source is located in an area that is designated attainment or unclassified for all regulated pollutants other than CO and PM₁₀. For pollutants other than CO and PM₁₀, the proposed PSELs are less than the federal major source threshold for non-listed sources of 250 tons per year regulated pollutant and are not subject to Major NSR. For CO and PM₁₀, the source is located in a maintenance area. Because there are no CO or PM₁₀ emissions emitted from the source no applicability determination needs to be made for Major NSR in a maintenance area.

Type A and Type B State NSR

16. The emissions of VOC will increase to an amount that is equal to or greater than the SER over the netting basis. Because the facility is located in an area that is attainment of ozone, VOC emissions will be subject to Type B State NSR.
17. Within an attainment or unclassified area, a source subject to Type B State NSR must:
 - 17.a. Determine compliance with the National Ambient Air Quality Standards (NAAQS), PSD increments, and other requirements in PSD Class II and Class III areas under LRAPA 40-0050(1) & (2), as applicable.
 - 17.b. Since the facility will emit ozone precursors (VOC and NO_x) at or above the SER over the netting basis and the facility is located with 100 km of Salem-Keizer ozone maintenance area, this project must also meet the requirements of demonstrating net air quality benefit under LRAPA 38-0510 and 38-0520.

Air Quality Analysis

18. Under LRAPA 40-0050(1), a facility must demonstrate compliance with the NAAQS, PSD increments, and other requirements in PSD Class II areas. LRAPA has performed a single source impact analysis as described below to demonstrate the proposed modification at the facility will not cause or contribute to a new violation of a NAAQS and PSD increment. This single source impact analysis is sufficient to show compliance if the modeled impact from emission increases equal to or greater than a SER above the netting basis due to the proposed modification being evaluated is less than any applicable Class II SIL (Significant Impact Levels) specified in LRAPA title 12, Table 1. The use of the SIL by itself satisfies LRAPA 40-0050(1)(b) because the background ozone concentrations in Lane County are more than the SIL below the applicable NAAQS and the formation of ozone does not result in concentration gradients in the vicinity of the source. In addition, based on the results of the single-source impact analysis, LRAPA has determined that the facility will not have a material effect on the Salem-Keizer ozone maintenance area under LRAPA 38-0520(2)(b).
19. The United States Environmental Protection Agency (U.S. EPA) established a two-tiered approach for addressing impacts of single-source emissions on ozone (O₃). The first tier involves the use of appropriate and technically credible relationships between emissions and ambient impacts. The second tier involves use of chemical transport modeling to obtain single-source impacts. In April 2019, U.S. EPA published "Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tools for Ozone and PM_{2.5} under the PSD Permitting Program". The term MERP is used to describe an emission rate of a precursor that is expected to result in a change in ambient O₃ or PM_{2.5} concentration that would not cause or contribute to a violation of the NAAQS. Separate MERPs are developed for each precursor and each pollutant. Projected increases in the O₃ precursor pollutants NO_x and VOC that are below the MERP are part of a demonstration that the facility will not cause or contribute to violation of the O₃ NAAQS. Based upon the guidance, the most conservative, or lowest, MERPs from the Western US were used to determine whether the proposed emissions from the facility would cause or contribute to a violation of the NAAQS for ozone. Using the modeled concentration for the minimum MERP source in the Western US, an emission rate equivalent to a 1.0 parts per billion (ppb) impact was computed for NO_x and VOC. The facility's pollutant emissions are below these MERPs, but the contributions should be considered together to determine if the facility would cause or contribute to a violation of the NAAQS for ozone. The ratio of emissions to the MERP for each precursor were calculated and then added together. Since the sum of the ratio is not above 1.0 ppb, as shown below, the combined impact of NO_x and VOC emissions from this facility will not cause or contribute to a violation of the NAAQS for ozone.

