Revision of Synthetic Minor Operating Permit Application
Application #32039 Evaluation Report
Kinder Morgan Liquids Terminal – Richmond Products Terminal
1306 Canal Street, Richmond CA 94804
Site # A0057
Plant # 23438 (Formerly #13637)

Background

Kinder Morgan Liquids Terminal – Richmond Products Terminal (Kinder Morgan) has applied for an alteration to their Permit to Operate for the following equipment:

S-1 Multi-liquid Truck Loading Rack for Gasolines & Diesel Fuel; 16 total arms (6 permitted gasoline, 1 permitted transmix, 1 permitted ethanol, 1 permitted gasoline additive, 4 exempt diesel/biodiesel, 2 exempt renewable diesel/biodiesel, and 1 exempt biodiesel)
Abated by: A-1

A-1 John Zink Vapor Adsorption System; Activated Carbon/Charcoal

S-24 Fixed Roof Tank No. 24 (Renewable Diesel and Biodiesel)
312K gal, 600 GPM Pump, White, Exempt per Regulation 2-1-123.3.2

S-25 Fixed Roof Tank No. 25 (Renewable Diesel and Biodiesel)
312K gal, 600 GPM Pump, White, Exempt per Regulation 2-1-123.3.2

S-75 Floating Roof Tank No. 57 (Ethyl Alcohol/Jet A, Biodiesel and Renewable Diesel)
2,394K gal, White

Kinder Morgan Liquids Terminal (KMLT) - Richmond Products Terminal (RPT) is submitting this application package to request the following changes to the facility Permit to Operate (PTO):

1. Change the description for S-24 & S-25 from floating roof to fixed roof tanks and change the gasoline storage to renewable diesel (RD99) and biodiesel (BD100) fuels only. S-24 and S-25 will be converted from permitted tanks to exempt tanks. They are qualified for exemption under Regulation 2-1-123.3.2 because the initial boiling point of RD99 and BD100 are greater than 302^{o}F and exceed the actual storage temperature by at least 180^{o}F. In addition, the criteria and TAC emissions from S-24 and S-25 meet the backstop provisions of 2-1-319.

2. To offset the combined throughput increase of 5,040,000 gallons/yr of RD99 and/or BD100 for S-24 and S-25, the combined throughput of S-4, S-11 to S-16, S-22, S-23, S-31, S-34, S-36, S-37, S-64, and S-73 to S-76 in Permit Condition 19942 Part 4 was reduced from 625,000,000 gallons/yr to 619,960,000 gallons/yr of Diesel and Jet A.

3. Alter the conditions for S-75 to allow for the storage of BD100 and RD99 in addition to Ethanol/Jet A.

4. Alter the Loading Rack 1 (S-1) to reactivate two previously exempt arms for the handling of RD99 and BD100.

Richmond Products Terminal stores and transports transportation fuels. Tanks 24 and 25 (S-24 and 25) are listed as internal floating roof storage tanks in the facility operating permit, but the tanks have been emptied and out of service for approximately 20 years. The floating roofs were removed during this period and these two tanks are now fixed roof tanks, which the facility intends to bring back into service for RD99 and BD100 storage. Because KMLT has valid permits for S-24 and 25, they will not be treated as new sources per 2-1-232.2. Tank 57 (S-75) is an internal floating roof storage tank currently permitted as a multi-liquid storage tank.

All sources involved in this application are either exempt or altered. This application will not result in an increase in the sources' emissions and facility PTE.

Source S-1

Loading Rack 1 is a multi-liquid truck loading rack associated with an activated carbon adsorption system as the control device. It is currently equipped with 16 total arms:

Permitted
- 6 gasoline
- 1 permitted transmix
- 1 permitted ethanol
- 1 permitted gasoline additive

Exempt
- 4 exempt diesel/biodiesel
- 2 exempt renewable diesel/biodiesel
- 1 exempt biodiesel

Sources S-24 and S-25

Sources S-24 and S-25 are fixed roof storage tanks with storage capacities of 312,000 gallons each. Sources S-24 and S-25 will store BD100 and RD99, both of which have a vapor pressure of less than 2 mmHg (0.039 psia). KMLT requested the total combined throughput of BD100 and RD99 at both tanks to be 10,000 barrels per month (5,040,000 gallons per year), split equally between the tanks. KMLT has updated the daily throughput limit of S-24 and S-25 based on the pump capacity of 600 GPM (36,000 gal/hr). S-24 and S-25 will be converted from permitted gasoline tanks to exempt BD100 and RD99 tanks.

Source S-75

Source S-75 is an internal floating roof storage tank with a capacity of 57,000 bbls and is currently permitted under Condition #24332 to store multiple liquids including Jet Fuel and Ethanol. The facility would like to add BD100 and RD99 to the list of allowable materials.

Emissions Calculations

The facility has been operating under a Synthetic Minor Operating Permit since October 22, 2002. To obtain a synthetic minor permit and per 2-6-310, a facility must have practically enforceable emission limits that keep the potential to emit below 95 tons per year of any regulated air pollutant, below 9 tons per year of any single HAP, and below 23 tons per year of any combination of HAPs.

The BD100 will be brought onsite via truck and rail, while the RD99 will be brought by marine vessel. The dispensing of fuels to retail stations, which includes BD100 and RD99, is performed with Bulk Loading Rack 1 (S-1). The facility will compensate the combined throughput increase of 5,040,000 gallons/yr for S-24 and S-25 by reducing an equal amount of Diesel/Jet A throughput at S-4, S-11 to S-16, S-22, S-23, S-31, S-34, S-36, S-37, S-64, and S-73 to S-76 by reducing the limit in Part 4 of Permit Condition 19942 from 625,000,000 gallons/yr to 619,960,000 gallons/yr. The facility has elected to balance the potential environmental impacts from vehicle traffic due to the increase in BD100/RD99 throughput via a corresponding decrease in Conventional Diesel throughput for CEQA purposes. There will be no increase in stationary or mobile sources emissions due to this application.

Basis:

- Operating hours = 24 hours/day, 365 days/yr
- The latest (2020) AP-42 equations for storage tanks found in Chapter 7 (Liquid Storage Tanks) were used to estimate emissions from organic liquid storage tanks (via TankESP Software).

Loading Rack (S-1)

Loading rack emissions were calculated based on the permit limit (0.02 lbs of VOC per thousand gallons of product transferred; Part 15 of SMOP Condition #19942; offsets, BACT) multiplied by total throughput of each material. The facility has agreed to reduce their Diesel/Jet A throughput in S-1 by the same amount corresponding to the increase in BD100/RD99 throughput. As the emissions for both of these materials are calculated using the same emission factor, this will create a “no-net-increase” permitting situation as shown below.

The terminal receives fuels by railcar or truck which will be replaced and offset by delivery of biodiesel with no net increase in railcar or truck traffic. Likewise, for marine traffic, the dock area is not being expanded and unloading capacity is unchanged by this project. While the project may include unloading of renewable diesel from ocean-going vessels or barges, that activity renders the dock unavailable for other loading or unloading operations essentially shifting the commodities being transferred between existing marine activity levels. There will not be marine loading changes due to this project other than the unloading of renewable diesel.

There will be no increase in fugitive emissions associated with S-1. S-1 will be allowed to retain the same amount of annual throughput and emissions as permitted in previous application (SMOP AN9714). Maximum daily/annual throughput/emissions limits are imposed in Permit Condition #19942 Parts 4, 17a and b.

