02/21/2006 ---------- EBTP IMS- PROJECT RECORD ----------

PROJECT#: 301346 STATUS: P DISP CODE: C
RECEIVED: 03/31/2005 PROJTYPE: BDRC ISSUED DT: 3/7/06
SUP-DISP DATE: ~~12/20/1999~~ 3/6/06

STAFF ASSIGNED TO PROJECT:
HUTCHISON, PERRY

AIR DERC_100237452-301346_CE_20060307_Certification_D2065

PROJECT TRANSACTIONS

COMPANY DATA
COMPANY NAME: KM LIQUIDS TERMINALS
CUSTOMER REGISTRY ID: CN602717092

PORTFOLIO DATA
NUMBER: P1871 NAME: KM LIQUIDS TERMINAL - RN100237452

SITE DATA
ACCOUNT:
HG0262H
REG ENTITY ID: RN100237452
SITE NAME: GALENA PARK TERMINAL - HG0262H
COUNTY: HARRIS
LOCATION: LOCATED IN HARRIS COUNTY, CITY OF GALENA PARK, STATE OF TEXAS, ON THE HOUSTON SHIP CHANNEL (BUFFALO BAYOU)

CONTACT DATA

TRANSACTION DATA
TRANSACTION TYPE: DERC_GEN
DATE ENTERED: 14-DEC-05 DELETED DATE: EFFECTIVE YEAR:
CONTAMINATE: **VOC** TONS: **6.4** DOLLARS:
ALLOWANCE CERTIFICATE NO.: **D2065** COUNTY : **HARRIS**

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COMPANY NAME: KM LIQUIDS TERMINALS
CUSTOMER REGISTRY ID: CN602717092

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CONTACT DATA

TRANSACTION DATA
TRANSACTION TYPE: DERC_GEN

DATE ENTERED: 14-DEC-05 | DELETED DATE: | EFFECTIVE YEAR:
CONTAMINATE: **HAP** | TONS: **6.7** | DOLLARS:
ALLOWANCE | CERTIFICATE NO.: **D2066** | COUNTY : **HARRIS**

TRACKING ACTIVITES

TR - ENGINEER RECEIVE PROJECT :	06/07/2005	TR - SUP/MANGR APP/RVW RQSTD :	12/13/2005	TR - PROJ TECH COMPLETE :	12/13/2005

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 7, 2006

Ms. Christina Harris
Environmental, Health, and Safety Project Manager
Kinder Morgan Liquids Terminals, L.L.C.
405 Clinton Drive
Galena Park, Texas 77547

Re: Review of Discrete Emission Reduction Credits (DERC) Generation
Kinder Morgan Liquids Terminals
Galena Park, Harris County
Regulated Entity Number: RN100237452
Customer Reference Number: CN602717092
Account Number: HG-0262-H

Dear Ms. Harris:

This letter is in response to your Form DEC-1, entitled "Notice of Generation and Generator Certification of Discrete Emission Credits," dated March 28, 2005. We have determined that the information contained in your registration is complete. This review verifies that all information needed for credit review has been received and verified.

Enclosed are copies of DERC Certificates numbered D-2065 and D-2066, issued to Kinder Morgan Liquids Terminals, L.L.C., in the amount of 6.4 tons of volatile organic compounds and 6.7 tons of hazardous air pollutant discrete emission credits, respectively. These certificates have been deposited in the Texas Commission on Environmental Quality (TCEQ) Discrete Emissions Credit Registry. This certificate may be transferred or sold to another owner per the requirements of Title 30 Texas Administrative Code § 101.373. However, the certificate must be submitted to the TCEQ Discrete Emissions Credit Registry when ownership of the credits changes.

Please reference the TCEQ air account number, regulated entity reference number (RN), and customer reference number (CN) included in this document in all future correspondence. Before the Central Registry program began, the TCEQ assigned air account numbers. In the Central Registry computer application, the RN is a unique number assigned to the facility (if portable) or site (if permanent), and the CN is a unique number assigned to the company or corporation and applies to all facilities and sites owned or operated by the company or corporation.

