SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 26	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO See below	DATE 5-22-12
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY LLD	CHECKED BY

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APPLICATIONS IN THIS BATCH (TV Revision A/N 532705)

A/N 530380	Tank C-1
A/N 530381	Tank C-2
A/N 530382	Tank C-4
A/N 530384	Tank C-8
A/N 530385	Tank C-21

A/N 530388 Tank C-22

A/N 530389 Tank C-42

A/N 530394 Rack No. 1

A/N 530395 Rack No. 6

A/N 530396 Rack No. 7

A/N 530398 Rack No. 4A (Bay No. 1

A/N 530400 Rack No. 4B (Bay No. 2)

Cancellations: (duplicate applications to above)

A/N 474546 Rack 7 (Permit to Construct/Temp P/O)

A/N 532703 Tank C-4 (Permit to Construct)

A/N 458531 Tank C-21 (decrease thruput, increase vp)

A/N 482760 Bay No. 1 (remove "anaconda)

A/N 482761 Bay No. 2 (remove "anaconda")

A/N 500869 Tank C-21 (remove recirculation line)

A/N 500879 Tank C-4 (commodity change)

(see draft permit(s))

INTRODUCTION:

These applications were submitted 12/15/11 for a biodiesel project to add the capacity to store and load biodiesel at the facility. A commodity change will add "biodiesel" to nine existing tanks, a modification is needed to rack no. 2 to add UNLOADING capability of biodiesel stock, and a change of conditions to all the racks will allow loading of biodiesel.

Phase I of this project was issued earlier due to construction scheduling. This initial phase consisted of modifications to Tanks C-9, C-11, C-4 (for nozzle installation only), and Rack 2.

This Phase 2 will consist of the remaining equipment including Tank C-4 again to add thruput limit.

SFPP Colton functions as bulk loading/unloading and pipeline transfer station. It delivers petroleum products via loading racks and pipelines to customers in the southeast California region. The company receives petroleum products from three in-bound pipelines from its Watson station that is part of the pipeline distribution network from Los Angeles refineries.

There are no schools within 1000 feet of this facility.

PROCESS DESCRIPTION:

B100 is a biodiesel blendstock. MSDS show it is 99.9% soy methyl ester and 0.1% #2 diesel fuel with a vapor pressure of <2 mmHg (<0.039 psia). KMLT submitted a lab analysis of the biodiesel stock showing vapor pressure at 20 deg C averaging 0.000008 mmHg (1.55E-7 psia). This vapor pressure is much lower than diesel, which is about 0.009 psia at 70 deg F.

B100 will be trucked in and unloaded in Rack No. 2 and stored in Tanks C-9 and C-11.

Phase 1:
Rack No. 2 will be modified to add two 4" bottom unloading arms. In addition, an accumulator, pump, and strainer system will be installed. Vapors will be vented back to the trucks.

Tanks C-9 and C-11 will be modified by adding an electrical heater (glycol/water) with a shell and tube heat exchanger and product recirculation pump to each tank. B100 product will be maintained at 70 deg F.

Phase 2:
B100 from tanks C-9 and C-11 is blended with Ultra Low Sulfur Diesel to make B5 biodiesel. B100 is injected into the incoming pipeline manifolds to create B5 at a ratio of 95% Ultra Low

Sulfur Diesel (ULSD) and 5% B100. B5 will be stored in Tanks C-1, C-2, C-21, C-22, C-4, C-42, C-8.

All the existing diesel loading racks/arms will load biodiesel.