Precursor	Western US MERP (tons)	Hypothetical Emissions (TPY)	Associated Modeled Concentration (ppb)	Costco Emissions (TPY)	Ratio Costco / MERP (ppb)	Ozone SIL (ppb)
VOC	1053	1000	0.95	99	0.09405	
NO _x	184	500	2.72	0	0.0000	
Total =					0.09405	1.0
Calculation: Costco O ₃ contribution = (99/1000 * 0.95 ppb) + (0/500 * 2.72 ppb) = 0.09405 ppb < 1.0 ppb O ₃ SIL						

Federal Hazardous Air Pollutants/Toxics Air Contaminants

20. Under Cleaner Air Oregon (CAO) program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. Costco has not been notified by LRAPA and is therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. The facility is considered an “existing source” under the definition in CAO program (OAR 340 division 245) since it was constructed prior to November 16, 2018. It is not a “reconstructed source” nor has it installed any “new Toxic Emission Unit (TEUs)” with this permit action.
21. LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants (TAC) that have Risk Based Concentrations established in rule. All FHAPs are on the list of approximately 600 TACs. The FHAPs and TACs listed below are based upon safety data sheets and standard emission factors for the types of emission units at this facility. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their TACs. Until then, this source will be required to report TAC emissions triennially.

CAS Number	Pollutant	PTE (tpy)	FHAP	CAO TAC
71-43-2	Benzene	0.38	Yes	Yes
100-41-4	Ethyl benzene	0.20	Yes	Yes
108-88-3	Toluene	0.97	Yes	Yes
1330-20-7	Xylenes	0.29	Yes	Yes
Total (tpy)		1.84	1.84	1.84

National Emission Standards for Hazardous Air Pollutants (NESHAP)

22. 40 CFR part 63 subpart CCCCCC ('6C') – National Emission Standards for Hazardous Air Pollutants for Gasoline Dispensing Facilities has not been adopted by LRAPA. Under LRAPA 37-0066(3)(a), a Standard ACDP excludes federal requirements not adopted by the LRAPA Board of Directors. The 40 CFR part 63 subpart CCCCCC requirements are applicable to Costco because the facility is located at an area source of HAP and has a monthly throughput of 100,000 gallons of gasoline or more. The GDF at the facility are identified in the following table.

40 CFR 63 Subpart 6C Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
63.11110	Purpose	Yes	None	--

40 CFR 63 Subpart 6C Citation	Description	Applicable to Source (Yes/No)	Comments	Permit Condition
63.11111	Applicability	Yes	The facility is a GDF and has a monthly thought of more than 100,000 gallons per month	--
63.11112	Emission sources covered	Yes	Applies to the facility's gasoline storage tanks and associated equipment components	--
63.11113	Compliance dates	Yes	The compliance date for an existing source is not later than January 10, 2011	--
63.11115	General duties	Yes	None	--
63.11116	Requirements: <10,000 gallons per month	Yes	The facility must follow the requirements	--
63.11117	Requirements: ≥10,000 gallons per month	Yes	The facility must follow the requirements	--
63.11118	Requirements: ≥100,000 gallons per month	Yes	The facility must follow the requirements	--
63.11120	Testing and Monitoring Requirements	Yes	The facility must test every 3 years	--
63.11124	Notifications	Yes	The facility must notify by stated dates	--
63.11125	Recordkeeping requirements	Yes	The facility must keep all applicable records	--
63.11126	Reporting requirements	Yes	The facility must submit all applicable records	--
63.11130	General provisions	Yes	None	--
63.11131	Implementation and enforcement	Yes	None	--
63.11132	Definitions	Yes	None	--

LRAPA 44-170 through 44-190

Compliance Dates: LRAPA 44-220

23. Costco has met all applicable requirements by the compliance date of January 10, 2011, for an existing facility and conducted the initial compliance test specified in LRAPA 44-220(5)(b).