Table 1: Summary of S-1 VOC Emissions (Annual)

Product	Annual Throughput (gal/yr)	VOC Emission Factor (lbs/1000 gals)[1]	Pre Emissions		Post Emissions	
			(lbs/yr)	(ton/yr)	(lbs/yr)	(ton/yr)
Transmix	624,000	0.02	12.48	0.006	12.48	0.006
Gasoline, Gasoline Additives	247,000,000	0.02	4940	2.470	4940	2.470
Ethanol	34,944,000	0.02	698.88	0.349	698.88	0.349
Diesel, Biodiesel, Renewable Diesel, and Jet A	90,000,000	0.0004	36.00	0.018	36.00	0.018
Total:	**372,568,000**	---	**5,687**	**2.844**	**5,687**	**2.844**

1. *Based on AP-42 Chapter 5.2 equation for loading losses (July 2008) and assuming control efficiency of 99.11% and collection efficiency of 99.20% documented in AN1925. Permit Condition 19942 Part 15 address ongoing compliance demonstration with the emission factors above.*

Table 2: Summary of S-1 Maximum VOC Emissions (Daily/Hourly)

Product	Daily Throughput[2] (gal/day)	VOC Emission Factor (lbs/1000 gals)[1]	Pre Emissions		Post Emissions	
			(lbs/day)	(lbs/hr)	(lbs/day)	(lbs/hr)
Transmix	7,808	0.02	0.16	0.01	0.16	0.01
Gasoline	874,831	0.02	17.50	0.73	17.50	0.73
Gasoline Additive	280	0.02	0.01	0.00	0.01	0.00
Ethanol	97,275	0.02	1.95	0.08	1.95	0.08
Diesel, Biodiesel, Renewable Diesel, and Jet A	29,120	0.0004	0.01	0.00	0.01	0.00
Total:	**1,009,313**	**---**	**19.62**	**0.82**	**19.62**	**0.82**

1. *Based on AP-42 Chapter 5.2 equation for loading losses (July 2008) and assuming control efficiency of 99.11% and collection efficiency of 99.20% documented in AN1925. Permit Condition 19942 Part 15 address ongoing compliance demonstration with the emission factors above.*
2. *Note: Maximum daily throughputs based on historically high actual daily throughout achieved on 3/31/2022*

S-24 and S-25 (Exempt Storage Tanks)

- Post-project: 2,520,000 gals/yr and maximum 36,000 gals/hr (864,000 gal/day) of RD99 and BD100 throughput based on a pump capacity of 600 gpm.

- The tank software used representative parameters from conventional diesel for RD99 and BD100 (avg. vapor pressure of 0.0127 psia at daily average surface temperature) to find daily maximum POC emissions.
- Annual emissions determined via proration:
    - 2,520,000 gal per year / 864,000 gal per day = 2.92 days to potentially reach annual limit
- There are no TACs associated BD100 (Contains 0% petroleum based materials) per the SDS, but RD99 contains 1% Diesel fuel per the SDS due to blending.

S-75 (Storage Tank)

- Pre-project: In AN19868, Ethanol storage at S-75 was calculated using the EPA Tank 4.0 program. The total POC emissions were 233 lb/yr based on 69,888,000 gal/yr of ethanol throughput.
- Pre-project: Per Form T of AN19868, a maximum withdraw rate of 144,000 gal/hr (3,456,000 gal/day) was used to calculate the POC emissions from S-75 via proration.
    - 3,456,000 gal/day / 69,888,000 gal/yr x 233 lb/yr = 11.52 lbs/day
- Post-project: S-75 will retain annual emissions/throughput limits previously calculated. However, KMLT will be approved to store BD100 and RD99 in addition to ethanol and Jet A.
- The terminal receives ethanol by railcar or truck which will be replaced and offset by delivery of biodiesel with no net increase in railcar or truck traffic. Likewise, for marine traffic, the dock area is not being expanded and unloading capacity is unchanged by this project.

Table 3: Pre and Post Project Emissions Estimates

	Pre-Project Process POC Emissions				Post-Project Process POC Emissions			
Source No.	**Throughput**	**Max Daily (lbs/day)**	**Annual (lbs/yr)**	**Annual (tons/yr)**	**Throughput**	**Max Daily (lbs/day)**	**Annual (lbs/yr)**	**Annual (tons/yr)**
S-24 [Exempt]	N/A	N/A	N/A	N/A	RD99 and BD100 2,520,000 gal/yr; 864,000 Max gals/day	6.76	19.74	0.010
S-25 [Exempt]	N/A	N/A	N/A	N/A	RD99 and BD100 2,520,000 gal/yr; 864,000 Max gals/day	6.76	19.73	0.010
S-75 [Permitted]	Ethanol/Jet A 69,888,000 gal/yr; 3,456,000 Max gal/day	11.52	233	0.117	Ethanol/Jet A/RD/BD100 69,888,000 gal/yr; 3,456,000 Max gal/day	11.52	233	0.117

Fugitive Emissions

Table 4: Fugitive Component Emission Estimation Equations

Component Type	coeff	exponent	Equation	HL Leak Rate (ppm)	HL EF (lb/hr/ comp)
Valves	5.00E-06	0.747	5.00E-06(SV)^0.747	100	1.6E-04
Pumps	1.12E-04	0.622	1.12E-04(SV)^0.622	100	2.0E-03
Flanges	9.99E-6	0.706	4.53E-06(SV)^0.706	100	2.6E-4
Others	1.92E-05	0.642	1.92E-05(SV)^0.642	100	3.7E-04
Connectors	3.37E-06	0.736	3.37E-06(SV)^0.736	100	1.0E-04
Pressure Relief Valves	1.92E-05	0.642	1.92E-05(SV)^0.642	100	3.7E-04

Note: Per the BAAQMD "Petroleum Refinery Emissions Inventory Guidelines" published in July 2019, EPA Method 21 Correlation Equations from the CAPCOA 1999 California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at 2 2 Petroleum Facilities - Table IV-3a (Method 3) are used. Leak rates vary by component type and are from BAAQMD Regulation 8-18. Consistent with CAPCOA guidance, drains are assumed to fall into the "Other" component category.

Table 5: Pre and Post Project Component Counts

Source	Change	Valves	Pumps	Flanges	Connectors	Pressure Relief Valves	Others
S-1	Pre-Project	308	0	501	1015	0	212
	Added/Replaced	22	0	60	76	0	30
	Removed	20	0	38	140	0	21
	Post-Project Total	**310**	**0**	**523**	**951**	**0**	**221**
S-24	Pre-Project	17	1	32	34	1	4
	Added/Replaced	29	1	27	72	3	1
	Removed	13	1	20	23	1	1
	Post-Project Total	**33**	**1**	**39**	**83**	**3**	**4**
S-25	Pre-Project	28	1	45	49	1	3
	Added/Replaced	24	1	19	68	3	1
	Removed	20	1	28	35	1	0
	Post-Project Total	**32**	**1**	**36**	**82**	**3**	**4**
S-75	Pre-Project	102	1	84	359	10	22
	Added/Replaced	6	0	8	6	0	0
	Removed	78	0	56	272	7	16
	Post-Project Total	**30**	**1**	**36**	**93**	**3**	**6**

Table 6: Pre-Project Fugitive Emissions (Lbs/day)

Source	Valves	Pumps	Flanges	Connectors	Pressure Relief Valves	Others	Total
S-1	1.15	0.00	3.10	2.43	0.00	1.88	8.57
S-24	0.06	0.05	0.20	0.08	0.01	0.04	0.43
S-25	0.10	0.05	0.28	0.12	0.01	0.03	0.58
S-75	0.38	0.05	0.52	0.86	0.09	0.19	2.09
Total, lbs/day	**1.70**	**0.14**	**4.10**	**3.49**	**0.11**	**2.14**	**11.68**
Total, lbs/yr	**622**	**52**	**1496**	**1275**	**39**	**780**	**4,263.2**
Total, tons/yr	**0.31**	**0.03**	**0.75**	**0.64**	**0.02**	**0.39**	**2.13**

Note: Emissions are calculated assuming continuous facility operation (24 hours/day, 365 days/year).

Table 7: Post Project Fugitive Emissions (Lbs/day)

Source	Valves	Pumps	Flanges	Connectors	Pressure Relief Valves	Others	Total
S-1	1.16	0.00	3.24	2.28	0.00	1.96	8.64
S-24	0.12	0.05	0.24	0.20	0.03	0.04	0.67
S-25	0.12	0.05	0.22	0.20	0.03	0.04	0.65
S-75	0.11	0.05	0.22	0.22	0.03	0.05	0.69
Total, lbs/day	**1.52**	**0.14**	**3.93**	**2.90**	**0.08**	**2.08**	**10.65**
Total, lbs/yr	**553**	**52**	**1433**	**1058**	**29**	**760**	**3,885.4**
Total, tons/yr	**0.28**	**0.03**	**0.72**	**0.53**	**0.01**	**0.38**	**1.94**

Note: Emissions are calculated assuming continuous facility operation (24 hours/day, 365 days/year).