Application No. *(previous A/N)*	**Equipment**	**Existing Permit**	**Proposed Commodity**	**Change of Condition**
530380 *(454673)*	Tank C-1 (DEFR)	"no description" (multi use) No thruput	Petroleum distillates, gasoline, biodiesel, etc.	Add thruput of 340,626.4 bbl/mo Add RVP = 13.5 psia
530381 *(460357)*	Tank C-2 (DEFR)	"no description" (multi use) No thruput	Petroleum distillates, gasoline, biodiesel, etc.	Add thruput of 340,631.3 bbl/mo Add RVP = 13.5 psia
530382 *(532703)* *(334998)*	Tank C-4 (DEFR)	TVP< 11 psia Gasoline, pet liq. No thruput	Petroleum distillates, gasoline, biodiesel, etc.	Add thruput of 212,500.7 bbl/mo Add RVP = 13.5 psia Incorporate P/C 532703 nozzle addition wording
530384 *(446062)*	Tank C-8 (DEFR)	"no description" (multi use) No thruput	Petroleum distillates, gasoline, biodiesel, etc.	Add RVP = 13.5 psia Add thruput of 500,000 bbl/mo
530385 *(444959)*	Tank C-21 (IFR)	TVP< 11 psia No thruput	Petroleum distillates, gasoline, biodiesel, etc.	Add Gasoline Slate RVP = 8-13.5 psia Add thruput of 121,666.7 bbl/mo Remove recirculating line – no longer connected to C-23
530388	Tank C-22	Diesel	Change to	

(194585) *Pre-NSR*	(Fixed Roof)	No thruput	Biodiesel and jet kerosene	Add thruput of 55,983.3 bbl/mo of jet kerosene and 121,510.2 bbl/mo if diesel/biodiesel
530389 *(474542)*	Tank C-42 (IFR)	TVP ≤ 8.4 psi Distillates, gasoline and blend components Thruput = 1,173,333 bbl/mo	TVP < 8.4 psi, Petroleum distillates, gasoline, biodiesel, etc.	Keep same thruput 1,173,333 bbl/mo Keep TVP = 8.4 psia
530394 *(474547)*	Rack No. 1	Petroleum products Thruput 1,154,761,9 bbl/mo (all) 678,571.4 bbl/mo gas/transmix)	Add biodiesel, etc	
530395 *(474548)*	Rack No. 6	Organic liquid Thruput = 792,259.5 bbl/mo (all) 684,181 bbl/mo (vp > 1.5 psia)	Clarify organic liquid and add biodiesel, etc	
530396 *(474546)*	Rack No. 7	Petroluem products Thruput = 1,298,412.7 bbl/mo (all) 1,008,730.2 bbl/mo	Add biodiesel, etc	

		(gas/transmix)		
530398 *(335000)*	Rack 4A/Bay No. 1	Organic liquid No thruput on permit	Add biodiesel, etc	Remove "Anaconda" to provide maintenance/replacement flexibility Remove condition requiring vapor recovery when "switchloading" since all arms are now connected to vapor recovery. Add thruput 650,000 bbl/mo combined bays 1 and 2
530400 *(335002)*	Rack 4B/Bay No. 2	Organic liquid No thruput on permit	Add biodiesel, etc	Remove "Anaconda" to provide maintenance/replacement flexibility Remove condition requiring vapor recovery when "switchloading" since all arms are now connected to vapor recovery. Add thruput 650,000 bbl/mo combined bays 1 and 2

CALCULATIONS:

TANK C-1: 54,500 BBL DEFR, Volume = 2,035,278 gal

Year 1 (2010) : Annual thruput = 1,779,342 bbl/yr = 74,732,364 gal/yr = 36.72 turn/yr

Year 2 (2011) : Annual thruput = 1,674,870 bbl/yr = 70,344,540 gal/yr = 34.56 turn/yr

Using TANKS 4.0.9d, the daily emissions were determined for each year. Note that daily emissions were determined both for BACT baseline (annual/365) and offsets baseline (max month/30). Daily emissions in both scenarios were averaged.

	BACT <lb/day>	Offsets <lb/day> (30-day avg)
Year 1 2010 PreMod	4.24	4.83
Year 2 (2011)	4.22	4.80
Average	**4.23**	**4.82**