Notifications: LRAPA 44-260

24. Costco has supplied LRAPA Notifications according to LRAPA 44-260:
- 24.a. Initial Notification was submitted on October 14, 2010: [LRAPA 44-260(2)]
 - 24.b. Notification of Compliance Status was submitted on January 31, 2011. [LRAPA 44-260(3)]
 - 24.c. Notification of Performance Test was submitted on July 20, 2012. [LRAPA 44-260(5)]

New Source Performance Standards (NSPS)

25. There are no sources at this facility for which NSPS are applicable.

Toxic Release Inventory

26. The Toxics Release Inventory (TRI) is a federal program that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. It is a resource for learning about toxic chemical releases and pollution prevention activities reported by certain industrial facilities. Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) created the TRI Program. In general, chemicals covered by the TRI Program are those that cause:

- Cancer or other chronic human health effects;
- Significant adverse acute human health effects; or
- Significant adverse environmental effects.

There are currently over 650 chemicals covered by the TRI Program. Facilities that manufacture, process or otherwise use these chemicals in amounts above established levels must submit annual TRI reports on each chemical. NOTE: The TRI Program is a federal program over which LRAPA has no regulatory authority. LRAPA does not guarantee the accuracy of any information copied from EPA's TRI website.

In order to report emissions to the TRI program, a facility must operate under a reportable NAICS code, meet a minimum employee threshold, and manufacture, process, or otherwise use chemicals in excess of the applicable reporting threshold for the chemical.

Costco's NAICS code does not fall under a reportable NAICS code and has not reported any emissions to the TRI program.

Compliance History

27. Compliance history for the facility:

Date of Complaint	Type of Complaint	Investigation Results
03/11/2010	Topping off	LRAPA followed up with the manager of Costco and no violation was issued.

Performance Test Results

28. Costco is required to perform triennial (every 3 years) performance testing on the stage I Vapor Balance System. The two (2) required tests are CARB TP-201.1E – Vapor Recovery Test (Procedure Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves test) and CARB TP-201.3 – Vapor Recovery Test (Procedure the Determination of 2-Inch WC Static Pressure test). The facility may use another method to determine the Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves and Determination of 2-Inch WC Static Pressure of the stage I control device if the method has been approved by LRAPA.

29. Performance testing notification must be submitted ten (10) days prior to the performance test and all test results must be submitted within 30 days of the completion of the performance testing.

30. Testing history for the facility:

Date	TP-201.1E	Pass/Fail	TP-201.3	Pass/Fail
07/19/2022	Yes	Pass	No	NA
07/28/2021	No	NA	Yes	Pass
08/15/2019	Yes	Pass	No	N/A
07/09/2019	Yes	Fail	No	N/A
07/10/2018	No	N/A	Yes	Pass
07/13/2016	Yes	Pass	No	N/A
07/08/2015	No	N/A	Yes	Pass
07/11/2012	No	N/A	Yes	Pass
07/09/2008	No	N/A	Yes	Pass

Recordkeeping Requirements

- 31. The facility is required to keep and maintain all records of the following information for a period of five (5) years and have available within 24 hours of a request from LRAPA or the EPA Administrator:
 - 31.a. Monthly and annual calculated PSEL emissions in tons;
 - 31.b. Test performed;
 - 31.c. Records related to the operation and maintenance of the vapor balance equipment;
 - 31.d. Total monthly and annual throughput in gallons;
 - 31.e. Records of permanent changes made at the facility and the vapor balance equipment;
 - 31.f. Ensure that the owner/operators of gasoline cargo tanks keep records documenting vapor tightness testing for a period of 5 years;
 - 31.g. Records of occurrence and duration of each malfunction of operation and actions taken during the periods of malfunction;