Table 8: Project Emissions Changes

Source	Pre-Project (lb/day)		Post-Project (lb/day)		Net Change (lb/day)
	Fugitive	Process	Fugitive	Process	
S-1	8.57	23.44	8.64	23.44	0.07
S-24 [Exempt]	0.43	24.9	0.67	6.76	-17.9
S-25 [Exempt]	0.58	24.9	0.65	6.76	-18.07
S-75	2.09	11.52	0.69	11.52	-1.4

Note: Pegged Leaker calculations were not included in Table 8 as they will be the same Pre and Post Project.

Table 9: New/Replaced Fugitive Emissions (Lbs/day)

Source	Valves	Pumps	Flanges	Connectors	Pressure Relief Valves	Others	Total
S-1	0.08	0.00	0.37	0.18	0.00	0.27	0.90
S-24	0.11	0.05	0.17	0.17	0.03	0.01	0.53
S-25	0.09	0.05	0.12	0.16	0.03	0.01	0.45
S-75	0.02	0.00	0.05	0.01	0.00	0.00	0.09
Total, lbs/day	**0.30**	**0.09**	**0.71**	**0.53**	**0.05**	**0.28**	**1.97**
Total, lbs/yr	**111**	**34**	**258**	**194**	**19**	**104**	**720.0**
Total, tons/yr	**0.06**	**0.02**	**0.13**	**0.10**	**0.01**	**0.05**	**0.360**

Note: Emissions are calculated assuming continuous facility operation (24 hours/day, 365 days/year).

TABLE IV-3a: CAPCOA-REVISED 1995 EPA CORRELATION EQUATIONS AND FACTORS FOR REFINERIES AND MARKETING TERMINALS [a]

Component Type/ Service Type	Default Zero Factor [b] lb/hr [kg/hr]	Correlation Equation [c] lb/hr [kg/hr]	Pegged Factor [d] lb/hr [kg/hr]	
			10,000 ppmv	100,000 ppmv
Valves/All	**1.7E-05** [7.8E-06]	**5.00E-06(SV)^0.747** [2.27E-06(SV)^0.747]	**0.141** [0.064]	**0.304** [0.138]
Pump seals/All	**4.2E-05** [1.9E-05]	**1.12E-04(SV)^0.622** [5.07E-05(SV)^0.622]	**0.196** [0.089]	**1.342** [0.610][e]
Others [f]/All	**8.8E-06** [4.0E-06]	**1.92E-05(SV)^0.642** [8.69E-06(SV)^0.642]	**0.181** [0.082]	**0.304** [0.138]
Connectors/All	**1.7E-05** [7.5E-06]	**3.37E-06(SV)^0.736** [1.53E-06(SV)^0.736]	**0.066** [0.030]	**0.075** [0.034]
Flanges/All	**6.8E-07** [3.1E-07]	**9.92E-06(SV)^0.706** [4.53E-06(SV)^0.706]	**0.209** [0.095]	**0.209** [0.095]
Open-ended lines/All	**4.4E-06** [2.0E-06]	**4.19E-06(SV)^0.724** [1.90E-06(SV)^0.724]	**0.073** [0.033]	**0.180** [0.082]

[a]Source: SBCAPCD Report, dated May 1, 1997, entitled *Review of the 1995 Protocol: The Correlation Equation Approach To Quantifying Fugitive Hydrocarbon Emissions At Petroleum Industry Facilities*. Technical corrections and adjustments were made to the refineries and marketing terminals bagged data, obtained by use of the blowthrough method, to account for the hydrocarbon leak flow rate.

For pegged leaker emissions, the associated pegged factor found in the table above was used to calculate the maximum daily emission. The Air District assumed a maximum number of pegged leakers per day based on Regulation 8-18 and the highest pegged factor among the valves, connectors and PRDs. The annual emissions will not include the pegged leaker emissions because the leak will be repaired/minimized within 90 days.

Table 10: Pegged Leaker Emissions

Source	Component Type	Screening Value [2] (ppm)	# of leaking components	Allowed Delay of Repair Percentage [4]	Pegged Factor (lb/hour/ component) [1]	Pegged Leaker TOC Emisions (lbs/hour)	Pegged Leaker TOC Emisions (lbs/day)	Total Fugitive TOC with pegged leaker Emisions (lbs/day)
1	Valves and Connectors	10000	4	0.15%	0.209	0.84	20.06	
	Pumps / Compressors	10000	0	0.50%	0.196	0.00	0.00	
	Pressure Relief Valves	10000	0	0.50%	0.181	0.00	0.00	
	Total:					**0.84**	**20.06**	**28.70**
24	Valves and Connectors	10000	1	0.15%	0.209	0.21	5.02	
	Pumps / Compressors	10000	1	0.50%	0.196	0.20	4.70	
	Pressure Relief Valves	10000	1	0.50%	0.181	0.18	4.34	
	Total:					**0.59**	**14.06**	**14.74**
25	Valves and Connectors	10000	1	0.15%	0.209	0.21	5.02	
	Pumps / Compressors	10000	1	0.50%	0.196	0.20	4.70	
	Pressure Relief Valves	10000	1	0.50%	0.181	0.18	4.34	
	Total:					**0.59**	**14.06**	**14.71**
75	Valves and Connectors	10000	1	0.15%	0.209	0.21	5.02	
	Pumps / Compressors	10000	1	0.50%	0.196	0.20	4.70	
	Pressure Relief Valves	10000	1	0.50%	0.181	0.18	4.34	
	Total:					**0.59**	**14.06**	**14.75**

1. *Pegged Factor from CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-3a. https://ww3.arb.ca.gov/fugitive/impl_doc.pdf*
2. *Screening value (10,000 ppm) from BAAQMD Regulation 8-18-302 for valves and 8-18-304 for flanges (connectors).*
3. *Maximum Leak Rate for Delay of Repair based on BAAQMD Regulation 8-18-311.*
4. *Allowed Delay of Repair Percentage based on BAAQMD Regulation 8-18-306.2 & past BAAQMD Staff fugitive calculations.*

Table 11: AN32039 Fugitive TOC Emissions Summary

Source	lbs/day	Tons/yr(1)
S-1	28.70	1.577
S-24 [Exempt]	14.74	0.122
S-25 [Exempt]	14.71	0.119
S-75	14.75	0.126

(1) Based on Table 7 daily emissions x 365 days / 2,000 lbs/ton.

Cumulative Increase

Per Table 8, there is no cumulative increase in emissions for S-24, S-25, and S-75. Additionally, this application will alter S-1 and will not result in an increase in non-fugitive emissions. There will be an increase in fugitive emissions of 1.97 lbs/day (per Table 9) for all new/replaced components. The facility must comply

with typical control technology listed in the BACT workbook and offsets per Regulation 2-1-128.21.3 and 2-1-128.21.5, respectively.

Toxics Emissions Analysis

There are no TACs associated BD100 per the SDS, but RD99 contains 1% Diesel fuel per the SDS due to blending. The TACs associated with Diesel, Gasoline, Jet A, and RD99 are included below.

Table 12: Loading Material TACs

	Diesel	Gasoline	Jet A	Renewable Diesel (1% Diesel)
Pollutant	**Comp.%**	**Comp.%**	**Comp.%**	**Comp.%**
Benzene	0	4.9	1	0
Ethylbenzene	0	5	1	0
Naphthalene	1	0	3	0.01
n-Hexane	2	28	0	0.02
Toluene	0	30	1	0
Xylenes	0	25	2	0

Note: All composition data from Valero SDSs

Table 13: Toxicity Weighted Factors

	Table 2-5-1		Diesel (S-1)		Gasoline (S-24, S-25)		Jet A (S-75)		Renewable Diesel (RD)	
Pollutant	**CP**	**CREL**	**Carcino. Factor**	**Non Carcino. Factor**	**Carcino. Factor**	**Non Carcino. Factor**	**Carcino. Factor**	**Non Carcino. Factor**	**Carcino. Factor**	**Non Carcino. Factor**
Benzene	0.1	3	0.00E+00	0.00E+00	4.90E-03	1.63E-02	1.00E-03	3.33E-03	0.00E+00	0.00E+00
Ethylbenzene	0.0087	2000	0.00E+00	0.00E+00	4.35E-04	2.50E-05	8.70E-05	5.00E-06	0.00E+00	0.00E+00
Naphthalene	0.12	9	1.20E-03	1.11E-03	0.00E+00	0.00E+00	3.60E-03	3.33E-03	1.20E-05	1.11E-05
n-Hexane	--	7000	0.00E+00	2.86E-06	0.00E+00	4.00E-05	0.00E+00	0.00E+00	0.00E+00	2.86E-08
Toluene	--	420	0.00E+00	0.00E+00	0.00E+00	7.14E-04	0.00E+00	2.38E-05	0.00E+00	0.00E+00
Xylenes	--	700	0.00E+00	0.00E+00	0.00E+00	3.57E-04	0.00E+00	2.86E-05	0.00E+00	0.00E+00
Total:			**1.20E-03**	**1.11E-03**	**5.34E-03**	**1.75E-02**	**4.69E-03**	**6.72E-03**	**1.20E-05**	**1.11E-05**

Note: The emission rate of each carcinogen is multiplied by its Cancer Potency (CP) Weighting Factor; the products are summed to calculate the total weighted carcinogenic emission rate. The annual-average emission rate of each noncarcinogen is divided by its Chronic Reference Exposure Level (CREL) Weighting Factor; the quotients are summed to calculate the total weighted noncarcinogenic emission rate.