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530380 Tank C-1 (54,500 bbl)		Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal **RVP = 13.5 psia (400E18 – 7/03)** **TVP = 11 psia** **2010-2011 2- year average**	Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal RVP = 13.5 psia TVP = 9.1 psia (gasoline, etc. diesel, biodiesel blend stock, biodiesel)
	454673 (1178 doming) NSR = 8.46 lb/day based on RVP 13 and 29.43 turn (TANKS)	No commodity, thruput, or vp on permit. 400E18 stated gas,jet ker,diesel mix (3/06) Thruput = 85,122,070 gal/yr (03-04) Thruput = 38,056,830 gal/yr (04-05) Avg 2-yr = 61,589,450 gal/yr = 26.9 turn/yr	Thruput = 84.35 turn/yr = 171,675,699.3 gal/yr = 340,626.4 bbl/mo
	418004 (Admin seal changes) NSR = 19 lb/day based on RVP = 10 and 29.43 turns/yr	Thruput = 4394.349 bbl/day avg =67,367,531.7 gal/yr (per 400E18 (7/03) A/N 418004)	

	=67,365,270 gal/yr (TANKS) 181407 (C/O) 00398E (Southern Pacific Pipelines) add sec seal	 Thruput = 75 turn/yr (tank sum A/N 181407) = 171,675,000 gal/yr & 16,500 bbl/hr & JP4 00398E permit states "JP4" but no thruput	
Emission from Tank Program		 4.87 lb/day	161.7 lb/mo (Aug) 1751.55 lb/yr 5.39 lb/day (30-day) 0.22 lb/hr
Increase			**+0.52**

TANK C-2: 54,500 BBL DEFR, Volume – 2,037,966 gal

Year 1 (2010) : Annual thruput = 1,178,263 bbl/yr = 49,487,046 gal/yr = 24.28 turn/yr
Year 2 (2011) : Annual thruput = 1,322,089 bbl/yr = 55,527,738 gal/yr = 27.25 turn/yr

Using TANKS 4.0.9d, the daily emissions were determined for each year. Note that daily emissions were determined both for BACT baseline (annual/365) and offsets baseline (max month/30). Daily emissions in both scenarios were averaged.

	BACT <lb/day>	Offsets <lb/day> (30-day avg)
Year 1 2010 PreMod	4.10	4.68
Year 2 (2011)	4.13	4.71
Average	**4.12**	**4.70**

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530381 Tank C-2		Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal **RVP = 13.5 psia** **TVP = 11 psia** **2010-2011 2-year average**	Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal RVP = 13.5 psia TVP = 9.1 psia (add diesel, biodiesel blend stock, biodiesel)
	460357 (1178 doming) NSR = 4.08 lb/day based on RVP 13.5 and AER thruput of 58.89 turns (TANKS)	Gasoline, diesel, jet per 400E18 (9/06) No commodity, thruput, or vp on permit Thruput = 134,800,000.97 gal/yr = 58.89 turn/yr (engr. Eval 10/06) (diesel thruput reported on AER)	Thruput = 84.24 turns/yr = 171,678,255.84 gal/yr = 14,306,521.3 gal/mo = 340,631.5 bbl/mo
	418005 (seal)	Thruput = 4394.349 bbl/day avg =67,367,531.7 gal/yr (per 400E18 (7/03)) organic liquid 11 psia	
	197098 (C/O)	Thruput = 75 turn/yr (tank sum A/N 197098) = 171,675,000 gal/yr, JP4, RVP 2.5	

	00399E Add sec seal		
Emission from Tank Program		4.87 lb/day	161.7026 lb/mo 5.39 lb/day (30-day) 0.22 lb/hr
Increase			**+ 0.52 lb/day**

TANK C-4: 25,000 bbl DEFR, Volume = 923,916 gal

An NSR action occurred in 1990 when Mobil installed a dome and upgraded seals. Turnover was 35 turns/year with gasoline TVP = 8.5 psia.

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530382 Tank C-4		Domed External Float Roof Primary Seal Secondary seal RVP = 13 psia TVP = 8.3 psia @70 deg 35 turns/yr	Domed External Float Roof Primary Seal Secondary seal RVP = 13.5 TVP = 9.1 psia (add diesel, biodiesel blend stock, biodiesel, jet, avgas, transmix, ethanol)
	532703 (replace 2 nozzles, add new outlet nozzle)(P/C Phase 1)		Thruput = 115.92 turn/yr = 107,100,342.72 gal/yr = 8,925,028.56 gal/mo = 212,500.7 bbl/mo
	334998 (C/O)	Petroleum liq vp 11 psia (Tank sum A/N 334998) "Gasoline" & "Organic liquid vp 11 psia" on permit Thruput = 102 turn/yr (tank summary A/N 334998) = 107,100,000 gal/yr = 8,925,000 gal/mo	
	216350 (1990 dome/seals under Mobil) NSR shows -2 lb/day reduction (R2=4.4 lb/d) due to dome/seal installation using TVP = 8.5 psia and 35 turns A00919B	A/N 216350 has "gasoline" and TVP 11 on permit. P/C states 35 turn/yr but did not make it onto P/O only on P/C. Tank summary form RVP= 8.5, 35 turn/yr	