Re: Review of Discrete Emission Reduction Credits (DERC) Generation

Thank you for your cooperation in this matter. If you have questions concerning this review or need further assistance regarding the banking program, please contact Mr. Aaron Hutchison at (512) 239-1709 or write to the Texas Commission on Environmental Quality, Office of Permitting, Remediation, and Registration, Air Permits Division (MC-163), P.O. Box 13087, Austin, Texas 78711-3087.

This action is authorized on behalf of the TCEQ Executive Director.

Sincerely,

for Richard A. Hyde, P.E., Director
Air Permits Division
Office of Permitting, Remediation, and Registration
Texas Commission on Environmental Quality

RAH/PAH/def

cc: Mr. Bob Allen, Director, Harris County Public Health and Environmental Services, Pollution Control Department, Pasadena
Air Section Manager, Region 12 - Houston

Project Number: 301346

The State of Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Certificate Number

D-2066

Number of Credits

6.7 tons HAP

Discrete Emission Reduction Credit Certificate

This certifies that
Kinder Morgan Liquids Terminals, LLC
405 Clinton Drive
Galena Park, TX 77547

is the owner of 6.7 tons of hazardous air pollutant discrete emission reduction credits established under the laws of the State of Texas, transferable only on the books of the Texas Commission on Environmental Quality, by the holder hereof in person or by duly authorized Attorney, upon surrender of this certificate.

The owner of this certificate is entitled to utilize the discrete emission credits evidenced herein for all purpose authorized by the laws and regulations of the State of Texas and is subject to all limitations prescribed by the laws and regulations of the State of Texas.

Discrete Emission Reduction Generation Period: 1/1/2004 - 12/31/2004

Generator Regulated Entity No.: RN100237452 Generator Certificate: NA

County of Generation: Harris

March 7, 2006
Date

Executive Director
Texas Commission on Environmental Quality

The State of Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Certificate Number

D-2065

Number of Credits

6.4 tons VOC

Discrete Emission Reduction Credit Certificate

This certifies that
Kinder Morgan Liquids Terminals, LLC
405 Clinton Drive
Galena Park, TX 77547

is the owner of 6.4 tons of volatile organic compound discrete emission reduction credits established under the laws of the State of Texas, transferable only on the books of the Texas Commission on Environmental Quality, by the holder hereof in person or by duly authorized Attorney, upon surrender of this certificate.

The owner of this certificate is entitled to utilize the discrete emission credits evidenced herein for all purpose authorized by the laws and regulations of the State of Texas and is subject to all limitations prescribed by the laws and regulations of the State of Texas.

Discrete Emission Reduction Generation Period: 1/1/2004 - 12/31/2004

Generator Regulated Entity No.: RN100237452 Generator Certificate: NA

County of Generation: Harris

March 7, 2006
Date

Executive Director
Texas Commission on Environmental Quality

Emissions Banking & Trading Routing Slip	
Company/Site Name: Kinder Morgan	
Regulated Entity Number:	RN100237452
Customer Reference Number:	CN602717092
Project Number:	301346
Project Type:	DERC-GEN

Database Updates		
Type	**Initials**	**Date**
IMS Entry	PDH	12/13
Web Registry		
Spreadsheet Update	NA	NA
Paradox Update	NA	NA

Technical Approval		
Project Reviewer:	PDH	12/13
Project Coordinator:	SS	12/27/05

Comments:

DISCRETE EMISSION REDUCTION CREDITS (DERCs)
VERIFICATION TECHNICAL REVIEW

Project No.:	301346	Customer Reference No.:	CN602717092
Project Type:	BDRC	Regulated Entity No.:	RN100237452
Company:	KM Liquids Terminals	Facility Name:	Galena Park Terminal - Hg0262h
City:	Galena Park	County:	Harris
Project Reviewer:	Mr. Aaron Hutchison	Portfolio Name:	Km Liquids Terminal - Rn100237452

Project Overview

Kinder Morgan Liquids Terminals, LLC (Kinder Morgan) submitted a Form DEC-1, Notice of Generation and Generator Certification of Discrete Emission Credits, dated March 28, 2005. Kinder Morgan is claiming 100 tons of VOC DERCs by the overcontrol of loading loss emissions at three of their marine docks.

