TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit 25-3713
Air Discharge Permit Application CL-3288

Issued: June 25, 2025

Tristar Transload PNW, Inc.

SWCAA ID – 2500

DRAFT

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

ADP ..... Air Discharge Permit
AP-42 ..... Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA
ASIL..... Acceptable Source Impact Level
BACT..... Best available control technology
BART ..... Best Available Retrofit Technology
CAM ..... Compliance Assurance Monitoring
CFR..... Code of Federal Regulations
EPA..... U.S. Environmental Protection Agency
EU ..... Emission Unit
LAER..... Lowest achievable emission rate
MACT..... Maximum Achievable Control Technologies
NESHAP..... National Emission Standards for Hazardous Air Pollutants
NOV..... Notice of Violation/
NSPS..... New Source Performance Standard
PSD..... Prevention of Significant Deterioration
RACT..... Reasonably Available Control Technology
RCW ..... Revised Code of Washington
SQER ..... Small Quantity Emission Rate listed in WAC 173-460
Standard ..... Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
SWCAA..... Southwest Clean Air Agency
T-BACT..... Best Available Control Technology for toxic air pollutants
WAC..... Washington Administrative Code

List of Units and Measures

µg/m³..... Micrograms per cubic meter
µm..... Micrometer (10^{-6} meter)
acfm ..... Actual cubic foot per minute
bhp ..... Brake horsepower
dscfm..... Dry Standard cubic foot per minute
g/dscm..... Grams per dry Standard cubic meter
gr/dscf..... Grain per dry standard cubic foot
hp ..... Horsepower
hp-hr..... Horsepower-hour
kW .....Kilowatt
MMBtu .....Million British thermal unit
MMcf.....Million cubic feet
ppm.....Parts per million
ppmv.....Parts per million by volume
ppmvd.....Parts per million by volume, dry
ppmw.....Parts per million by weight
rpm.....Revolution per minute
scfm .....Standard cubic foot per minute
tpy.....Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C_3H_8 ..... Propane
CH_4..... Methane
CO..... Carbon monoxide
CO_2..... Carbon dioxide
CO_2e..... Carbon dioxide equivalent
H_2S ..... Hydrogen sulfide
HAP ..... Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
NO_2 ..... Nitrogen dioxide
NO_x ..... Nitrogen oxides
O_2 ..... Oxygen
O_3 ..... Ozone
PM .....Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10}.....PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$ .....PM with an aerodynamic diameter 2.5 µm or less
SO_2.....Sulfur dioxide
SO_x.....Sulfur oxides
TAP.....Toxic air pollutant pursuant to Chapter 173-460 WAC
TSP .....Total Suspended Particulate
VOC.....Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Tristar Transload PNW, Inc.
Applicant Address:	PO Box 424, Vancouver, WA 98666
Facility Name:	Tristar Transload PNW, Inc.
Facility Address:	3702 NW Gateway Avenue, Vancouver, WA 98660 and 1309 West 11th Street Vancouver, WA 98660
SWCAA Identification:	2500
Contact Person:	Peter Howe
Primary Process:	Butane and propane transfer
SIC/NAICS Code:	5171: Petroleum Bulk Stations and Terminals 424710: Petroleum Bulk Stations and Terminals
Facility Latitude and Longitude:	45°38'53.89" N 122°43'15.61" W
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

Tristar Transload transfers liquified petroleum gas (LPG) from railcars to tanker trucks using portable transloaders. Three transloaders will be used primarily for butane transloading (Butane Transloader #1, #2, and #3), and two transloaders will be used primarily for propane transloading (Propane Transloader #1 and #2). The facility has equipment at two nearby locations.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number CL-3288 dated February 4, 2025. Tristar Transload submitted ADP application CL-3288 requesting the following:

- Addition of three butane transloaders
- Operation of equipment at an additional site

ADP 25-3713 will supersede Order of Approval/ADP 19-3329 in its entirety.

4. PROCESS DESCRIPTION

Butane/Propane/LPG is received by railcar on one or more rail spurs at the sites. Two liquid lines and one vapor return line are connected between the railcar and the tank truck. The transfer compressor and hydraulics on each transloader are powered by a diesel engine. The compressor

pushes vapor collected from the tank car to the top of the railcar, which pushes liquid out of drop tubes in the railcar. Displaced vapors are all retained within this system (balanced vapor recovery, no displacement venting). The connectors to the railcar and tank truck are valved off until connected. At disconnection, the space between the valves is vented. Operators know that the railcar is empty when only vapor is being pushed through the liquid loading lines. This is usually evident from sight glasses on liquid line check valves.

Emissions result from the diesel engines, leaks, and venting of the connectors upon disconnection.

No flares, heaters, chillers, dryers, or intermediate storage tanks are associated with the transloading process. The facility will primarily operate during the winter season when there is increased demand for propane and butane.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Butane Transloader One P66 (*new*). The compressor on Butane Transloader 1 is powered by the Butane Transloader 1 Engine. Specific equipment details are listed below:

Make / Model: Sky Eye Measurement
Serial Number: 1639-ECP-1001
Manufactured: September 2024
Transfer Rate: ~170 gallons per minute
Connection Points: Six total. Two liquid connections and one vapor connection to the railcar, two liquid connections and one vapor connection to the tank truck.
Potential Leak Points: ~9 valves in vapor service, 6 valves in liquid service, 1 compressor, 36 screwed connectors and flanges in vapor service, 32 connectors and flanges in liquid service, 2 pressure relief device in vapor service, and 3 pressure relief devices in liquid service.