Emission from Tank Program		100.2335 lb/mo (Aug) 3.36 lb/day (30-day)	125.6983 lb/mo (Aug) 4.19 lb/day (30-day) 0.17 lb/hr
Increase			**+ 0.83 lb/day**

TANK C-8: 50,000 bbl DEFR, Volume = 1,918,098 gallons

Year 1 (2010) : Annual thruput = 2,733,314 bbl/yr = 114,799,188 gal/yr = 59.85 turn/yr

Year 2 (2011) : Annual thruput = 2,212,132 bbl/yr = 92,941,674 gal/yr = 48.44 turn/yr

Using TANKS 4.0.9d, the daily emissions were determined for each year. Note that daily emissions were determined both for BACT baseline (annual/365) and offsets baseline (max month/30). Daily emissions in both scenarios were averaged.

	BACT <lb/day>	Offsets <lb/day> (30-day avg)
Year 1 2010 PreMod	4.58	5.18
Year 2 (2011)	4.45	5.05
Average	**4.52**	**5.12**

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530384 Tank C-8	446062 (dome) TANKS used RVP 10 (avg slate? AER), 80.59 turn/yr (2-yr avg 2003-4, 2004-5 or 169,230,495 gal/yr) to determine decrease	Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal **RVP = 13.5 psia** **2010-2011 2-year average** No commodity on permit VP = 11 psia 400E18 (A/N 446062	Domed External Float Roof Cat A mech shoe primary Rim mounted sec seal RVP = 13.5 (gasoline ,etc.,diesel, biodiesel blend stock, biodiesel) Thruput = 131.38 turn/yr = 252,000,000 gal/yr = 500,000 bbl/mo

	444977 (seals) 197100(C/O) 00401E (1979) add sec seal, reduce emissions "no NSR" 11630B	 Thruput = 75 turns/yr gasoline (tank summary A/N 197100) Eng. Eval TVP 7.2, thruput = 1296 bbl/day = 9.46 turns Tank summary RVP = 9, thruput = 10 turn/yr	
Emission from Tank Program		5.12 lb/day (30-day)	180.1716 lb/mo (Aug) 6.01 lb/day (30-day) 0.25 lb/hr
Increase			**+ 0.89 lb/day**

TANK C-21: 27,987 bbl, IFR, Volume = 1,149,918 gallons

Under A/N 272398, the tank had a throughput of 1,460,000 bbl/yr and a RVP = 10.

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530385 Tank C-21		Internal Float Roof Mech shoe primary seal Wiper secondary seal **RVP = 10 psia** **Thruput = 53.33 turns/yr = 61,320,000 gal/yr = 5,110,000 gal/mo**	Internal Float Roof Mech shoe primary seal (Cat A) Wiper secondary seal (Cat A) RVP = 13.5 psia **Or slate** (gasoline, etc diesel, biodiesel blend stock, biodiesel) Thruput = 53.33 turn/yr = 5,110,000 gal/mo = 121,666.7 bbl/mo
	444959 (Admin - add sec seals)	Organic liquid vp 11 psia No thruput on permit	
	272398 (add connect line, add recirc. line) NSR = 12 lb/day	Thruput = 1,460,000 bbl/yr gasoline (**IFR Calc Sheet RVP = 10** TVP = 5.2 (TVP = 6.2 psia tank sum A/N 272398)	
	197115 (C/O)		
	11641B		
Emission from Tank Program		245.8599 lb/mo (Aug) 8.27 lb/day (30-day)	364.2382 lb/mo (Aug) 12.14 lb/day (30-day) <u>Slate</u>: 301.4976 lb/mo (Mar) 10.05 lb/day (30-day) 0.42 lb/hr
Increase			**+ 3.94 lb/day** **or** **+ 1.78 lb/day (slate)**