Ex: Gasoline (Benzene): CP = 0.049 x 0.1 = 0.0049; CREL = 0.049 / 3 = 0.0163

This application will allow KMLT to substitute the loading, storage, and unloading of RD99 in place of Diesel for S-1, Diesel/Jet A for S-24 & S-25, and Jet A for S-75. Based on Table 13, the carcinogenic and non-carcinogenic factors for RD99 are orders of magnitude below those of Diesel, Gasoline, and Jet A. In this way, any throughput of RD99 or BD100 (no TACs) will result in a decrease in potential TAC emissions.

As KMLT was previously permitted to process Diesel in S-1, Diesel/Jet A in S-24 & S-25, and Jet A in S-75, there will be no daily and annual increase in any toxic air contaminant emissions. Therefore, a Health Risk Assessment is not required per Regulation 2-5.

Best Available Control Technology

In accordance with Regulation 2-2-301, BACT is triggered for any new or modified source with the potential to emit 10.0 or more pounds on any day of POC, NPOC, NOx, CO, SO_2, PM_{10} or $PM_{2.5}$. As shown in Table 8, S-1 and S-75 will be altered (vs. modified). S-24 and S-25 are exempt. Therefore, BACT is not triggered.

However, the new components (valves, flanges, pressure relief devices, process valves, pumps, and other components) on non-exempt sources (S-1 and S-75) are subject and expected to comply with the typical control technology listed in BACT handbook per Exemption Regulation 2-1-128.21.3 and require offsetting per Regulation 2-1-128.21.5. These requirements have been agreed upon by KMLT through the associated permit conditions.

Offsets

Offsets are required for this application due to the addition of new/replaced components (Table 9) for a total of 0.36 TPY. KMLT provided 0.414 Tons of POC offsets via Banking Certificate #1735 at a ratio of 1.15:1.0.

Banking Certificate #1735 currently has 0.718 tons of POC under SFPP, LP. The Air District will re-issue the remaining credit of 0.304 tons POC to SFPP,LP.

Statement of Compliance

This facility is in compliance with the necessary requirements in Regulation 2, Rule 6 to obtain a modified synthetic minor permit. The facility has voluntarily accepted enforceable permit conditions including emission limits that will keep its annual emissions within 95 tons per year of any regulated air pollutant, 9 tons of any hazardous air pollutant, and 23 tons of any combination of hazardous air pollutants.

This revision to the synthetic minor conditions will allow the facility to continue to operate under a Synthetic Minor Operating Permit. This synthetic minor operating permit covers all sources existing at this facility as of permit issuance.

S-1: Loading Rack

BAAQMD Permit Handbook Chapter 3.1: BULK LOADING FACILITIES

Air District Rules and Regulations

Per Regulation 2-1-123.3.2, containers, reservoirs, tanks or loading equipment used exclusively for storage or loading of organic liquids or mixtures containing organic liquids where the initial boiling point of the organics is greater than 302°F and exceeds the actual storage temperature by at least 180°F, are exempt from permitting provided they meet the requirements of 2-1-319.

Based on their respective SDSs, BD100 and RD99 each have an initial boiling point greater than 302°F that will exceed the actual storage temperature by at least 180°F. As such, the two additional loading arms requested by the facility to load RB/RD99 are exempt from permitting. Additionally, S-1 has the potential to emit POC less than 5 TPY.

Gasoline bulk terminals are subject to and expected to comply with Regulation 8-33 (Gasoline Bulk Terminals and Gasoline Delivery Vehicles), which is 0.04 pounds per 1000 gallons. S-1 is expected to continue to comply with the operating requirements of Regulation 8-33-301 via permit limit (0.02 lbs of VOC per thousand gallons of product transferred; Part 15 of Condition #19942; BACT):

New Source Performance Standards (NSPS)
Gasoline bulk terminals and bulk plants are subject to NSPS Subpart XX—Standards of Performance for Bulk Gasoline Terminals. S-1 is expected to continue to comply with the Standards of Subpart XX (§60.502) through the use of A-1 and Permit Condition #19942 Part 15 (0.02 lbs of VOC per thousand gallons of product transferred).

S-24 and S-25: Fixed Roof Storage Tanks
BAAQMD Permit Handbook Chapter 4.0: ORGANIC LIQUID STORAGE TANK

Air District Rules and Regulations
Per Regulation 2-1-123.3.2, containers, reservoirs, tanks or loading equipment used exclusively for storage or loading of organic liquids or mixtures containing organic liquids where the initial boiling point of the organics is greater than 302°F and exceeds the actual storage temperature by at least 180°F, are exempt from permitting provided they meet the requirements of 2-1-319.

Based on their respective SDSs, BD100 and RD99 each have an initial boiling point greater than 302°F that will exceed the actual storage temperature by at least 180°F. Additionally, neither S-24 nor S-25 has the potential to emit greater than 5 TPY of POC emissions and the TAC emissions will not equal or exceed any TAC trigger levels.

A permit condition will be imposed that will require project components to be of the type listed in the BACT/TBACT workbook and that components be included in an inspection and maintenance program and comply with Regulation 8, Rule 18. Fugitive emissions were estimated as part of S-24 and S-25. Emissions from the additional components do not exceed the regulatory backstops of Regulation 2-1-319. Thus, the additional components meet the exemption criteria.

New Source Performance Standards (NSPS)
S-24 and S-25 are not subject to the NSPS Subpart Kb (Volatile Organic Liquid Storage Vessels Including Petroleum Storage Vessels) as they are greater than 151 m^3 (39,890 gal.) and store materials with true vapor pressures of less than 3.5 kilopascals (kPa) per 40 CFR 60.110b(b).

S-75: Internal Floating Roof Storage Tank
BAAQMD Permit Handbook Chapter 4.0: ORGANIC LIQUID STORAGE TANK

Air District Rules and Regulations
Source S-75 is an internal floating roof tank equipped with two seals (primary and secondary) that is subject to and is expected to continue to be in compliance with the requirements of Reg. 8-5:

- 301 - Storage Tank Control Requirements
- 302 - Requirements for Submerged Fill Pipes
- 305 - Requirements for Internal Floating Roof Tanks
- 320 - Floating Roof Tank Fitting Requirements
- 321 - Primary Seal Requirements
- 322 - Secondary Seal Requirements
- 328 - Tank Degassing Requirements
- 331 - Tank Cleaning Requirements

As this is an alteration application, S-75 is expected to continue to comply with these requirements.

New Source Performance Standards (NSPS)
Source S-75 is not subject to Standards of Performance for New Stationary Sources because the tank was constructed prior to the applicability dates outlined in 40 CFR60, Subpart Kb. According to the federal regulations, this tank is recognized as an "existing facility" and changing the type of product stored does not trigger NSPS.

The project is not considered a “Reconstruction” of the source as defined in 40 CFR60, Subpart A. “Reconstruction” means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
(2) It is technologically and economically feasible to meet the applicable standards set forth.

California Environmental Quality Act (CEQA)

Some of the sources (S-1, S-75, S-24, and S-25) in this permit application are reviewed following the specific procedures, fixed standards and objective measurements set forth in Chapter 3.1 (Bulk Loading Facilities) and 4.0 (Organic Liquid Storage Tanks) of the BAAQMD Permit Handbook. Also, these sources did not trigger BACT or TBACT, so the review of this application for these sources are ministerial and therefore, exempt from CEQA under CEQA § 21080(b)(1) and CEQA Guidelines §15268 (a).