Reporting Requirements

- 32. The facility is required to submit an annual report by February 15th each year that includes the following information to document compliance. Records required to be submitted:
 - 32.a. Monthly and annual calculated PSEL emissions in tons;
 - 32.b. Required test results;
 - 32.c. Monthly throughput in gallons;
 - 32.d. Summary of changes at the facility on the vapor recovery equipment which affect emissions;
 - 32.e. List of all major maintenance performed on the vapor control system.
 - 32.f. The number, duration and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded.
 - 32.g. Brief description of actions taken during the malfunction to minimize emissions and to correct the malfunction.
 - 32.h. Upset log of all planned and unplanned excess emissions per General Condition G15 should have.
 - i. date and time of the event that was reported to LRAPA;

- ii. whether the process handling equipment and the air pollution control equipment were, at all times, maintained and operated in a manner consistent with good practice for minimizing emissions;
- iii. whether repairs or corrections were made in an expeditious manner;
- iv. whether the event was one in a recurring pattern of incidents which indicate inadequate design, operation, or maintenance; and
- v. final resolution of the cause of the excess emissions.

32.i. Any complaints the facility received.

32.j. Performance testing notification must be submitted ten (10) day prior the performance test and all test results must be submitted within 30 days of the completion of the performance testing.

Public Notice

33. The draft permit was on public notice from November 14, 2022 to December 19, 2022. No written comments were submitted during the 35-day comment period.

BAE/RR
12/19/2022

ABBREVIATIONS, ACRONYMS, AND DEFINITION

ACDP	Air Contaminant Discharge Permit	NA	Not applicable
Annual Throughput	Amount of gasoline transferred into a gasoline dispensing facility during 12 consecutive months.	NESHAP	National Emissions Standards for Hazardous Air Pollutants
ASTM	American Society for Testing and Materials	NSR	New Source Review
AQMA	Air Quality Maintenance Area	O ₂	Oxygen
Bbl	Barrel (42 gallons)	OAR	Oregon Administrative Rules
CARB	California Air Resource Board	ORS	Oregon Revised Statutes
Calendar year	The 12-month period beginning January 1 st and ending December 31 st	O&M	Operation and Maintenance
CFR	Code of Federal Regulation	PCD	Pollution Control Device
DEQ	Oregon Department of Environmental Quality	ppm	Part per million
dscf	Dry Standard Cubic Foot	ppmv	Part per million by volume
EF	Emission Factor	PSD	Prevention of Significant Deterioration
EPA	US Environmental Protection Agency	PSEL	Plant Site Emission Limit
FCAA	Federal Clean Air Act	PTE	Potential to Emit
Gal	gallons	PV	Pressure/Vacuum
GDF	Gasoline Dispensing Facility	scf	Standard Cubic Foot
HAP	Hazardous Air Pollutant as defined by Section LRAPA 44-0020	SER	Significant Emission Rate
ID	Identification number	SERP	Source Emission Reduction Plan
I&M	Inspection and Maintenance	SIC	Standard Industrial Code
kgal	1,000 gallons	TP	Throughput
lb	Pounds	VE	Visible Emissions
lb/kgal	Pounds per 1,000 gallons	VOC	Volatile Organic Compound
LRAPA	Lane Regional Air Protection Agency	Year	A period consisting of any 12-consecutive calendar months

Calculations Sheets:

TOTAL VOC PSEL

Emission Source	Maximum Potential Throughput (gallons per/year)	Conversion Factor kgal	VOC Emission Factor (lb/kgal)	VOC Emissions	
				lb/year	tons/year
Loading and Filling ⁽¹⁾	39,900,000	0.001	0.34	13,566	6.78
Breathing and Emptying ⁽¹⁾	39,900,000	0.001	0.09	3,591	1.80
Vehicle Refueling (ORVR Controlled) ⁽²⁾	39,900,000	0.001	3.800	151,620	75.81
Hose Permeation (2017) ⁽³⁾	39,900,000	0.001	0.062	2,474	1.24
Total Vapor Loss (Subtotal)	39,900,000	0.001	4.292	171,251	85.63
Liquid Spillage ⁽⁴⁾	39,900,000	0.001	0.61	24,339	12.17
Total Emitted VOC			4.902	195,590	97.79

References:

1. Emission factors are based on AP-42, Table 5.2-7
2. Using March 2020 DEQ Emission Factors in the GDF Public Notice General ACDP and Lane Regional Emission Factors for Onboard Refueling Vapor Recovery (ORVR) Control: Assuming 35% Non-ORVR and 65% ORVR based on Lane County Data from Oregon DEQ, 2014 Oregon Gasoline Dispensing Facility (GDF) Volatile Organic Compound (VOC) Emissions Estimates and GDF Vapor Recovery System (VRS) Impact Evaluation, June 14, 2018, Table 1: Per LRAPA, the refueling ORVR penetration rate of 65%. Hence, at 65% ORVR vehicles, the resulting emission factor for Fueling with ORVR Control = $(10.36 \times 35\%) + (0.21 \times 65\%) = 0.918$ lb/k-gallons. <https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf>
3. Source: CARB 2013 data. Table 1-1: Uncontrolled Emission Factor is used, though it is the same as Pre-EVR and EVR emission factors. Year 2013 row data is used as it is A) More conservative, and B) there have been no regulatory changes to dispensing hose requirements in Oregon. CARB established Hose Permeation standards 7/26/2012. 2017 EF @ 0.009 demonstrates a reduction in emissions from hose permeation as a result of the standards. <https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf>
4. CARB, Revised Emission Factors for Gasoline Marketing Operations at Gasoline Dispensing Facilities, Table I-I Phase II Fueling - Spillage (Pre-EVR): <https://ww3.arb.ca.gov/vapor/gdf-emisfactor/gdfumbrella.pdf>

HAP Emission Estimations

HAP	Weight % In Vapor	Weight % In Liquid	Vapor Emissions	Liquid Emissions	Total Emissions (lb/year)	Total Emissions (ton/year)
Benzene	0.003	0.0100	513.75	243.39	757.14	0.38
Ethylbenzene	0.000	0.0164	0.00	399.16	399.16	0.20
Toluene	0.000	0.0800	0.00	1947.12	1947.12	0.97
Xylenes	0.000	0.0240	0.00	584.14	584.14	0.29
Emissions Factors	0.003	0.1304				
Total HAP					3687.56	1.84
Emission Factor: Aggregate HAP:		0.1334				

*Vapor and Liquid HAP Emissions are based on California Air Pollution Control Officers Association (CAPCOA), Gasoline Service Station Industrywide Risk Assessment Guidelines, 1997, Table 1

HAP Ratio	
Total VOC Emissions	97.79 tpy
Total HAP Emissions	1.84 tpy
Ratio*	0.01885 tpy
*HAP Ratio Calculation: Total HAP Emissions/Total VOC Emissions [= 1.84/97.79]	

Analysis for Type B State NSR						
Emission Source	VOC PSEL	Current Simple VOC Emissions	VOC Netting Basis	VOC Increase	*VOC Increase over the Netting Basis	SER
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year
Total Emitted VOC	99.00	39.00	0.00	60.00	99.00	40

*Increasing VOC emissions to an amount that is equal or greater than the SER threshold of 40 tpy over the netting basis. Because Costco is located in an attainment area of ozone this classifies this action a Type B State NSR according to LRAPA 38-0010(2)(b)(B)

Air Quality Analysis

AIR QUALITY ANALYSIS FOR COSTCO						
Precursor	Western US MERP (tons)	Hypothetical Emissions (tpy)	Associated Modeled Concentration (ppb)	Costco Emissions (tpy)	Ratio Costco/MERP (ppb)	Ozone SIL (ppb)
VOC	1053	1000	0.95	99	0.09405	
NO _x	184	500	2.72	0	0	
				Total	0.09405	1.0

Calculation for Ozone Contribution
 Ozone Contribution = (Costco Emissions/Hypothetical Emissions x Associated Modeled Concentration)
 Ozone Contribution = (99/1000 x 0.95 ppb) + (0/500 x 2.72) = 0.09405 ppb