Discrete Emission Reductions Summary

Kinder Morgan operates a petroleum products terminal in Galena Park, which includes three marine loading facilities: Barge Dock 2, FIN BD2; Ship Dock 2, FIN SD2; and Ship Dock 3, FIN SD3. These facilities are subject to VOC regulations in 30 TAC §115.212(a)(6)(A), which states that for marine terminals, VOC emissions shall not exceed 0.09 lb/1000 gal or a vapor control efficiency of 90% while loading. In addition, Kinder Morgan's permit, number 2193, requires marine emissions to be controlled at 90% efficiency. Kinder Morgan controls emissions to 98% efficiency, and is claiming the difference between the 98% and 90% control as DERCs.

A federal MACT standard of 40 CFR §63.562 applies to marine liquids terminals. However, Kinder Morgan is claiming exemption from the MACT standard due to emissions less than 10 tons and 25 tons. Based on the operating data from 2004, total HAP emissions do not exceed 25 tons, and no single HAP emission component exceeds 10 tons for the site. Therefore, Kinder Morgan is exempt from the MACT standard.

Kinder Morgan provided baseline data for years 2000 and 2001 with the Form DEC-1. However, in previous submissions for the same reduction strategy, Kinder Morgan used a 1998 and 1999 baseline period. Therefore, Kinder Morgan will be required to use the same baseline period as previous DERC claims, as defined in 30 TAC §101.370(4). Kinder Morgan is using a generation period of January 1, 2004 through December 31, 2004 in this application.

The total emissions and emission factor for the loading docks are very dependent on the type and amount of liquids transferred in each year. Large variations in content and quantity occur from year to year, which makes calculation of baseline activity and comparison of strategic activity to the baseline difficult since the emission factor also changes with a change in level of activity. Emissions were calculated using the EPA AP-42 Section 5.2 standard for VOC losses in marine transfer operations. In this review, the baseline period was assumed to control emissions with 90% efficiency, while the strategic emissions assumed control with 98% efficiency. The emissions were also compared with EI values for dock loading-loss emissions, which proves to be the most useful factor in determining emission reduction.

The amount of DERCs issued to Kinder Morgan are less than the amount claimed. Kinder Morgan did not compare their calculations to any SIP EI. In the review, the project was compared to the latest SIP, based on the year 2000 EI. When compared to the SIP, the total creditable emissions drop to 13.1 tons. Based on VOC content data submitted by Kinder Morgan, the emissions reductions are for 6.4 tons of VOC non-HAP DERCs and 6.7 tons

of VOC-HAP DERCs.

Applicable Pollutants ..... VOC
If VOCs identify HAPs and Non-HAPs
Date reduction achieved: 12/31/04
Most recent year of emissions inventory used for SIP determination: 2000
Generation Period: ..... 1/1/2004 through 12/31/2004
Source: ..... Stationary
Generation County ..... Harris
Generation Area ..... Nonattainment
If in Dallas/Fort Worth Nonattainment area, identify ozone and non-ozone season.

Baseline Period 1998,1999
Baseline Emission Factor
Do Baseline emission factor exceed any applicable Federal, State, or authorized limit? ..... No

Generation of Discrete Emission Credits:

Generation Method:
Shutdown, over control, process change, prohibited by rule, pollution prevention

DERCs are being generated by the overcontrol of VOC loading emissions from three marine docks. Kinder Morgan's permit, as well as 30 TAC §115.202(a) control loading losses to a 90% efficiency. Kinder Morgan is controlling emissions to a 98% efficiency.

Discrete Emission Reduction Calculation Methods
Discuss calculation method for generation

Loading losses from the marine terminals are calculated using an equation found in the EPA's AP-42 standards, section 5.2. The equation for loading loss, in lbs/1000 gal, is:

$$L_L = 12.46 * (SPM/T)$$

where S is the saturation factor (0.5 for barge loading, 0.2 for ship loading), P is the true vapor pressure (in psia), M is the molecular weight (in lbs/lbs-mol), and T is the loading temperature (in Rankin). This result is then multiplied by (1 - efficiency) to find an emission factor for 90% and 98% control efficiency.