Also, the Air District received a completed, signed, and dated Appendix H Form of the State CEQA Guidelines and the project of this permit application is

categorically exempt from CEQA under CEQA Guidelines Section 15301 (Class 1: Existing facilities with no or negligible expansion of existing use) based on the following:

1) There is no potential for a significant adverse environmental impact from the project;
2) A formal health risk assessment is not required; and
3) There are no unusual circumstances that result in significant adverse environmental impacts.

The Air District will file a Notice of Exemption for this project with the county clerk.

Prevention of Significant Deterioration (PSD)
PSD does not apply to this application.

School and OBC Notifications (Regulation 2-1-412)
S-1, S-24, S-25, and S-75 are not located within 1,000 feet of the outer boundary of a K-12 school site. S-1, S-24, S-25, and S-75 are located within an OBC, but this application does not trigger a Toxic Health Risk Assessment. Therefore, this application is not subject to the public notification requirements of Regulation 2-1-412.

Synthetic Minor Condition #19942, Plant #23438 (Formerly #13637), Application #1925, Amended by Application #7082, Amended by Application #9714, Amended by Application #14472, Amended by Application #32039:

Asterisks denote permit conditions that are part of this permit but do not contribute to establishing the synthetic minor limits. The facility must comply with all conditions, regardless of asterisks. The following conditions do not negate the applicability of any Air District, state or federal requirements.

1. Annual emissions of volatile organic compounds (VOCs) from all sources combined (including any truck loading, storage tanks, oil/water separator and marine loading/offloading operations) shall be no greater than 95 tons per any consecutive twelve-month period. (Basis: Synthetic Minor)

2. Annual emissions of any single hazardous air pollutant (HAP) from all sources combined (including any truck loading, storage tanks, oil/water separator and marine loading/offloading operations) shall be no greater than 9 tons per any consecutive twelve-month period. (Basis: Synthetic Minor)

3. Annual emissions of any combination of HAPs from all sources combined (including any truck loading, storage tank, Oil/Water Separator and Marine loading/Offloading operations) shall be no greater than 23 tons per year. (Basis: Synthetic Minor)

4. The total throughput at each source listed below shall not exceed the gallons indicated in any rolling 12 consecutive month period, as indicated: (Basis: Synthetic Minor)

   [Source Number]: [Processing Throughput Limit (gallons/rolling 12-month consecutive period)] – [Permitted Material]

   - S-1: 247,000,000 - Gasoline, Gasoline Additives; 34,944,000 - Ethanol; 90,000,000 - Diesel, Biodiesel, Renewable Diesel, and Jet A; 624,000 - Transmix
   - S-24: 2,520,000 - Renewable Diesel, Biodiesel
   - S-25: 2,520,000 - Renewable Diesel, Biodiesel
   - S-4, S-11 to S-16, S-22, S-23, S-31, S-34, S-36, S-37, S-64, and S-73 to S-76: 619,960,000 - Diesel and Jet A
   - S-4, 6, S-10, S-13, S-14, S-21, S-27 to S-30, and S-51: 1,785,355,721 - Gasoline
   - S-18, S-33, S-41, S-42, S-45 to S-49, S-74, S-76: 243,000 - Additive & Lube Oil
   - S-26: 624,000 - Transmix
   - S-53, S-54: 27,375,000 Oily water and Slop oil
   - S-58: 34,944,000 – Ethanol; 34,944,000 - Jet A
   - S-59: 30,000,000 - Wastewater
   - S-77: 306,600,000 - Loading of Diesel and Jet A
   - Truck Refueling Stations (diesel): 219,000 - Diesel
   - Underground Tank (pumpback-Gasoline): 1,684,000 - Gasoline

5. Air District approved logs shall be maintained for all sources. The logs shall be retained for at least five years and be available for review during normal business hours by the Air District's representatives, and shall include the following information: (Basis: Recordkeeping, Synthetic Minor)

   a. daily records of the quantity of each material processed at S-1;
   b. monthly records of the quantity of each material processed at each source or group of sources other than S-1;
   c. the emission factors and the weight percents of VOC and individual HAPs in each material or other Air District approved recording methods that provide sufficient information to calculate VOC and HAP emissions;

6. A monthly summary of VOC, individual HAP and combined HAP usages and emission calculations shall be prepared within twenty business days after the end of each calendar month. The owner/operator shall use AP-42 methods, EPA's tank program, and emission factors specified by Air District's regulations. (Basis: Synthetic Minor)

7. The year-to-date total emissions of VOC, each individual HAP and combined HAPs shall be derived every month by summing the totals for the previous twelve months. The summaries shall be complete within thirty business days after the end of each month. (Basis: Synthetic Minor)

8. The owner/operator shall prepare and submit an annual report to the Air District's Enforcement Division. The report shall be prepared for the year ending on July 31st of each year and shall be submitted by September 30 of each year. The annual report for the first year following the date this permit is issued shall be compiled from records documenting VOC usage as required by permit conditions existing prior to the synthetic minor permit, as well as records documenting VOC and HAP usage as required by this synthetic minor operating permit. This report shall contain: (Basis: Synthetic Minor)

    a. the usage of each material for each source or group of sources for the previous twelve months;
    b. the emission factors and weight percents of VOC and each HAP in each material processed, or equivalent information sufficient to determine emissions from usage data; and
    c. the annual emissions of VOCs, individual HAPs and total HAPs as calculated for each of the previous twelve months based on actual usage.

9. The owner/operator shall notify the Air District in writing within ten calendar days of any determination that the facility has exceeded any of the above limits. The notification shall be addressed to the Director of Enforcement and Compliance. (Basis: Synthetic Minor)

10. The owner/operator shall not load any gasoline or non-exempt organic liquids into a marine vessel unless the marine loading operation received a permit to operate from the Air District. (Basis: Regulation 2-1-302)

11. The owner/operator shall conduct annual testing or provide equivalent documentation to determine the weight percentage of HAPs in gasoline stored at the facility. These concentrations and records shall be made available to Air District personnel upon request and shall be kept for a minimum of five years. (Basis: Synthetic Minor)

12. The tank degassing operations shall be vented at all times to properly maintained and properly operated abatement device with a minimum control efficiency of 90 wt %. The owner/operator shall maintain the following records for each day of operation:

    a. Identification of tanks degassed, dates and hours of degassing
    b. The monthly POC and HAP emissions from tank degassing operation shall be included in the total monthly summary of VOC, individual HAP and combined HAP usages and emission calculations

    These records shall be made available to Air District personnel upon request and shall be kept for a minimum of five years. (Basis: Synthetic Minor)

FOR S-1, TRUCK LOADING RACK abated by A-1, JOHN ZINK ADSORPTION SYSTEM

13. Deleted, CARB Certification requirement, 7/6/04.

14. The owner/operator of A-1 shall install an Air District approved exhaust flow measurement and continuous hydrocarbon emission monitor at each exhaust outlet of the vapor recovery system. This monitor shall continuously measure hydrocarbon concentration in parts per million as C3. (Basis: Cumulative Increase)

15a. The owner/operator of S-1 and A-1 shall meet 0.02 pounds organic per 1000 gallons of gasoline, gasoline additives, ethanol, and/or Transmix loaded criteria of Air District's Best Available Control Technology (BACT) Guideline. (Basis: BACT, Offsets/Cumulative increase)

To determine compliance with the above requirement, the following calculation should be used using reading obtained from the field (based on six hour average and/or per loading event duration).

a. Total volume (in ft3) gone through the carbon beds in the last hour (reading from the turbometer).
b. Concentration of non-methane organic compound (NMOC) in ppm (from strip chart or data logger)
c. Materials throughput in gallons (gal)

$$\text{(NMOC, lb)} = \frac{\text{(concentration, ppm)(volume, ft3)(44)}}{\text{(1,000,000)(386.9)}}$$

$$\text{Emission factor, lb/1000 gal} = \frac{\text{(NMOC, lb)}}{\text{Throughput, gal}} \times (1000)$$

Note: 44 is the molecular weight for C3
One pound mole of gas occupied 386.9 ft^3 at 70^oF

15b. The owner/operator of S-1 and A-1 shall not exceed 0.0004 pounds organic compound emissions per 1000 gallons of diesel, Jet A, biodiesel, and/or renewable diesel loaded. (Basis: Offsets/Cumulative increase)