5.b. Butane Transloader Two S1505 (*new*). The compressor on Butane Transloader 2 is powered by the Butane Transloader 2 Engine. Specific equipment details are listed below:

Make / Model: Sky Eye Measurement
Serial Number: 1505-ECP
Manufactured: May 2023
Transfer Rate: ~170 gallons per minute
Connection Points: Six total. Two liquid connections and one vapor connection to the railcar, two liquid connections and one vapor connection to the tank truck.
Potential Leak Points: ~8 valves in vapor service, 6 valves in liquid service, 1 compressor, 25 screwed connectors and flanges in vapor service, 21 connectors and flanges in liquid service, 1 pressure relief device in vapor service, and 3 pressure relief devices in liquid service.

5.c. Butane Transloader Three S1653 (*new*). The compressor on Butane Transloader 3 is powered by the Butane Transloader 3 Engine. Specific equipment details are listed below:

Make / Model: Sky Eye Measurement
Serial Number: 1653-ECP
Manufactured: October 2024
Transfer Rate: ~170 gallons per minute
Connection Points: Six total. Two liquid connections and one vapor connection to the railcar, two liquid connections and one vapor connection to the tank truck.
Potential Leak Points: ~8 valves in vapor service, 6 valves in liquid service, 1 compressor, 25 screwed connectors and flanges in vapor service, 21 connectors and flanges in liquid service, 1 pressure relief device in vapor service, and 3 pressure relief devices in liquid service.

5.d. Butane Transloader One Diesel Generator Engine (*new*). The generator set powers a compressor to transload butane railcars. Equipment details are provided below.

Engine Make/Model:	Isuzu / BP-4LE2X
Engine ID Number:	4LE2-105255
Engine Output Rating:	66 hp at 1800 rpm
Manufacture Date:	February 2023
Installation Date:	TBD
Certification:	EPA Tier 4
Fuel Consumption:	3.7 gal/hr at full standby load
Generator Rating:	49 kW
Generator Make:	Yamabiko / DGK45F
Generator Serial Number:	D15601000397
Exhaust Flow Rate:	237 dscfm @ 3% O_2
Stack Latitude:	45°38'54.73" N
Stack Longitude:	122°43'18.36" W
Stack Height:	6′ from ground
Stack Diameter:	2″
Stack Temperature:	1078°F
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.e. Butane Transloader Two Diesel Generator Engine (*new*). The generator set powers a compressor to transload butane railcars. Equipment details are provided below.

Engine Make/Model:	Isuzu / BP-4LE2X
Engine ID Number:	4LE2-115187
Engine Output Rating:	66 hp at 1800 rpm
Manufacture Date:	August 2023
Installation Date:	TBD
Certification:	EPA Tier 4
Fuel Consumption:	3.7 gal/hr at full standby load
Generator Rating:	49 kW

Generator Make:	Yamabiko / DGK45F
Generator Serial Number:	D15601000535
Exhaust Flow Rate:	237 dscfm @ 3% O_2
Stack Latitude:	45°38'54.51" N
Stack Longitude:	122°43'17.98" W
Stack Height:	6′ from ground
Stack Diameter:	2″
Stack Temperature:	1078°F
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.f. Butane Transloader Three Diesel Generator Engine (*new*). The generator set powers a compressor to transload butane railcars. Equipment details are provided below.

Engine Make/Model:	Isuzu / BP-4LE2X
Engine ID Number:	4LE2-124370
Engine Output Rating:	66 hp at 1800 rpm
Manufacture Date:	May 2024
Installation Date:	TBD
Certification:	EPA Tier 4
Fuel Consumption:	3.7 gal/hr at full standby load
Generator Rating:	49 kW
Generator Make:	Yamabiko / DGK45F
Generator Serial Number:	D15601000541
Exhaust Flow Rate:	237 dscfm @ 3% O_2
Stack Latitude:	45°38'54.33" N
Stack Longitude:	122°43'17.74" W
Stack Height:	6′ from ground
Stack Diameter:	2″
Stack Temperature:	1078°F
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.g. Propane Transloader One (*existing*). The compressor on Propane Transloader 1 is powered by the Propane Transloader 1 Engine. Specific equipment details are listed below:

Make / Model:	Custom
Serial Number:	Custom
Manufactured:	November 1, 2017
Transfer Rate:	~200 gallons per minute
Connection Points:	Six total. Two liquid connections and one vapor connection to the railcar, two liquid connections and one vapor connection to the tank truck.
Potential Leak Points:	~8 valves in vapor service, 11 valves in liquid service, 1 compressor, 92 screwed connectors and flanges in vapor service, 82 connectors and flanges in liquid service, 1 pressure relief device in vapor service, and 4 pressure relief devices in liquid service.