TANK C-22: 15,500 BBL, Fixed Roof, Volume = 564,312 gallons

Since Tank C-22 is a Pre-NSR equipment (was never subject to Reg 13), the previous 24 months thruput data was used to determine a PreMod baseline (per 1306(d)(2) and 1306(c)(1)). Info submitted by Paul Liao of Yorke Engineering in an email dated 3/7/12 show the following:

Year 1 (2010) : Annual thruput = 377,138 bbl/yr = 15,839,796 gal/yr = 28.07 turn/yr
Year 2 (2011) : Annual thruput = 317,056 bbl/yr = 13,316,352 gal/yr = 23.60 turn/yr

Using TANKS 4.0.9d, the daily emissions were determined for each year. Note that daily emissions were determined both for BACT baseline (annual/365) and offsets baseline (max month/30). Daily emissions in both scenarios were averaged.

	BACT <lb/day>	Offsets <lb/day> (30-day avg)
Year 1 2010 PreMod	1.49	1.82
Year 2 (2011)	1.31	1.61
Average	**1.40**	**1.72**

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530388 Tank C-22	194585 (R219)	Fixed Roof TVP = 0.009 psia Diesel No. 2 2010-2011 2 year average	Fixed Roof RVP = 0.029 (Jet kerosene) (diesel, biodiesel blend stock, biodiesel, jet kerosene) Thruput = 50 turn/yr jet, et al = 2,351,300 gal/mo = 55,983.3 bbl/mo Or Thruput = 108.52 turns/yr = 5,103,429.4 gal/mo = 121,510.2 bbl/mo (diesel/biodiesel)
Emission from Tank Program		1.40 lb/day (BACT) 0.06 lb/hr 1.70 lb/day (30-day)	866.35 lb/yr 2.37 lb/day (BACT) 0.10 lb/hr 85.2614 lb/mo

		= 0.07 lb/hr	2.84 lb/day (30-day) 0.12 lb/hr
Increase			**+ 0.96 lb/day (BACT)** **+ 1.14 lb/day (Offsets)**

TANK C-42: 88,000 BBL, Internal FR, Volume =

This tank currently has both thruput and vapor pressure limits on permit. No thruput increase is requested. Only additional commodity of biodiesel and blendstock is added. There is no change in emissions.

Appl. No. Tank ID	Prev. A/Ns	PreMod	PostMod
530389 Tank C-42	474542 NSR = 15.53 lb/day (TANKS gas slate and annual/365)	Internal Float Roof Mech shoe primary seal Compression plate secondary seal TVP = 8.4 psia Pet. Distillates, gasoline blend Thruput = 1,173,333 bbl/mo (TVP 8.4 on permit but eval used slate)	Internal Float Roof Mech shoe primary seal Compression plate secondary seal Gasoline slate TVP = 8.4 psia (gasoline, etc diesel, biodiesel blend stock, biodiesel) Thruput = 1,173,333 bbl/mo
Emission from Tank Program		15.53 lb/day	15.53 lb/day 0.65 lb/hr
Increase			**+ 0 lb/day**

TOTAL INCREASE FROM TANKS: 6 LB/DAY

BULK LOADING/UNLOADING RACKS

CARB Certification limit = 5.1 mm GPD
*365 = 1,861,500,000 gal/yr (44,321,428.6 bbl/yr)
*1/12 = 155,125,000 gal/mo
*1/42 = 3,693,452,4 bbl/mo

153,000,000 gal/mo = 3,642,857.1 bbl/mo = 43,714,285.2 bbl/y

Appl. No. Equipment ID	Prev. A/Ns	PreMod	PostMod
530394 Rack No. 1	474547	Total = 1,154,761.9 bbl/mo Gas/transmix = 678,571.4 bbl/mo (permit limit)	Add language to include biodiesel Keep thruput
Emission		R1(ROG) = 1896 lb/day = 19 lb/hr R2(ROG) = 18.96 lb/day = 0.79 lb/hr Yrly = 6840 lb/yr	
Increase			**+ 0 lb/day**