15c. To determine compliance with Part 15b, the owner/operator of S-1 and A-1 shall demonstrate compliance using the calculation method specified in Part 15a. (Basis: Offsets/Cumulative increase)

15d. In the event that the monitoring in Parts 15a and/or 15c indicates an exceedance of the respective emission factors in Parts 15a and/or 15b, or if the monitoring is determined to be malfunctioning, then the owner/operator of S-1 and A-1 shall conduct an Air District approved source test with 60 days in order to demonstrate compliance with Parts 15a and/or 15b. (Basis: Offsets/Cumulative increase)

16. Deleted, Source test requirement, 7/6/04.

17a. The owner/operator of S-1 Truck Loading Rack shall not exceed:
a. 247,000,000 gallons of gasoline and gasoline additives combined; 34,944,000 gallons of ethanol; 90,000,000 gallons of Diesel, Biodiesel, Renewable Diesel, and Jet A combined; and 624,000 gallons of Transmix, per consecutive 12-month rolling period.
b. 980,193 gallons of gasoline, gasoline additives, ethanol, and Transmix combined; and 29,120 gallons of Diesel, Biodiesel, Renewable Diesel, and Jet A combined, per calendar day; or 980,775 gallons of gasoline, gasoline additives, ethanol, Transmix, Diesel, Biodiesel, Renewable Diesel, and Jet A, combined, per calendar day.
c. The CARB certified terminal gasoline throughput limits (as of 8/91, the CARB certified hourly throughput limits is 66,000 gal/hr, and as of 8/2003, the CARB certified daily throughput limit is 875,000 gal/day).

(Basis: Cumulative Increase, offsets, BACT)

17b. The Owner/Operator of S-1 and A-1 may load alternate materials other than the materials specified in Part 17a and/or usages in excess of those specified in Part 17a, provided that the Owner/Operator can demonstrate that all of the following are satisfied:
   a. Total POC and NPOC emissions, combined, from S-1 and A-1 do not exceed 2.844 tons in any consecutive twelve-month period;
   b. Total POC and NPOC emissions, combined, from S-1 and A-1 do not exceed 19.62 pounds in any calendar day;
   c. The use of these alternate materials does not increase toxic air contaminant (TAC) emissions equal to or above any acute and/or chronic TAC trigger level in Table 2-5-1 of Regulation 2, Rule 5. The owner/operator shall maintain records of any TAC component contents of each alternate material used and supporting mass emission calculations demonstrating TAC emissions do not equal or exceed the acute and/or chronic TAC trigger levels in Table 2-5-1 of Regulation 2, Rule 5 by calculating TAC emissions on a pound per hour and pound per year basis, respectively.
   (Basis: Cumulative Increase; Offsets; BACT; Toxics)

18. The owner/operator of A-1 shall perform twice monthly inspection of the Vapor Holding Tank to determine organic concentrations in the airspace above the diaphragm. (Basis: Cumulative Increase)

19. Deleted, 7/4/04 Start up requirement.

20. The owner/operator of A-1 shall maintain Air District approved records of all data necessary to determine compliance with the above permit conditions and with the requirements of Regulation 8, Rule 33. These records shall be kept at the facility for a minimum of 5 years and shall be made available to Air District personnel upon request. (Basis: Record Keeping)

For S-18, FIXED ROOF STORAGE TANKS:

21. Source S-18 shall only store materials with a true vapor pressure of 0.1 psia or less. [Basis: Cumulative Increase or Regulation 2-1-234]

For S –5, S-7, S-8 AND S-9, OUT OF SERVICE STORAGE TANKS:

22. The owner/operator of S-5, S-7, S-8 and S-9 must notify the Air District in writing three days before any tanks return to service. All tank seal inspections and compliance verification must be done according to Regulation 8, Rule 5 prior to operation. [Basis: Regulation 8, Rule 5]

For S –10, STORAGE TANK:

23. The secondary wiper seal on Tank 9 (S-10) shall comply with the zero-gap criteria of Air District Regulation 8, Rule 5. [Basis: Regulation 8, Rule 5]

For S –6, S-10, S-11, S-29, S-30 AND S-51, STORAGE TANKS:

24. The primary and secondary seals on Tanks 10 (S-11), S-6, S-10, S-29, S-30, and S-51 shall meet the gap criteria as defined in Air District Regulation 8-5-321.3.2 & 8-5-322.3, respectively. [Basis: Regulation 8, Rule 5]

For S – 27 AND S-28, STORAGE TANKS:

25. The owner/operator of S-27 and S-28 Internal Floating Roof Tanks shall contact the Air District at least 3 days before returning these tanks to service to allow for a complete inspection of the new floating roofs. [Basis: Regulation 8, Rule 5]

26. S-27 (Tank #27) shall be abated by an internal floating roof with a liquid mounted resilient foam log primary seal and a rim mounted secondary wiper seal. [Basis: Regulation 8, Rule 5]

*27. The annual average benzene concentration for all gasoline products stored in S-27 shall not exceed 4.0% (vol.). [Basis: Toxics Risk Assessment requirement adopted by the Air District Board on May 21, 1986]

*28. The owner/operator of S-27 shall maintain records of the benzene concentration (vol.) and total throughput for all gasoline products stored in S-27. If the benzene concentration is unavailable for a given gasoline shipment, the records shall indicate the reason for this unavailability. Unavailable concentration data shall not exceed 10% of the total volumetric throughput for S-27. These concentration and throughput records shall be made available to Air District personnel upon request and shall be kept for a minimum of five years. [Basis: Toxics Risk Assessment requirement adopted by the Air District Board on May 21, 1986]

For S –51, STORAGE TANK:

29. The total cumulative throughput of gasoline for storage tank S-51 shall not exceed 773,000 bbl per any consecutive 12-month period. The daily throughput of gasoline shall be recorded in an Air District approved logbook and shall be retained for at least five years from date of entry. These records shall be made available to the Air District staff for inspection upon request. [Basis: Regulation 2-1-301]

For S –58, STORAGE TANK:

30. Total Jet Fuel “A” throughput at S-58 shall not exceed 34,944,000 gallons in any consecutive 12-month period. (Basis: Cumulative Increase)

31. Total Ethanol throughput at S-58 shall not exceed 34,944,000 gallons in any consecutive 12-month period. (Basis: Cumulative Increase)

32. The S-58 Internal Floating Roof Storage Tank shall store only Jet Fuel “A” and/or Ethanol. (Basis: Cumulative Increase)

33. The S-58 Internal Floating Roof Storage Tank shall be equipped with primary and secondary seals that are in compliance with requirements of Regulation 8, Rule 5, and 40 CFR 60, Subpart Kb for Storage of Organic Liquids. (Basis: Regulation 8, Rule 5, NSPS)

34. Monthly records of all precursor organic throughputs at S-58 shall be kept in an Air District approved log and retained for at least five years from the date of entry. This log shall be kept on site and made available to Air District Staff upon request. (Basis: Cumulative Increase)

For S - 59, OIL/WATER SEPARATOR:

35. Source S-59, Oil/Water Separator shall be equipped with a solid, gasketed, fixed cover totally enclosing the separator according to Regulation 8, Rule 8. (Basis: Regulation 8, Rule 8)

For S - 80, EMERGENCY STANDBY ENGINE:

36. Operating for reliability-related activities is limited to 50 hours per year per engine.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]

37. The owner or operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with an Air District, state or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with Air District, state or Federal emission limits is not limited.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]]

38. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1)]

39. Records: The owner/operator shall maintain the following monthly records in an Air District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the Air District staff upon request.
    a. Hours of operation for reliability-related activities (maintenance and testing).
    b. Hours of operation for emission testing to show compliance with emission limits.
    c. Hours of operation (emergency).
    d. For each emergency, the nature of the emergency condition.
    e. Fuel usage for each engine(s).