5.h. Propane Transloader Two (*existing*). The compressor on Propane Transloader 2 is powered by the Propane Transloader 2 Engine. Specific equipment details are listed below:

Make / Model: Custom
Serial Number: Custom
Manufactured: November 1, 2017
Transfer Rate: ~200 gallons per minute
Connection Points: Six total. Two liquid connections and one vapor connection to the railcar, two liquid connections and one vapor connection to the tank truck.
Potential Leak Points: ~8 valves in vapor service, 11 valves in liquid service, 1 compressor, 92 screwed connectors and flanges in vapor service, 82 connectors and flanges in liquid service, 1 pressure relief device in vapor service and 4 pressure relief devices in liquid service.

5.i. Propane Transloader One Diesel Generator Engine (*new*). The generator set powers a compressor to transload propane railcars. Equipment details are provided below.

Engine Make/Model:	Yanmar / 3MTDA
Engine ID Number:	20160914B129
Engine Output Rating:	57.5 hp at 3000 rpm
Manufacture Date:	September 2016
Installation Date:	February 15, 2018
Certification:	EPA Interim Tier 4
Fuel Consumption:	3.32 gal/hr at full standby load
Generator Rating:	43 kW
Generator Make:	Yanmar / 3MTDA
Generator Serial Number:	20160914B129
Exhaust Flow Rate:	285 dscfm @ 3% O_2
Stack Latitude:	45°38'28.87" N
Stack Longitude:	122°42'12.50" W
Stack Height:	6′ from ground
Stack Diameter:	2″
Stack Temperature:	900°F
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

5.j. Propane Transloader Two Diesel Generator Engine (*new*). The generator set powers a compressor to transload propane railcars. Equipment details are provided below..

Engine Make/Model:	Yanmar / 3MTDA
Engine ID Number:	20160914B389
Engine Output Rating:	57.5 hp at 3000 rpm
Manufacture Date:	September 2016
Installation Date:	February 15, 2018
Certification:	EPA Interim Tier 4
Fuel Consumption:	3.32 gal/hr at full standby load
Generator Rating:	43 kW

Generator Make:	Yanmar / 3MTDA
Generator Serial Number:	20160914B389
Exhaust Flow Rate:	285 dscfm @ 3% O_2
Stack Latitude:	45°38'29.06" N
Stack Longitude:	122°42'12.68" W
Stack Height:	6′ from ground
Stack Diameter:	2″
Stack Temperature:	900°F
Regulations of Note:	40 CFR 60 Subpart IIII, 40 CFR 63 Subpart ZZZZ

Insignificant Equipment

5.k. Unit Saw. The facility installed a unit saw equipped with a dust control system in the warehouse in 2024. Potential emissions of PM_{10} and nuisance dust are expected to be insignificant. For housekeeping and fire safety, a dust collection system pulls from the end of the saw, capturing the dust in a cyclone followed by a fabric filter, vented inside the building. The following equipment details were provided:

Make / Model:	Accu-Cut / Crosscut Unit Saw
Saw Bar Length:	7'
Saw Bar/Chain Kerf:	0.350"
Dust Collector Make / Model:	Oneida / model unknown
Dust Collector Airflow:	4,080 cfm fan rating, expected 2,514 cfm in operation
Dust Collector Filter:	310 ft^2 of Izumi Axtar Spunbound Media, rated collection efficiency of 99.9 % for 0.2 – 2.0 µm.

5.l. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Butane Transloader One P66, Sky Eye Measurement, s/n: 1639-ECP-1001	Balanced vapor recovery
2	Butane Transloader Two S1505, Sky Eye Measurement, s/n: 1505-ECP	Balanced vapor recovery
3	Butane Transloader Three S1653, Sky Eye Measurement, s/n: 1653-ECP	Balanced vapor recovery
4	Butane Transloader One Diesel Generator Engine, Isuzu / BP-4LE2X, s/n: 4LE2-105255	Ultra-low sulfur diesel
5	Butane Transloader Two Diesel Generator Engine, Isuzu / BP-4LE2X, s/n: 4LE2-115187	Ultra-low sulfur diesel
6	Butane Transloader Three Diesel Generator Engine, Isuzu / BP-4LE2X, s/n: 4LE2-124370	Ultra-low sulfur diesel
7	Propane Transloader One, Custom Built	Balanced vapor recovery
8	Propane Transloader Two, Custom Built	Balanced vapor recovery

ID No.	Equipment/Activity	Control Equipment/Measure
9	Propane Transloader One Diesel Generator Engine, Yanmar / 3MTDA, s/n: 20160914B129	Ultra-low sulfur diesel
10	Propane Transloader Two Diesel Generator Engine, Yanmar / 3MTDA, s/n: 20160914B389	Ultra-low sulfur diesel

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:
(a) Continuous emissions monitoring system (CEMS) data;
(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

Nothing precludes the use, including the exclusive use of any credible evidence or information relevant to identifying or quantifying emissions if methods identified above, in the ADP, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

6.a. Transloading. Potential emissions were estimated using the South Coast Air Quality Management District's "Guidelines for Fugitive Emissions Calculations (June 2003)." In this guidance, the District updated emissions factors that were identified in the EPA's "Protocol for Equipment Leak Emission Estimates (November 1995)". For purposes of determining emissions, equipment in contact with liquid butane or propane is considered to be in "light liquid" service and equipment in contact only with butane or propane vapor is in "vapor service". There are a variety of techniques for determining emissions from leaking components. In this case, SWCAA has determined that the use of an "average" emission factor for untested components and a "screening value range" emission factor for tested components provides a straightforward method of determining emissions.