Appl. No. Equipment ID	Prev. A/Ns	PreMod	PostMod
530395 Rack No. 6	474548	Total = 792,259.5 bbl/mo VP>1.5 psia = 684,181 bbl/mo (permit limit)	Add language to include biodiesel Keep thruput
Emission		R1(ROG) = 1915.92 lb/day = 79.83 lb/hr R2(ROG) = 19.2 lb/day = 0.80 lb/hr Yrly = 3225.6 lb/yr	
Increase			**+ 0 lb/day**

Appl. No. Equipment ID	Prev. A/Ns	PreMod	PostMod
530396 Rack No. 7	474546 (Permit to Construct/Temp Permit to Operate)	Total = 1,298,412.7 bbl/mo Gas/transmix = 1,008,730.2 bbl/mo (permit limit)	Add language to include biodiesel Keep thruput
Emission		R1(ROG) = 3469 lb/day = 145 lb/hr R2(ROG) = 34.69 lb/day = 1.45 lb/hr Yrly = 12488.4 lb/yr	
Increase			**+ 0 lb/day**

Bays 1 and 2 have identical histories and were under single permit at one time (03052E ; P/O M27155). Under this permit in 1981, the equipment was modified from top loading to bottom loading and bays were covered. Thruput was determined to be 5400 bbl/day (164,250 bbl/mo) gasoline and 500 bbl/day diesel (combined for bays 1 and 2). There was no change in emissions due to the modification in 1981. There were no thruput limits on any of the current or previous permits. This thruput (divided in half) will be set as the PreMod baseline for each bay. Note that the allowable emission limit for Bays 1 and 2 are 0.08 lb/1000 gal per R462. Applicant has indicated that they would like to increase the allowable thruput to a combined bays 1&2 of 272,160,000 gal/yr or 540,000 bbl/mo. PostMod allowable emission factor will be set at 0.02 lb/1000 gal (which is consistent with the rest of the racks at this facility).

PreMod gasoline = 5400 bbl/day*1/2*365 d/yr*yr/12 mo*mo/30d*42 gal/bbl*0.08 lb/mgal
R2 (gas) = 9.2 lb/day

PreMod diesel (using loading equation and 95% efficiency)
L = 12.46SMP/T
= (12.46 * 1 * 130 * 0.01)/528
= 0.031 lb/1000 gal diesel loaded

R2 (diesel)=500 bbl/d*1/2*42 gal/bbl*365 d/yr*yr/12mo*mo/30day* 0.031/1000 * 0.05
= 0.0165 lb/day

Total PreMod R2 = 9.2 + 0.0165

= 9.22 lb/day

Appl. No. Equipment ID	Prev. A/Ns	PreMod	PostMod
530398 Bay No. 1 (4A)	 335000 (C/O) 317654 (separate bays into two permit units) NSR = 0.24 lb/day 03052E (remove top load, cover bays, 1982 eng eval used **5400 bbl/day gasoline = 56.7 lb/day, diesel = 500 bbl/day (combo Bay 1&2)** 01714E (3,250,000 gal/yr-combo bay 1&2)	2700 bbl/day gasoline = 82,125 bbl/mo And 250 bbl/day diesel = 7604.2 bbl/mo 5400 bbl/day(combined bay 1&2) 6,448.4 bbl/mo (bay 1&2)	650,000 bbl/mo combined bays 1 and 2 Or 325,000 bbl/mo each bay
Emission		9.25 lb/day = 0.38 lb/hr	325,000 bbl/mo * 0.02 lb/mgal = 9.25 lb/day = 0.38 lb/hr R1 = 38 lb/hr (99% DRE)
Increase/Decrease			***0 lb/day***