For an example, data supplied for Ship Dock 2 gives a 1998 and 1999 baseline activity of 206053 x 10^3 gals with an emission factor of 0.278 lbs/gal x 10^3, for resulting baseline emissions of 28.62 tons. However, loading loss emissions from the 2000 EI show 20.87 tons with an emission rate of 0.160, which will limit the amount of DERCs credited. Year 2004 strategic activity of 95274 x 10^3 gals and emission factor of 0.047 lbs/gal x 10^3 were calculated. Therefore,

$$DERC = (SA) * (BER - SER)$$

$$DERC = 95274 \times 10^3 \text{ gals} * (0.160 \text{ lbs/gal} \times 10^3 - 0.047 \text{ lbs/gal} \times 10^3) = 5.4 \text{ tons}$$

would be the amount of credited DERCs for Ship Dock 2.

The amount of HAP and non-HAP DERCs was then calculated based on VOC content breakdown provided by Kinder Morgan. However, the table supplied does contain a calculation error. The table counts the mass of the blendstocks twice, once as a total mass, then again as the individual components are listed. This changes the percentage of HAP and non-HAP emissions reported by Kinder Morgan. For Ship Dock 2, it was found that 71% of the VOC emissions were classified as HAP, therefore, for Ship Dock 2, 3.8 tons of VOC-HAP and 1.6 tons of VOC DERCs were generated.

Complete calculations for all three facilities can be found in the attached spreadsheet.

Control of Pollutant:
Check applicability of all state and federal requirements to verify that reduction is in excess. Note the potentially applicable sections and state reason for nonapplicability or amount of the reduction not surplus. Please identify the applicability/nonapplicability for each FIN.

VOC

FIN

MACT ..... 40 CFR 63.562(b)(2) (exempt)
NESHAPS ..... NA
NSPS ..... NA
30 TAC Chapter 115 ..... 115.202(a)(6)(A)

Conclusion:

Kinder Morgan has documented reductions in VOC emissions by the overcontrol of marine loading emissions at their Galena Park liquids terminal. DERC certificate D-2065 in the amount of 6.4 tons VOC and DERC certificate D-2066 in the amount of 6.7 tons VOC-HAP will be issued to Kinder Morgan Liquids Terminals, LLC.

Certificate Number issued D-2065

Pollutant	Amount (Tons)
VOC	6.4

Certificate Number issued D-2066

Pollutant	Amount (Tons)
HAP	6.7

Project Reviewer — Date: 12/13/05

Team Leader/Section Manager/Backup — Date: 12/27/05

Account: HG-0262-H
Company: Kinder Morgan Liquids Terminals

If SA > BA then (BER*BA)-(SER*SA)
If SA < BA then (BER*BA)-(SER*BA)

Pollutant VOC - 98/99 baseline, 97 EI

Facility Name	FIN	EPN	Shutdown (Y/N)	Baseline Year	Baseline Years			Permit Limit		Permit Allowables	Emissions[3]	BE[4]	BEavg[5]			SIP EI (1997)			BE[6]			Strategic Activity			DERCS (tons)
					Activity	BER[1]	RER[2]	Activity	ER				Activity	ER	Tons	Tons	Activity	ER	Activity	ER	Tons	Activity	SER	BA - SA	
Ship Dock 2	SD2	SD2	N	1998	175560	0.286					25.08	25.08			29.46	6.01			206220		6.01	95274.438	0.047	1.18	1.1
				1999	236880	0.286					33.84	33.84													
Ship Dock 3	SD3	SD3	N	1998	387660	0.238					46.15	46.15			49.23	18.45			413490		18.45	71396.85	0.038	10.65	10.6
				1999	439320	0.238					52.30	52.30													
Barge Dock 2	BD2	BD2	N	1998	135660	0.429					29.07	29.07			26.01	11.89			121380		11.89	213800.5	0.057	5.77	5.7
				1999	107100	0.429					22.95	22.95													