The "average" emission factor was determined using actual survey data from multiple facilities and based on the survey, a certain percentage of components at the facilities were found to be leaking and others were not. Using statistical methods, an average emission rate among all the components within the survey sample was determined and represents a probable leak rate for components that have not been tested. This would represent a base level for determining emissions from a facility that has not yet been built or for a facility that has not determined whether a specific component was leaking.

Once a testing program has been established, then a "screening value range" emission factor can be used. Using similar survey data and a screening value – which is typically 500 ppm, 1,000 ppm, 10,000 ppm, or 100,000 ppm – a probable leak rate can be calculated for a screening value range. For example, assuming the screening value is 10,000 ppm, there would be two ranges, <10,000 ppm and ≥10,000 ppm, and using the actual leak rates

determined during the survey, an emission factor for components leaking <10,000 ppm or ≥10,000 ppm can be determined. Based on leak-no leak determination or an actual leak concentration reading, a facility can determine which emission factor to use. In the case where a non-numeric method is being used, such as a soap solution, SWCAA assumes that if no leak is detected that the component could be leaking at less than the screening value and that if a leak is detected then it is leaking at a rate above the screening value. From an emissions standpoint, this means that only the presence or absence of a leak is necessary to determine which emission factor to use.

Based on the above discussion, the following emission factors are used to determine fugitive emissions:

Description	Average Emission Factor (lb/hr)/unit	Non-Leaker (<10,000 ppm) Emission Factor (lb/hr)/unit	Leaker (≥10,000 ppm) Emission Factor (lb/hr)/unit
Valves (includes flanges) in Vapor Service	1.4x 10^{-3}	2.9×10^{-5}	5.1×10^{-2}
Valves (includes flanges) in Light Liquid Service	5.4×10^{-3}	3.3×10^{-5}	5.1×10^{-2}
Others (compressors, sight-glasses, meters, etc.) in Vapor Service	1.7×10^{-2}	2.6×10^{-4}	7.5×10^{-2}
Fittings (connectors and flanges) in Vapor Service	5.6×10^{-4}	1.3×10^{-5}	7.5×10^{-2}
Fittings (connectors and flanges) in Light Liquid Service	5.6×10^{-4}	1.6×10^{-5}	1.4×10^{-2}
Pressure Relief Devices (PRVs) in Vapor Service	2.2×10^{-2}	2.9×10^{-5}	5.1×10^{-2}
Pressure Relief Devices (PRVs) in Light Liquid Service	2.2×10^{-2}	3.3×10^{-5}	5.1×10^{-2}

[1] Applies to any component other than fittings, pump seals, or valves.

With the exception of the PRVs, all leaker/non-leaker emission factors came from Table IV-2b. PRV's non-leaker/leaker emission factors came from the emission factors for valves because no comparable emission factors was available in Table IV-2b. Average emission factors for all components came from the Terminals/Depots table on Page 6.

To calculate potential fugitive leak emissions the total number of each component type was counted on one of the transloaders and the number multiplied by 1.25 to account for up to 25% more components on each transloader. This allows for minor configuration modifications (and the potential for miscounting).

Propane Transloaders

Component	Count
Valves in Vapor Service	8
Valves in Light Liquid Service	11
Others (compressors, sight-glasses, meters, etc.) in Vapor Service	1
Fittings (connectors and flanges) in Vapor Service	92
Fittings (connectors and flanges) in Light Liquid Service	82
Pressure Relief Devices in Vapor Service	1
Pressure Relief Devices in Liquid Service	4

Butane Transloaders (S-1505 and S-1653)

Component	Count
Valves in Vapor Service	8
Valves in Light Liquid Service	6
Others (compressors, sight-glasses, meters, etc.) in Vapor Service	1
Fittings (connectors and flanges) in Vapor Service	25
Fittings (connectors and flanges) in Light Liquid Service	21
Pressure Relief Devices in Vapor Service	1
Pressure Relief Devices in Liquid Service	3

Butane Transloader (P-66)

Component	Count
Valves in Vapor Service	9
Valves in Light Liquid Service	6
Others (compressors, sight-glasses, meters, etc.) in Vapor Service	1
Fittings (connectors and flanges) in Vapor Service	36
Fittings (connectors and flanges) in Light Liquid Service	32
Pressure Relief Devices in Vapor Service	2
Pressure Relief Devices in Liquid Service	3

Based on the number of components and using the "average" emission factor, the combined emissions from the components on two propane transloaders are calculated to be 3,231 lb/yr (1.62 tpy) based on 8,760 hours per year of service. For the butane transloaders the combined emissions are estimated at 2,300 lb/yr (1.15 tpy) based on 8,760 hours per year of service. Maximum emissions are assumed to be the result of two transloaders operating full-time for each product.