Appl. No. Equipment ID	Prev. A/Ns	PreMod	PostMod
530400 Bay No. 2 (4B)	335002 (C/O) 317646 (separate bays into two permit units) 03052E (remove top load, cover bays, 1982 eng eval used 5400 bbl/day gasoline = 56.7 lb/day, diesel = 500 bbl/day (combo Bay 1&2) 01714E (3,250,000 gal/yr-combo bay 1&2)	2700 bbl/day gasoline = 82,125 bbl/mo And 250 bbl/day diesel = 7604.2 bbl/mo 5400 bbl/day(combined bay 1&2) 6,448.4 bbl/mo (bay 1&2)	650,000 bbl/mo combined bays 1 and 2 Or 325,000 bbl/mo each bay
Emission		9.25 lb/day = 0.38 lb/hr	325,000 bbl/mo * 0.02 lb/mgal = 9.25 lb/day = 0.38 lb/hr R1 = 38 lb/hr (99% DRE)
Increase			***0 lb/day***

Summary of Emissions:

A/N	Equipment	PreMod <lb/day>	PostMod<lb/day>	Increase
530380	Tank C-1	4.82	5.39	0.52
530381	Tank C-2	4.70	5.39	0.52
530382	Tank C-4	3.34	4.19	0.83
530384	Tank C-8	5.12	6.01	0.89
530385	Tank C-21	8.2	10.05	1.78

530388	Tank C-22	1.72	2.84	1.14
530389	Tank C-42	15.53	15.53	0
530394	Rack 1	0	0	0
530395	Rack 6	0	0	0
530396	Rack 7	0	0	0
530398	Bay 1(4A)	9.22	7.56	0
530400	Bay 2 (4B)	9.22	7.56	0
TANK total			49.4	
RACK total			15.1	
TOTAL INCREASE				6.05
ERCs (*1.2)				7 lbs

ERC certificate used: AQ 012388 (18 lbs available)

Health Risk Assessment

HEALTH RISK ASSESSMENT:

There are three types of tanks: Domed External Floating Roof, Fixed Roof, and Internal Floating Roof. These will grouped so that the same emission profiles types are added together and modeled for HRA.

DEFR (C-1, C-2, C-4, C-8) : $\sum$ ROG increase = 2.76 lb/day = 1007.4 lb/yr, rounded to 1100 lb/yr
Fixed (C-22) : ROG increase = 1.14 lb/day = 416.1 lb/yr, rounded to 450 lb/yr
IFR (C-21, C-42) : $\sum$ ROG increase = 1.78 lb/day = 649.7 lb/yr, rounded to 650 lb/yr

To be conservative, the vapor speciation of gasoline (worse case) will be used.

TAC Emissions from Domed External Floating Roof Storage Tank (+1100 lb/yr)

TAC	Wt.% in Vapor	Emissions, lbs/yr	Emissions, lb/hr
Benzene	2.80	30.8	0.00352
Ethyl benzene	0.10	1.1	0.00013
n-Hexane	4.13	45.43	0.00519
Toluene	1.46	16.06	0.00183

Xylenes	0.51	5.61	0.00064
Naphthalene	0.0014	0.0154	1.76E-6
Methanol	1.60	17.6	0.00201
Hydrogen fluoride	1.00	11.0	0.00126
Hydrogen sulfide	1.00	11.0	0.00126
Styrene	0.16	1.76	0.00020
Butadiene	0.11	1.21	0.00014
Cresol	0.0013	0.0143	1.63E-6
Phenol	0.0015	0.0165	1.88E-6

In accordance with the procedures prescribed in the District's Risk Assessment Procedures for Rules 1401 and 212, a Tier 3 Screening Modeling or the SCREEN3 analysis was performed (see Excel Spreadsheet Tier 3 Screening Risk Assessment).

Assume: Volume Source
Urban Option
Residential/school = 366 m = 1200 ft (From SFPP Map)
Commercial = 71 m = 250 ft (from SFPP Map)
Tank Dimensions: H = 48 ft. = 14.62 m.
Diam. = 90 ft = 27.43 m.
Area base = $3.14*r^2$ = $3.14*(45)^2$
= 6358.5 sq. ft.

Surface area side = 2*3.14*radius*H = 2*3.14*13.7*14.62
= 1257.8 sq.m.

Lateral Dimension(yo)=Equiv. length of Side/4.3= $(1257.8)^{0.5}$/(4.3)=8.25 m.
Vertical Dimension (zo) = Height/2.15 = (14.62/2.15) = 6.8 m.