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or Regulation 2-6-501)]

For S – 13, AND S-14 STORAGE TANKS:

40. The owner/operator shall not load more than 98,754,987 gallons of gasoline into S-13 and S-14 in any consecutive 12-month period. [Basis: Cumulative Increase]

*41. The owner/operator shall ensure the average benzene concentration in all hydrocarbon liquids stored in Storage Tanks S-13 and S-14 is less than or equal to 1.608 % by weight. The owner/operator of sources S-13 and S-14 shall analyze all materials stored in each of these tanks for benzene concentration at least once every 6 months. Each tank shall be sampled within 30 days of start-up. If the owner/operator can demonstrate that several tanks contain hydrocarbon from a single source (shipment), then a single benzene analysis may be performed for that group of tanks. These records shall be kept on file for at least 5 years after the date of entry and shall be made available to Air District personnel upon request. All tests shall be performed in accordance with Air District approved laboratory procedures. [Basis: Cumulative Increase]

42. The owner/operator shall inspect all new valves and flanges associated with this project according to the criteria of Air District Regulation 8-18 and any future revisions to this rule. [Basis: Reg. 8-18]

43. The owner/operator shall ensure that sources S-13 and S-14 meet all applicable requirements of Air District Regulation 8-5, and Best Available Control Technology (BACT). [Basis: Reg. 8-5, BACT]

44. The POC emission from S-13 and S-14 combined shall not exceed 5.40 tons during any consecutive 12-month period. [Basis: Cumulative Increase]

45. In order to demonstrate compliance with the above conditions, the owner/operator of tanks S-13 and S-14 shall maintain the following records in an Air District approved log. These records shall be kept on site and made available for Air District inspection for a minimum period of five years from the date that the record was made. [Basis: Record keeping]
    a. The type and VOC content of all materials stored and the dates that the materials were stored
    b. The total daily throughput of each material stored, summarized on a monthly and annual basis

<u>For S-4 STORAGE TANK:</u>

46. The owner/operator shall not load more than 3,100,734 gallons of gasoline/organic liquids into S-4 in any consecutive 12-month period. [Basis: Cumulative Increase]

47. The owner/operator shall ensure that the average benzene concentration in all hydrocarbon liquids stored in Storage Tank S-4 is less than or equal to 1.608 % by weight. The owner/operator of source S-4 shall analyze all materials stored in this tank for benzene concentration at least once every 6 months. The tank shall be sampled within 30 days of start-up. If the owner/operator can demonstrate that several tanks contain hydrocarbon from a single source (shipment), then a single benzene analysis may be performed for that group of tanks. These records shall be kept on file for at least 5 years after the date of entry and shall be made available to Air District personnel upon request. All tests shall be performed in accordance with Air District approved laboratory procedures. [Basis: Cumulative Increase, Toxics]

48. The owner/operator shall inspect all new valves and flanges associated with this project according to the criteria of Air District Regulation 8-18 and any future revisions to this rule. [Basis: Reg. 8-18]

49. The owner/operator shall ensure that source S-4 meets all applicable requirements of Air District Regulation 8, Rule 5, and Best Available Control Technology (BACT) such as a liquid mounted primary seal and a zero gap secondary seal, all meeting the design criteria of Reg. 8, Rule 5. Also, all roof penetrations must be gasketed, slotted guide poles must be equipped with float and wiper seals, and adjustable roof legs must be fitted w/ vapor seal boots or equivalent. [Basis: Reg. 8-5, BACT]

50. The POC emissions from S-4 shall not exceed 2.86 tons during any consecutive 12-month period. [Basis: Cumulative Increase]

51. In order to demonstrate compliance with the above conditions, the owner/operator of tank S-4 shall maintain the following records in an Air District approved log. These records shall be kept on site and made available for Air District inspection for a minimum period of five years from the date that the record was made. [Basis: Cumulative Increase]
    a. The type and VOC content of all materials stored and the dates that the materials were stored

b. The total daily throughput of each material stored, summarized on a monthly and annual basis

For S-82 CHEMICAL TOTES (2) & INJECTION SYSTEM:

52. The owner/operator of S-82 shall not have combined tote and fugitive emissions of more than 68.45 pounds of POC in any consecutive 12-month period. (Basis: Cumulative Increase)

53. The owner/operator of S-82, Chemical Tote & Injection System, shall not store any chemical additive material with a true vapor pressure that exceeds 1.5 psia. (Basis: Cumulative Increase)

54. The owner/operator of S-82, Chemical Tote & Injection System, shall equip the chemical tote with a submerged fill pipe that complies with the requirement of Regulation 8-5-301 for Storage of Organic Liquids. (Basis: Regulation 8-5)

55. The owner/operator of S-82 shall keep monthly throughput records of all chemical additive materials at S-82 in an Air District approved log. The records shall be retained for a period of at least five years from the date of entry. This log shall be kept on site and made available to Air District Staff upon request. (Basis: Recordkeeping)

Conditions for Fugitive Components installed as part of AN32039 (Biodiesel/Renewable Diesel Project):

S-1 (Loading Rack)
S-24 (Tank 24 – Fixed Roof)
S-25 (Tank 25 – Fixed Roof)
S-75 (Tank 57 – Internal Floating Roof)

56. The owner/operator of S-1, S-24, S-25, and/or S-75 shall install only the following types of valves: (1) bellows sealed, (2) diaphragm Valves, (3) live loaded, (4) graphitic packed, (5) quarter-turn (e.g., ball valves or plug valves), and/or (6) equivalent (or other low emission valves) as determined by the APCO. (Basis: Regulation 2-2-208 Cumulative Increase, Typical Control Technology in BACT Handbook)

57. The owner/operator of S-1, S-24, S-25, and/or S-75 shall comply with a leak standard of 100 ppm of Total Organic Compounds (TOC) measured as C1 at any valve installed unless the owner/operator complies with the applicable leak minimization and repair provisions contained in Regulation 8-18. All valves shall be subject to the Part 67 inspection frequency. (Basis: Typical Control Technology in BACT Handbook)

58. The owner/operator of S-1, S-24, S-25, and/or S-75 shall install graphitic-based gaskets on all flanges or connectors (gasketed) or equivalent as determined by the APCO. (Basis: Typical Control Technology in BACT Handbook)

59. The owner/operator of S-1, S-24, S-25, and/or S-75 shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any flanges/connectors unless the owner/operator complies with the applicable leak minimization and repair provisions contained in Regulation 8-18. All flanges/connectors shall be subject to the Part 67 inspection frequency. (Basis: Typical Control Technology in BACT Handbook)

60. The owner/operator of S-24 and/or S-25 shall install double mechanical seals w/ barrier fluid; magnetically coupled pumps; canned pumps; magnetic fluid sealing technology; seal system with leakage vented to thermal oxidizer; or other BAAQMD approved equivalent control device; or Air District approved control technology as determined by the APCO on

all new/replaced pumps. All pumps shall be subject to the Part 67 inspection frequency. (Basis: Typical Control Technology in BACT Handbook)

61. The owner/operator of S-24 and/or S-25 shall comply with a leak standard of 100 ppm of TOC (measured as C1) at any pump unless the owner/operator complies with the applicable leak minimization and repair provisions contained in Regulation 8-18. (Basis: Typical Control Technology in BACT Handbook)

62. The owner/operator of S-1, S-24, S-25, and/or S-75 shall identify all new/replaced valves, connectors, pressure relief devices, compressors, and pumps with a unique permanent identification code and shall include all new/replaced fugitive equipment in the fugitive equipment monitoring and repair program. The owner/operator shall monitor all repaired equipment within 24 hours of the repair. The unique permanent identification code does not apply to quarter-inch or less tubing and connectors associated with analytical sampling systems. (Basis: Regulation 8-18-402 Identification)

63. The owner/operator of S-1, S-24, S-25, and/or S-75 has been permitted to install new and/or replace the following number of TOC service fugitive components for AN32039:
    81 valves
    114 flanges
    222 connectors
    6 PSV's/PRV's
    32 other components
    2 pumps
    (Basis: Regulation 2-2-208 Cumulative Increase)

64. The owner/operator of S-1, S-24, S-25, and/or S-75 shall not exceed 0.36 tons per consecutive 12 month period of TOC emissions (measured as C1) from all fugitive component counts installed in Part 63. Compliance with this provision shall be verified quarterly using methods described in Part 66. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of the system. The owner/operator shall keep records of fugitive component counts (including the unique permanent identification codes) and corresponding TOC emissions for at least five years from date of entry. For the purposes of these conditions POC/NMOC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program. (Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-18)

65. Within 30 days of the completion of the installation of all fugitive components for each subpart in Part 63, the owner/operator of S-1, S-24, S-25, and/or S-75 shall submit a final component counts for each source, final component counts for the Biodiesel/Renewable Diesel Project (AN32039), and TOC emissions estimate using the approved methods within these conditions to the Air District. Any new and/or replaced components shall be included as installed. If any of the fugitive component counts exceed or is less than a count stated above, the plant's cumulative increase emissions and TAC emissions estimate shall be adjusted as needed, subject to APCO approval, to reflect only the difference between emissions based on predicted component counts versus actual component counts. The amount of refund or additional offsets and if an HRA is needed shall be addressed or provided before issuance of the permit to operate. (Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-18)