Connection / Disconnection

During disconnection of the transfer connector valve assemblies from the railcars and tanker trucks, the internal volume between the valves on each end of the connection must be vented. There are two liquid connections and one vapor connection to each railcar and tanker truck. Railcars and tanker trucks have butane and propane load capacities of approximately 30,000 gallons and 8,000 gallons respectively. Therefore, four tanker trucks will be needed to unload each railcar. Each tanker truck could be connected/disconnected

twice if the truck is disconnected to be weighted once prior to completion of loading. Potential emissions from disconnection were calculated from a total potential throughput of 600,000 barrels per year (25,200,000 gallons per year) for each product. This translates to unloading 840 railcars into 3,150 tanker trucks per year. It is assumed that there is one disconnection of each railcar before it is fully unloaded, and two disconnections of every truck before the railcar is fully unloaded. When a railcar is fully unloaded, it is not empty, but vapor has displaced the majority of the liquid in the liquid transfer lines. In this fully unloaded state, disconnection results in negligible butane emission. Disconnection emissions are ~100 times lower for butane and ~40 times lower for propane when the transfer lines are filled with vapor instead of liquid.

The liquid transfer lines have a nominal diameter of 2". The liquid connections to the railcars have approximately 18" of connection between the isolation valves. Approximately 2.46 pounds of butane or 2.03 pounds of propane would be lost when these two liquid lines are decoupled from the railcar before the railcar is empty. The liquid connections to the tanker truck have approximately 3.5" of connection between the isolation valves. Approximately 0.48 pounds of butane or 0.39 pounds of propane would be lost when these two liquid lines are decoupled from the tanker truck before the railcar is empty.

Based on these estimates an average of 1.57 pounds of butane or 1.30 pounds of propane will be emitted per truck loaded.

Disconnecting Emissions

Number of Butane Truckloads =	3,150	
Butane Emissions per Truckload =	1.57	lbs/event
Butane Annual Emissions =	**2.47**	tons

Number of Propane Truckloads =	3,150	
Propane Emissions per Truckload =	1.30	lbs/event
Propane Annual Emissions =	**2.04**	tons

The above emission factor per truckload must be used to calculate annual emissions from the facility unless the number of truck and railcar disconnections is documented. If the number of truck and railcar disconnections is documented, the railcar and tanker truck disconnection factors (2.46 lbs/event and 0.48 lbs/event respectively for butane, and 2.03 lbs/event and 0.39 lbs/event respectively for propane) may be used.

Propane/LPG may contain mercaptan odorants that are Toxic Air Pollutants (e.g. methyl mercaptan or ethyl mercaptan), or hydrogen sulfide. The butane handled at this facility is expected to be primarily, or entirely, for gasoline blending and is therefore unodorized with a negligible sulfur content. For propane SWCAA assumed that mercaptan concentrations could be as high as 50 ppmw and hydrogen sulfide could be as high as 185 ppmw (the maximum sulfur content allowed in commercial propane), resulting in the following potential emissions:

Propane Sulfur Species	ppmw*	lb/yr
Methyl Mercaptan	50	0.37
Ethyl Mercaptan	50	0.37
Hydrogen Sulfide	185	1.35

*These values represent expected maximums – may not actually be present. Refer to Safety Data Sheet or Technical Data Sheet for the specific product to determine actual concentrations

6.b. Butane Transloader One Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the engine will operate at full load for up to 3,080 hours per year. The engine is capable of producing 65.7 horsepower at full load.

Butane Transloader One Engine						
Hours of Operation =	3,080	hours				
Power Output =	65.7	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.70	gallons per hour				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =	11,396	gallons				
	Emission Factor	Emission Factor		Emissions	Emission Factor	
Pollutant	lb/hp-hr	lb/hr		tpy	Source	
NO_X	0.0052	0.34		0.53	CARB CERT	
CO	1.54E-05	1.01E-03		1.56E-03	CARB CERT	
VOC	1.64E-05	1.08E-03		1.66E-03	AP-42 Table 3.3-1 (10/96)	
SO_X as SO_2	1.22E-05	8.00E-04		1.23E-03	Mass Balance	
$PM/PM_{10}/PM_{2.5}$	3.09E-05	2.03E-03		3.12E-03	CARB CERT	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.05	23	128	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.13	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.31	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	129	

6.c. Butane Transloader Two Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the engine will operate at full load for up to 3,080 hours per year. The engine is capable of producing 65.7 horsepower at full load.

Butane Transloader Two Engine						
Hours of Operation =	3,080	hours				
Power Output =	65.7	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.70	gallons per hour				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =	11,396	gallons				
	Emission Factor	Emission Factor		Emissions	Emission Factor	
Pollutant	lb/hp-hr	lb/hr		tpy	Source	
NO_X	0.0052	0.34		0.53	CARB CERT	
CO	1.54E-05	1.01E-03		1.56E-03	CARB CERT	
VOC	1.64E-05	1.08E-03		1.66E-03	AP-42 Table 3.3-1 (10/96)	
SO_X as SO_2	1.22E-05	8.00E-04		1.23E-03	Mass Balance	
$PM/PM_{10}/PM_{2.5}$	3.09E-05	2.03E-03		3.12E-03	CARB CERT	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.05	23	128	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.13	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.31	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	129	

6.d. Butane Transloader Three Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the engine will operate at full load for up to 3,080 hours per year. The engine is capable of producing 65.7 horsepower at full load.