The results indicate that the MICR for the residential receptor is 2.51E-07 and for the worker is 1.75E-07. Thus, the MICR is less one in one million and each chronic and acute index is also well below the threshold limit of 1.0.

TAC Emissions Increase from Fixed and IF Roof Tanks (+1100 lb/yr)

TAC	Wt.% in Vapor	Emissions, lbs/yr	Emissions, lb/hr
Benzene	2.80	30.8	0.00352
Ethyl benzene	0.10	1.1	0.00013
n-Hexane	4.13	45.43	0.00519
Toluene	1.46	16.06	0.00183
Xylenes	0.51	5.61	0.00064
Naphthalene	0.0014	0.0154	1.76E-6
Methanol	1.60	17.6	0.00201
Hydrogen fluoride	1.00	11.0	0.00126
Hydrogen sulfide	1.00	11.0	0.00126
Styrene	0.16	1.76	0.00020
Butadiene	0.11	1.21	0.00014
Cresol	0.0013	0.0143	1.63E-6
Phenol	0.0015	0.0165	1.88E-6

In accordance with the procedures prescribed in the District's Risk Assessment Procedures for Rules 1401 and 212, a Tier 3 Screening with SCREEN3analysis was performed (see Excel Spreadsheet Tier 3 (Screening Risk Assessment).

Assume: Point Source (fixed and/or internal floating roof tank)
Residential/school = 366 m = 1200 ft (From SFPP Map)
Commercial = 71 m = 250 ft (from SFPP Map)
Tank Dimensions: H = 48 ft.

The results indicate that the MICR for the residential receptor is 3.35E-07 and for the worker is 2.05E-07. Thus, the MICR is less one in one million and each chronic and acute index is also well below the threshold limit of 1.0.

Total Risk

	Residential	Commercial
	2.51E-7	1.75E-7
	3.35E-7	2.05E-7
Total	**5.86E-7**	**3.80E-7**
	PASS	***PASS***

RULES:

212: Public notice is not required.

402: Nuisance is not expected.

462: The racks are currently required to meet a limit of 0.02 lb/1000 gal which is less than required the 0.08 lb/1000 gal loaded per this rule. Compliance expected.

463: The fixed roof tank C-22 stores organic liquid with a vapor pressure of less than 0.5 psia so it is exempt from venting to vapor recovery. The external floating roof tanks (C-1, C-2, C-4, and C-8) and internal floating roof tanks (C-21, C-42), with their seals, comply with this rule and all other applicable parts of this rule.

1178: The external floating roof Tanks C-1, C-2, and C-8 were "domed" in 2004 and complies with all applicable requirements of this rule. C-4 was domed in 1990 prior to adoption of R1178.

Reg 13:BACT: Emission increases from Tanks C-1, C-2, C-4, C-8, C-22 and C-42 are less than one pound per day so BACT is not required. There are no increases from Tank C-42. There are no increases from Racks 1, 6, 7, Bay 1 or Bay 2 so BACT is not required. There is a greater than one pound per day increase from Tank C-21, so BACT/LAER is required. BACT/LAER for this equipment is Category A seals and compliance with Rule 463. Equipment is in compliance

Offsets:The total increase from this phase of the project is 6.05 pound per day, so offsets in the form of ERC's are required. SFPP Colton has ERCs for this facility available to be used.

1401: Health risk from the emissions increase from this project using Tier 3 shows that risk is less than one in a million. Compliance expected.

40 CFR 60 Subpart Kb
Tank C-42 is subject to Kb and is equipped with primary and secondary seals and other components as required by this rule.

40 CFR 60 Subpart XX
Racks 1, 6, 7, Bay 1 and Bay 4 are subject to XX and comply with the 35 mg/L limit.

Reg XXX: This will be issued as a DeMinimus Revision to the existing TV facility under A/N 530402. A 45-day EPA review period is needed prior to permit issuance.

CONCLUSION and RECOMMENDATION

This project will comply with all applicable rules and regulations. Permits to Construct/Operate and /or Permits to Operate are recommended after 45-day EPA comment period.