Pollutant VOC - 98/99 baseline, 00 EI

Facility Name	FIN	EPN	Shutdown (Y/N)	Baseline Year	Baseline Years			Permit Limit		Permit Allowables	Emissions[3]	BE[4]	BEavg[5]			SIP EI (2000)			BE[6]			Strategic Activity			DERCS (tons)
					Activity	BER[1]	RER[2]	Activity	ER				Activity	ER	Tons	Tons	Activity	ER	Activity	ER	Tons	Activity	SER	BA - SA	
Ship Dock 2	SD2	SD2	N	1998	175382.8	0.279					24.50	24.50	206053.0	0.278	28.62	20.87	260854.78	0.160	206053		20.87	95274.438	0.047	5.39	5.39
				1999	236723.3	0.277					32.74	32.74													
Ship Dock 3	SD3	SD3	N	1998	387457.6	0.255					49.37	49.37	413345.0	0.257	53.08	15.47	300263.21	0.103	413345		15.47	71396.85	0.038	2.33	2.33
				1999	439232.4	0.259					56.78	56.78													
Barge Dock 2	BD2	BD2	N	1998	135541.2	0.294					19.95	19.95	121369.0	0.454	27.53	8.40	155254.51	0.108	121369		8.40	213800.5	0.057	5.45	5.45
				1999	107196.7	0.655					35.11	35.11													

1 BER - baseline emission rate
2 RER - most stringent emission rate (regulatory, permit, ..)
3 Actual emissions - (BA) x (lower of BER or RER)
4 BE - The lowest of Actual Emission or permit
5 BE_{avg} - The average of the lowest emissions (actual emission or permit) of the two baseline years
6 BE - The lower of BE_{avg} or SIP EI

TOTAL DERCS		HAP	non-HAP
SD2		3.83	1.56
SD3		0.68	1.66
BD2		2.23	3.21
Total:		**6.70**	**6.40**

2004

L = 12.46 * SPM / T * (1 - eff/100)

BD2 Barge Dock 2

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)		
MBTE	0.5	6.31	88.15	530		6.538285	9151.296	59833.78	5684.209	1136.842	2.273684	0.130766	
HPG	0.5	0.2849	82.87	530		0.277525	44360.568	12311.16	1169.56	233.9121	0.467824		
Gasoline Blendstock	0.5	6.93	31.06	530		2.530153	93694.482	237061.4	22520.83	4504.167	9.008334		
DCPD	0.5	0.38945	132.21	530		0.605241	4178.412	2528.945	240.2498	48.04996	0.0961		
Octylene	0.5	0.6088	80	530		0.572502	2080.974	1191.361	113.1793	22.63586	0.045272		
Aromatic Conc.	0.5	6.93	70	530		5.702213	54928.692	313215.1	29755.44	5951.087	11.90217		
Ethanol	0.5	0.87	80	530		0.818128	0	0	0	0	0		
Styrene	0.5	0.129	104	530		0.157701	0	0	0	0	0		
Toulene-Xylene	0.5	2.08746	72.11	530		1.769399	991.956	1755.166	166.7408	33.34816	0.066696		
Vinyl Acetate monomer	0.5	1.721	72.11	530		1.458776	157.164	229.267	21.78037	4.356074	0.008712		
LPC Pygas	0.5	5.58	58.98	530		3.868576	4256.952	16468.34	1564.493	312.8985	0.625797		
Total:						24.2985	213800.5	644594.6	61236.48	12247.3	24.49459		
										6.123648		0.057284	