Butane Transloader Three Engine						
Hours of Operation =	3,080	hours				
Power Output =	65.7	horsepower				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.70	gallons per hour				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =	11,396	gallons				
	Emission Factor	Emission Factor		Emissions	Emission Factor	
Pollutant	lb/hp-hr	lb/hr		tpy	Source	
NO_X	0.0052	0.34		0.53	CARB CERT	
CO	1.54E-05	1.01E-03		1.56E-03	CARB CERT	
VOC	1.64E-05	1.08E-03		1.66E-03	AP-42 Table 3.3-1 (10/96)	
SO_X as SO_2	1.22E-05	8.00E-04		1.23E-03	Mass Balance	
$PM/PM_{10}/PM_{2.5}$	3.09E-05	2.03E-03		3.12E-03	CARB CERT	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.05	23	128	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.13	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.31	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	129	

6.e. Propane Transloader One Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the engine will operate at full load for up to 3,080 hours per year. The engine is capable of producing 57.5 horsepower at full load.

Propane Transloader One Engine						
Hours of Operation =	3,080	hours				
Power Output =	57.5	horsepower (CARB Certification)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.32	gallons per hour				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =	10,215	gallons				
	Emission Factor	Emission Factor	Emission Factor	Emissions	Emission Factor	
Pollutant	lb/hp-hr	lb/hr	lb/1,000 gal	tpy	Source	
NO_X	0.0061	0.35	105.45	0.54	CARB CERT	
CO	0.0033	0.19	57.00	0.29	CARB CERT	
VOC	0.0025	0.14	43.59	0.22	AP-42 Table 3.3-1 (10/96)	
SO_X as SO_2	0.000012	0.0007	0.22	0.0011	Mass Balance	
$PM/PM_{10}/PM_{2.5}$	0.0004	0.02	6.27	0.032	CARB CERT	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.05	23	115	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.12	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.28	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	115	

6.f. Propane Transloader Two Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the engine will operate at full load for up to 3,080 hours per year. The engine is capable of producing 57.5 horsepower at full load.

Propane Transloader Two Engine						
Hours of Operation =	3,080	hours				
Power Output =	57.5	horsepower (CARB Certification)				
Diesel Density =	7.206	pounds per gallon				
Fuel Sulfur Content =	0.0015	% by weight				
Fuel Consumption Rate =	3.32	gallons per hour				
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =	10,215	gallons				
	Emission Factor	Emission Factor	Emission Factor	Emissions	Emission Factor	
Pollutant	lb/hp-hr	lb/hr	lb/1,000 gal	tpy	Source	
NO_X	0.0061	0.35	105.45	0.54	CARB CERT	
CO	0.0033	0.19	57.00	0.29	CARB CERT	
VOC	0.0025	0.14	43.59	0.22	AP-42 Table 3.3-1 (10/96)	
SO_X as SO_2	0.000012	0.0007	0.22	0.0011	Mass Balance	
$PM/PM_{10}/PM_{2.5}$	0.0004	0.02	6.27	0.032	CARB CERT	
			CO_2e	CO_2e		
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.05	23	115	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.12	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.28	40 CFR 98
Total GHG - CO_2e	73.9636		163.613	23	115	

6.g. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO_x	2.66	-0.17
CO	0.59	-0.77
VOC	7.73	-0.97
SO_2	0.006	+0.001
PM	0.07	-0.08
PM_{10}	0.07	-0.08
$PM_{2.5}$	0.07	-0.08
CO_2/CO_2e	617	+65
Toxic Air Pollutants	3.62	-0.47
Hazardous Air Pollutants	0.00	+0.00

Toxic/Hazardous Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
Ethyl/Methyl Mercaptan	0.00018	+0.00
Hydrogen Sulfide	0.00068	+0.00

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this Permit consistent with implementation of Best Available Control Technology (BACT):

7.a. 40 CFR 60 Subpart IIII [§60.4200 *et seq*] "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005, and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005. All the engines are CI ICE configuration and manufactured after April 1, 2006; therefore, this regulation is applicable to all engines.

7.b. 40 CFR 63 Subpart ZZZZ [§63.6580 *et seq*] "National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines" establishes national emission limitations and operating limitations for HAP emitted from stationary reciprocating internal combustion engines located at major and area sources of HAP emissions. The transloader engines are affected sources under this regulation.

For existing emergency engines at an area source, the owner or operator is required to:

- Change oil and filter every 500 hours of operation or annually, whichever comes first except as allowed by 40 CFR 63.6625(i) [Table 2d(4)(a)];
- Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first [Table 2d(4)(b)];
- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary [Table 2d(4)(c)];
- Install a non-resettable hour meter if one is not already installed. [§ 63.6625(f)]
- Report each instance in which the owner did not meet each operating limitation [§ 63.6640(b)];
- Limit operation of the engine to emergency use and maintenance checks and readiness testing. Operation for maintenance checks and readiness testing may be conducted only to the extent that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Operation for maintenance checks and readiness testing is limited to 100 hours per year [§ 63.6640(f)(2)(i)];

- Record the occurrence and duration of each malfunction of operation (i.e., process equipment) [§ 63.6655(a)(2)];
- Record maintenance conducted on the engine in order to demonstrate that the engine was operated and maintained according to the applicable maintenance plan [§ 63.6655(e)]; and
- Record the hours of operation of the engine by use of a non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation [§ 63.6655(f)].