66. The owner/operator of S-1, S-24, S-25, and/or S-75 shall calculate fugitive emissions utilizing only Air District approved methods. For all components, the owner/operator shall use the California Air Pollutant Control Officers Association (CAPCOA) correlation equations, midpoint method, default zero factors, 10,000 ppm pegged factors and/or other method approved by the Air District. The owner/operator shall include emissions estimates from all fugitive components associated with this application in order to demonstrate

compliance with Parts 64 and 68 through 71. The quarterly fugitive emissions calculations shall start upon installation of any new/replaced components identified in Part 63 with the results being submitted to the Air District within 30 days of the close of each quarter. (Basis: Regulation 2-2-208 Cumulative Increase, Typical Control Technology in BACT Handbook, Regulation 8-18)

67. The owner/operator of S-1, S-24, S-25, and/or S-75 shall conduct inspections of fugitive components of these conditions in accordance with the frequency below:

Valves:	Quarterly
Connectors:	Biannual (twice a year)
Flanges:	Biannual (twice a year)
Pressure Relief Valves:	Quarterly
Compressors:	Quarterly
Pumps:	Quarterly
Process Drains:	Quarterly

(Basis: Regulation 8-18, BACT)

68. The owner/operator of S-1 (Loading Rack) has been permitted for the following total number of TOC service fugitive components:

310 valves
951 connectors
221 others
523 flanges

Source S-1 may exceed the component counts specified above provided that both the emissions from all fugitive components added and/or replaced qualify for the exemption under Regulation 2-1-128.21. The owner/operator of S-1 shall submit an application to update the fugitive counts above, to update the mass emission limits both above (Part 64) and the paragraph below, to confirm that BACT has been satisfied, and to provide offsets for the new/replaced components. The potential to emit of the added and/or replaced fugitive components shall be calculated according to Regulation 8-18 requirement and shall be used to determine the offsets due and if an HRA is required. The application shall be submitted to the Air District by the end of January for the previous calendar year's component counts added and/or replaced. Any new and/or replaced components shall be included and reported as required by Parts 63 and/or 64.

The owner/operator of S-1 shall not exceed 28.70 lbs per day and/or 1.577 tons per consecutive 12 month period of TOC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 66. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of any equipment included as part of Application 32039. The owner/operator shall keep records of fugitive component counts, unique identification numbers, and corresponding TOC emissions for at least five years from date of entry. For the purposes of these conditions POC/NMOC emissions shall be considered equal to the TOC emissions are determined by the Regulations 2-2 and 8-18 LDAR program. (Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-18)

69. The owner/operator of S-75 has been permitted for the following total number of TOC service fugitive components:

30 valves
93 connectors
3 PSV's/PRV's
6 others
1 pumps
36 Flanges

Source S-75 may exceed the component counts specified above provided that both the emissions from all fugitive components added and/or replaced qualify for the exemption under Regulation 2-1-128.21. The owner/operator of S-75 shall submit an application to update the fugitive counts above, to update the mass emission limits both above (Part 64) and the paragraph below, to confirm that BACT has been satisfied, and to provide offsets for the new/replaced components. The potential to emit of the added and/or replaced fugitive components shall be calculated according to Regulation 8-18 requirement and shall be used to determine the offsets due and if an HRA is required. The application shall be submitted to the Air District by the end of January for the previous calendar year's component counts added and/or replaced. Any new and/or replaced components shall be included and reported as required by Parts 63 and/or 64.

The owner/operator of S-75 shall not exceed 14.75 lbs per day and/or 0.126 tons per consecutive 12 month period of TOC emissions (measured as C1) from all fugitive components included in the above counts. Compliance with this provision shall be verified quarterly using methods described in Part 66. The results shall be submitted to the Air District within 30 days of the close of each calendar quarter after commencing with start-up of any equipment covered by Application 32039. The owner/operator shall keep records of fugitive component counts, unique identification numbers, and corresponding TOC emissions for at least five years from date of entry. For the purposes of these conditions POC/NMOC emissions shall be considered equal to the TOC emissions as determined by the Regulations 2-2 and 8-18 LDAR program. (Basis: Regulation 2-2-208 Cumulative Increase, Regulation 8-18)

Condition #24332 applies to S#75

S-75, Tank 57, Internal Floating Roof tank, Jet A/Ethanol, Biodiesel, and Renewable Diesel Application # 19868, Plant # 23438; Amended by Application 30390, Amended by Application 32039

1. The owner/operator of S-75 shall not exceed 69,888,000 gallons of Ethanol, Jet A, Biodiesel, and/or Renewable Diesel combined during any consecutive twelve-month period and/or 3,456,000 gallons of Ethanol, Jet A, Biodiesel, and/or Renewable Diesel combined during any calendar day.
   (Basis: Cumulative Increase)

2. The owner/operator may store alternate liquid(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1, provided that the owner/operator can demonstrate that all of the following are satisfied:
   a. Total POC emissions from S-75 do not exceed 233 pounds in any consecutive twelve month period;
   b. Total POC emissions from S-75 do not exceed 11.52 pounds in any calendar day;
   c. Total NPOC emission is zero; and
   d. The use of these materials does not result in toxic emissions equal to or above any toxic air contaminant trigger level of Table 2-5-1 in Regulation 2-5.
   (Basis: Cumulative Increase; Toxics)

3. The owner/operator of S-75 Internal Floating Roof Storage Tank shall equip S-75 with primary and secondary seals that are incompliance with requirements of Regulation 8-5. (Basis: Regulation 8-5)

4. The owner/operator shall only use an external heater and recirculation system when Biodiesel and/or renewable Diesel is stored in S-75. The owner/operator shall isolate S-75 from the heater when Ethanol is stored in S-75.

(Basis: Cumulative Increase, Regulation 8-5, Regulation 2-1-320, Regulation 2-1-403)

5. The owner/operator shall only install the following additional fugitive components as part of the biodiesel project described in Application 30390:

    Valves: 200
    Pumps: 5
    Connectors: 400
    Other: 20

    a. All valves shall be either bellow valves, diaphragm valves, quarter turn valves, live loaded valves or other low emission valves as approved by the Air District.
    b. All pumps shall be double mechanical seals with barrier fluid, magnetically coupled pumps, canned pumps, magnetic fluid sealing technology, or gas seal system vented to thermal oxidizer or other Air District approved control device.
    c. All flanges shall use graphitic gaskets or Air District-approved equivalent. Once installed, the fugitive components shall be incorporated into the facility's Leak Detection and Repair (LDAR) program and comply with the applicable requirements of Regulation 8, Rule 18.

    (Basis: Regulation 2-1-128.21)

6. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
    a. Quantities of each type of liquid stored at this source on a daily basis.
    b. If a material other than those specified in Part 1 is stored, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a daily basis;
    c. Daily throughput and/or emission calculations shall be totaled for each consecutive twelve-month period.

    All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations. (Basis: Cumulative Increase; Toxics)

END OF CONDITIONS

Recommendation

Issued change of conditions to the Permits to Operate the following sources to Kinder Morgan Liquids Terminal – Richmond Products Terminal:

S-1 Multi-liquid Truck Loading Rack for Gasolines & Diesel Fuel; 16 total arms (6 permitted gasoline, 1 permitted transmix, 1 permitted ethanol, 1 permitted gasoline additive, 4 exempt diesel/biodiesel, 2 exempt renewable diesel/biodiesel, and 1 exempt biodiesel)
Abated by: A-1

A-1 John Zink Vapor Adsorption System; Activated Carbon/Charcoal

S-24 Fixed Roof Tank No. 24 (Renewable Diesel and Biodiesel)
312K gal, 600 GPM Pump, White,
Exempt per Regulation 2-1-123.3.2

S-25 Fixed Roof Tank No. 25 (Renewable Diesel and Biodiesel)
312K gal, 600 GPM Pump, White,
Exempt per Regulation 2-1-123.3.2

S-75 Floating Roof Tank No. 57 (Ethyl Alcohol/Jet A, Biodiesel and Renewable Diesel)
2,394K gal, White

3/25/2024
Date

Eric Gruike
Senior Air Quality Engineer