SD2 Ship Dock 2

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)				
MBTE	0.231911	6.31	88.15	530		3.032598	43091.244	130678.4	12414.45	2482.89	4.96578		4583586	0.5	2291793
Gasoline Blendstock	0.424827	6.93	54.3	530		3.758265	18590.166	69866.77	6637.343	1327.469	2.654937		38507658	0.2	7701532
HPG	0.471237	0.2849	82.87	530		0.26156	21883.638	5723.888	543.7694	108.7539	0.217508		43091244	0.23191079	9993325
DCPD	0.2	0.38945	132.21	530		0.242096	1413.216	342.1344	32.50277	6.500553	0.013001		4079964	0.2	815992.8
Octylene	0.5	0.6088	80	530		0.572502	454.902	260.4322	24.74106	4.948212	0.009896		12202344	0.5	6101172
Styrene	0.5	0.129	104	530		0.157701	108.15	17.05539	1.620262	0.324052	0.000648		16282308	0.42482705	6917165
Toulene-Xylene	0.2	2.08746	72.11	530		0.70776	3072.384	2174.51	206.5784	41.31568	0.082631				
LPC Pygas	0.5	5.58	58.98	530		3.868576	6660.738	25767.57	2447.919	489.5839	0.979168		2098110	0.2	419622
Total:						12.60106	95274.438	234830.8	22308.92	4461.785	8.923569		19785528	0.5	9892764
										2.230892		0.046831	21883638	0.47123728	10312386

SD3 Ship Dock 3

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)				
MBTE	0.2	6.31	88.15	530		2.615314	6625.5	17327.76	1646.137	329.2275	0.658455		3982314	0.5	1991157
Gasoline Blendstock	0.222361	6.93	62	530		2.246087	53426.562	120000.7	11400.07	2280.013	4.560027		49444248	0.2	9888850
Ethanol	0.239047	0.87	80	530		0.391142	11344.788	4437.423	421.5552	84.31103	0.168622		53426562	0.22236143	11880007
Total:						5.252543	71396.85	141765.9	13467.76	2693.552	5.387104		1476594	0.5	738297
										1.346776		0.037726	9868194	0.2	1973639
													11344788	0.23904685	2711936

1998

L = 12.46 * SPM / T * (1 - eff/100)

BD2 Barge Dock 2

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE	0.5	6.31	85.95	530		6.375106	24506.958	156234.5	14842.27	2968.455	5.936909	
Blendstock	0.5	10.91	64.4	530		8.258911	788.76	6514.299	618.8584	123.7717	0.247543	
Hexane	0.5	3.878	84	530		3.829123	1039.206	3979.247	378.0285	75.6057	0.151211	
Alkylate	0.5	10.911	64.4	530		8.259668	19772.97	163318.2	15515.23	3103.045	6.20609	
Butanol	0.5	0.223	72.25	530		0.189389	340.284	64.44607	6.122376	1.224475	0.002449	
TBA	0.5	0.901	72.3	530		0.765729	9410.646	7206.007	684.5707	136.9141	0.273828	
Naphtha	0.5	1.137	78	530		1.042479	78228.024	81551.06	7747.351	1549.47	3.09894	
Toluene	0.5	0.77	90	530		0.814602	1454.376	1184.737	112.5501	22.51001	0.04502	
Total:						29.53501	135541.22	420052.4	39904.98	7980.996	15.96199	
										3.990498		0.294412

SD2 Ship Dock 2

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE	0.2	6.31	85.95	530		2.550042	61288.71	156288.8	14847.44	2969.487	5.938975	
Blendstock	0.2	10.91	64.4	530		3.303564	44622.606	147413.7	14004.3	2800.859	5.601719	
Hexane	0.2	3.878	84	530		1.531649	3284.61	5030.87	477.9326	95.58652	0.191173	
Alkylate	0.2	10.911	64.4	530		3.303867	62233.29	205610.5	19533	3906.6	7.8132	
Butanol	0.2	0.223	72.25	530		0.075756	340.284	25.77843	2.448951	0.48979	0.00098	
Toluene	0.2	0.77	90	530		0.325841	1454.376	473.895	45.02002	9.004004	0.018008	
MEK	0.2	2.437	70	530		0.802095	58.758	47.12949	4.477302	0.89546	0.001791	
Naphtha	0.2	1.137	78	530		0.416992	2100.126	875.7348	83.1948	16.63896	0.033278	
Total:						12.30981	175382.76	515766.4	48997.81	9799.562	19.59912	
										4.899781		0.279376

SD3 Ship Dock 3

VOC	S	P	M	T		L (total) (lb/1000 ga	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE	0.2	6.31	85.95	530		2.550042	319323.69	814289	77357.45	15471.49	30.94298	
Blendstock	0.2	10.911	64.4	530		3.303867	10321.71	34101.56	3239.648	647.9296	1.295859	
Alkylate	0.2	10.911	64.4	530		3.303867	57812.244	191004	18145.38	3629.076	7.258151	
Total:						9.157777	387457.64	1039395	98742.48	19748.5	39.49699	
										9.874248		0.254847