There may be other requirements under the Subpart that apply to the facility that are not specified above. SWCAA has not yet taken delegation of this regulation; therefore, at this time, EPA is the Administrator of this regulation, and the facility must communicate directly with EPA regarding compliance demonstrations and/or reporting required by this rule.

For purposes of this Subpart, "diesel fuel" also includes any non-distillate fuel with comparable physical and chemical properties (e.g., biodiesel) that is suitable for use in compression ignition engines per §63.6675.

7.c. 40 CFR 68 "Chemical Accident Prevention Provisions" requires affected stationary sources to compile and submit a risk management plan, as provided in Sections 68.150 to 68.185. Applicability is determined by the type and quantity of material stored at the facility. This facility is subject to this regulation because more than 10,000 pounds of butane or propane will be present at one time at the facility.

7.d. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.

7.e. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an ADP for installation and establishment of an air contaminant source. This law applies to the facility.

7.f. Washington Administrative Code (WAC) 173-401 "Operating Permit Regulation" requires all major sources and other sources as defined in WAC 173-401-300 to obtain an operating permit. This regulation is not applicable because this source is not a potential major source and does not meet the applicability criteria set forth in WAC 173-401-300. The facility does not emit any criteria pollutants or HAP above major thresholds; therefore, this regulation does not apply to the facility.

7.g. WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants, and demonstration of protection of human health and safety. The facility emits TAPs; therefore, this regulation applies to the facility.

7.h. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, SO_2, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM_{10}, $PM_{2.5}$, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.

7.i. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO_2, concealment and masking, and fugitive dust. This regulation applies to the facility.

7.j. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.

7.k. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.

7.l. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.

7.m. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.

7.n. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person is allowed to emit a gas containing in excess of 1,000 ppmd of SO_2, corrected to 7% O_2 or 12% CO_2 as required by the applicable emission standard for combustion sources. The facility emits SO_2; therefore, this regulation applies to the facility.

7.o. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.

7.p. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met, and that no person is allowed to cause or permit the emission of PM from any combustion or incineration unit in excess of 0.23 g/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas at standard conditions. The facility has combustion units; therefore, this regulation applies to the facility.

7.q. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.

7.r. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.

7.s. SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
(3) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
(4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(5) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in a maintenance plan area; therefore, this regulation applies to the facility.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determination(s)

8.a. BACT Determination – Butane Transloaders. SWCAA has determined that implementation of a leak detection and repair program utilizing annual leak detection meets the requirements of BACT for the control of fugitive emissions from this facility.

8.b. BACT Determination – Butane Transloader Engines. The use of modern diesel-fired engine design meeting EPA Tier Emission Standards, the use of ultra-low sulfur diesel fuel (≤15 ppmw), limitation of visible emissions to 5% opacity or less, and limitation of engine operation to less than 3,080 hr/yr has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted from these engines.

Previous BACT Determination(s)

8.c. BACT Determination – Fugitive Emissions. Potential fugitive leaks from this facility are relatively small, however the effort to annually check for leaks should also be relatively small, providing a cost-effective method of controlling fugitive leaks. SWCAA has determined that implementation of a leak detection and repair program utilizing annual leak detection meets the requirements of BACT for the control of fugitive emissions from this facility.

8.d. BACT Determination – Transloader Engines. One option to reduce emissions from operating the hydraulic system is to use alternative fuels (other than diesel) to drive the process. Electricity is an alternative fuel for this process. The applicant indicated that replacing the existing engines (the transloaders are already built with the incorporated diesel engines), would cost approximately $80,000 each for the motor and $20,000 for the electrical upgrades to the site. Offsetting this would be the reduction in maintenance and fuel costs. The reduction in fuel costs could be on the order of $11,000 per year per engine based on 3,080 hours of operation per year at full load, each engine burning 9,783 gallons of fuel per year, a diesel cost of $2.30 per gallon and an electrical cost of $0.08 per kW-hr. Using an 8% cost of capital and a 5 year equipment life (15,400 hour of operation), the cost-effectiveness of replacing the diesel engines at this point is over $10,000 per ton of pollutant prevented. The certified "useful life" of these engines is 5,000 – 8,000 hours.

The applicant has informed SWCAA that based on the fuel consumption records for a similar facility, the average engine load is less than 20% of maximum load (facilities operating 24 hours per day burned no more than 400 gallons of fuel per month while at full load the engine would burn approximately 2,300 gallons per month).

Based on this analysis, replacement of the engines with electric motors will not be a cost-effective method of reducing emissions.

Available control measures for new diesel engines include engine design, the use of ultra-low sulfur fuel and add-on control equipment such as selective catalytic reduction (SCR) units and oxidation catalysts. Because emission rates from these engines are relatively low (the engines meet EPA's Interim Tier 4 emission standards) neither SCR for NO_X emissions, nor an oxidation catalyst for CO, VOC and organic PM emissions would be cost-effective.

The use of modern diesel-fired engine design meeting the relevant EPA emission standard for the new engines as applicable, the use of ultra-low sulfur diesel fuel (≤ 0.0015% sulfur by weight), limitation of visible emissions to 5% opacity or less, and limitation of lifetime engine operation to 3,080 hours per year has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted. The use of ultra-low sulfur fuel is also required by 40 CFR 60 Subpart IIII for "new" engines.

Other BACT Determination(s)

8.e. Prevention of Significant Deterioration (PSD) Applicability Determination. This permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

8.f. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 (Title V) permit.

9. AMBIENT IMPACT ANALYSIS

9.a. Criteria Air Pollutant Review. This permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

9.b. Toxic Air Pollutant Review.
The new equipment and modifications proposed in ADP application CL-3288 will not affect the type or quantity of TAP emissions from the transloading facility. Approved BACT measures at the facility will limit emissions of Class A and B toxic air pollutants to below the applicable Small Quantity Emission Rates (SQER) or Acceptable Source Impact Level (ASILs) specified in WAC 173-460.

Based on the emission calculations in accordance with Section 6 for the emission units and activities described in ADP application CL-3288, none of the estimated emission rates exceed the Small Quantity Emission Rate (SQER) specified in WAC 173-460, therefore, no adverse ambient air quality impact is anticipated.

Conclusions

9.c. Operation of butane transloaders and associated diesel engines, as proposed in ADP application CL-3288, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.d. Operation of butane transloaders and associated diesel engines as proposed in ADP application CL-3288, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.e. Operation of butane transloaders and associated diesel engines, as proposed in ADP application CL-3288, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 25-3713 in response to ADP application CL-3288. ADP 25-3713 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a. Supersession of Previous Permits. ADP 25-3713 supersedes ADP 19-3329 in its entirety. Compliance will be determined under this ADP, not previously superseded ADPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.

10.b. Emission Limits. Facility-wide emission limits are based on the sum of the emission limits for approved equipment calculated in Section 6 of this Technical Support Document.

10.c. Operational Limits and Requirements. The fugitive VOC emission potential is relatively small, so leak detection was required only annually. Consistent with USEPA rules for other industries, leaking components must be repaired within 15 days. Because this facility is not a continuous process, no delay provisions related to process shutdown were included.

Diesel Engine. Approval conditions for the proposed diesel engine are based on limited service (not to exceed 3,080 hrs/yr). Visible emission limits have been established consistent with proper operation and maintenance of the engine. Compliance with applicable emission limits will be demonstrated based on annual operation as recorded and reported by the permittee.

10.d. Monitoring and Recordkeeping Requirements. ADP 25-3713 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements.

10.e. Reporting Requirements. 25-3713 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for coating consumption, fuel consumption, and material throughput. Reports are to be submitted on a semi-annual basis.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology-based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

To SWCAA's knowledge, this facility can comply with all applicable standards during start-up and shutdown.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.

11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the approval conditions.

12. EMISSION MONITORING AND TESTING

12.a. Emission Testing Requirements – Transloading Skids. Potential emissions from the diesel engines were too small to warrant periodic emission testing. A relatively simple leak detection and repair program was required because the relatively small effort is justified by the potential emissions prevented.

13. FACILITY HISTORY

13.a. General History. This facility was originally permitted in early 2017 as a butane transloading facility. Later in 2017 the facility proposed to add the ability to transload propane. In 2018, the second butane transloader Tristar received was not the one originally permitted, and the permit was modified to accommodate the different transloader. Later in 2018, the permit was modified to accommodate an increased throughput of both propane and butane and expansion to the parcel directly east of the existing operation. In January 2021, SWCAA was notified that Tristar Transload no longer had butane transloaders and the units should be removed from 2020 registration billing. SWCAA proceeded to remove the butane transloaders from registration and notified Tristar that a permit application would be required if butane was to be transloaded in the future.

13.b. Previous Permitting Actions. The following past permitting actions have been taken by SWCAA for this facility:

Permit	Application	Date Issued	Description
19-3329	CL-3288	03/14/2019	Approval to operate one new butane transloader powered by a diesel-powered hydraulic compressor. Increased throughput of both butane and propane.
18-3039	CL-3039	03/15/2018	Approval to a different butane transloader and corresponding diesel-powered engine than originally permitted.
18-3258	CL-3027	01/03/2018	Approval to operate two propane transloaders each powered by a diesel-powered hydraulic compressor.
17-3229	CL-3004	05/24/2017	Approval to operate two butane transloaders each powered by a diesel-powered hydraulic compressor.

13.c. Compliance History. A search of source records on file at SWCAA did not identify any previous or outstanding compliance issues over the past five (5) years.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application CL-3288. Public notice for ADP application CL-3288 was published on the SWCAA website for a minimum of fifteen (15) days beginning on April 1, 2025.

14.b. Public/Applicant Comment for ADP Application CL-3288. A (30) day public comment period will be provided for this permitting action pursuant to SWCAA 400-171(3). SWCAA will provide a response to all comments received during the comment period.

14.c. State Environmental Policy Act. After review of the SEPA Checklist for the project at 1309 West 11th Street Vancouver, WA 98660, SWCAA has determined that the project does not have a probable significant impact on the environment and has issued Determination of Non-Significance 25-029. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c). For the new butane units at 3702 NW Gateway Avenue, Vancouver, WA 98660, SWCAA will retain the previous SEPA checklist and Determination of Non-Significance from when butane units were previously permitted.