1999

L = 12.46 * SPM / T * (1 - eff/100)

BD2 Barge Dock 2

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE		0.5	6.31	85.95	530	6.375106	47846.4	305025.9	28977.46	5795.492	11.59098	
Blendstock		0.5	10.91	64.4	530	8.258911	34872.348	288007.6	27360.72	5472.145	10.94429	
Hexane		0.5	3.878	84	530	3.829123	1239.462	4746.052	450.8749	90.17499	0.18035	
Alkylate		0.5	10.911	64.4	530	8.259668	15981.966	132005.7	12540.54	2508.109	5.016218	
Ethyl Acetate		0.5	2.51	86	530	2.537373	113.862	288.9104	27.44649	5.489297	0.010979	
Butanol		0.5	2.73	72.25	530	2.31853	1180.62	2737.303	260.0437	52.00875	0.104017	
TBA		0.5	1.23	74.1	530	1.07136	5962.068	6387.522	606.8146	121.3629	0.242726	
Total:						32.65007	107196.73	739199	70223.91	14044.78	28.08956	
										7.022391		0.655094

SD2 Ship Dock 2

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE		0.2	6.31	85.95	530	2.550042	76129.794	194134.2	18442.75	3688.55	7.3771	
Blendstock		0.2	10.91	64.4	530	3.303564	26770.632	88438.51	8401.658	1680.332	3.360663	
Hexane		0.2	3.878	84	530	1.531649	1519.14	2326.789	221.045	44.209	0.088418	
Alkylate		0.2	10.911	64.4	530	3.303867	100091.46	330688.9	31415.45	6283.089	12.56618	
Methanol		0.2	3.4	155	530	2.477894	29051.19	71985.78	6838.649	1367.73	2.73546	
Butanol		0.2	2.73	72.25	530	0.927412	1040.34	964.8237	91.65825	18.33165	0.036663	
Toluene		0.2	0.77	90	530	0.325841	2120.748	691.0261	65.64748	13.1295	0.026259	
Total:						14.42027	236723.3	689230	65476.85	13095.37	26.19074	
										6.547685		0.276597

SD3 Ship Dock 3

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE		0.2	6.31	85.95	530	2.550042	339236.27	865066.9	82181.35	16436.27	32.87254	
Blendstock		0.2	10.911	64.4	530	3.303867	19536.846	64547.15	6131.979	1226.396	2.452792	
Alkylate		0.2	10.911	64.4	530	3.303867	80459.274	265826.8	25253.54	5050.708	10.10142	
Total:						9.157777	439232.39	1195441	113566.9	22713.37	45.42675	
										11.35669		0.258558

2000

L = 12.46 * SPM / T * (1 - eff/100)

BD2 Barge Dock 2

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE		0.5	6.31	85.95	530	6.375106	74913.384	477580.8	45370.17	9074.035	18.14807	
Blendstock		0.5	10.91	64.4	530	8.258911	5594.694	46206.08	4389.578	877.9155	1.755831	
Alkylate		0.5	10.911	64.4	530	8.259668	25607.988	211513.5	20093.78	4018.756	8.037512	
Butanol		0.5	2.73	72.25	530	2.31853	164.304	380.9437	36.18965	7.237931	0.014476	
Methanol		0.5	3.4	32	530	1.278913	48974.142	62633.68	5950.199	1190.04	2.38008	
Total:						26.49113	155254.51	798315	75839.92	15167.98	30.33597	
										7.583992		0.097698

SD2 Ship Dock 2

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE	0.328119		6.31	85.95	530	4.183587	46645.032	195143.5	18538.64	3707.727	7.415455	
Blendstock	0.215392		10.91	64.4	530	3.557803	85323.756	303565.2	28838.69	5767.738	11.53548	
Alkylate	0.213753		10.911	64.4	530	3.531061	108891.59	384502.9	36527.77	7305.554	14.61111	
Methanol		0.5	3.4	32	530	1.278913	18546.864	23719.83	2253.384	450.6768	0.901354	
Butanol		0.2	2.73	72.25	530	0.927412	1447.53	1342.457	127.5334	25.50667	0.051013	
Total:						13.47878	260854.78	908273.8	86286.02	17257.2	34.51441	
										8.628602		0.066156

SD3 Ship Dock 3

VOC	S	P	M	T		L (total) (lb/1000 g	LOA 1000 gal	L (LOA) lb/yr	L (90%) (lb/yr)	L (98%) (lb/yr)	Difference (tons)	
MBTE	0.202657		6.31	85.95	530	2.583918	245576.31	634549.2	60282.17	12056.43	24.11287	
Blendstock		0.2	10.911	64.4	530	3.303867	25462.458	84124.58	7991.835	1598.367	3.196734	
Alkylate		0.2	10.911	64.4	530	3.303867	25090.548	82895.84	7875.105	1575.021	3.150042	
TBA (Barge)		0.5	1.23	74.1	530	1.07136	4133.892	4428.887	420.7443	84.14886	0.168298	
Total:						10.26301	300263.21	805998.5	76569.86	15313.97	30.62794	
										7.656986		0.051002

0.2	26724642
0.5	19920390
0.328119	46645032
0.2	80946138
0.5	4377618
0.2153918	85323756
0.2	103899558
0.5	4992036
0.2137532	108891594
0.2	243401424
0.5	2174886
0.2026569	245576310

TEXAS COMMISSION ON ENVIRONMENT QUALITY
ACTUAL HISTORY REPORT

USERID - PHUTCHIS
FILENAME - c:\temp\RN1002374522005ACTHIST.rpt
DATE - Nov. 29, 2005
TIME - 15:35:40

RN: RN100237452 Account: HG0262H
Company: KINDER MORGAN LIQUIDS TERMINALS LLC Last EI Date:12/31/2004

FIN:BD2 Facility Name:BARGE DOCK #2
EPN:BD2 Path Comments:
Status:A Plant ID:WEST RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	8.3982	44.9063	0.0000	0.0000	0.0000

FIN:BD2 Facility Name:BARGE DOCK #2
EPN:BD2F Path Comments:
Status:A Plant ID:WEST RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	E	18.2778	95.6684	0.0000	0.0000	0.0000

RN: RN100237452 Account: HG0262H
Company: KINDER MORGAN LIQUIDS TERMINALS LLC Last EI Date:12/31/2004

FIN:BD2 Facility Name:BARGE DOCK #2
EPN:FL-1 Path Comments:
Status:A Plant ID:WEST RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	0.0000	0.0000	0.0000	0.0000	0.0000

FIN:SD2 Facility Name:SHIP DOCK #2
EPN:SD2 Path Comments:FROM AP-42, P.4.4-5; S=0.2; FUGITIVE DIMENSIONS ESTIMATED
Status:A Plant ID:WEST RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	20.8734	114.3674	0.0000	0.0000	0.0000

:SD2 Facility Name:SHIP DOCK #2
EPN:FL-1 Path Comments:FROM AP-42, P.4.4-5; S=0.2; FUGITIVE DIMENSIONS ESTIMATED
Status:A Plant ID:WEST RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	7.9235	43.4163	0.0000	0.0000	0.0000

FIN:SD3 Facility Name:SHIP DOCK #3
EPN:SD3 Path Comments:INCLUDING BARGE DOCK 3
Status:A Plant ID:CENTER RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	15.4690	84.7616	0.0000	0.0000	0.0000

RN: RN100237452 Account: HG0262H
Company: KINDER MORGAN LIQUIDS TERMINALS LLC Last EI Date:12/31/2004

FIN:SD3 Facility Name:SHIP DOCK #3
EPN:FL-1 Path Comments:INCLUDING BARGE DOCK 3
Status:A Plant ID:CENTER RN100237452

EMISSIONS INFORMATION

Code	Contaminant	Year	Method	Annual(TPY)	Ozone(PPD)	SMSS(TPY)	EE(TPY)	EE/SMSS(TPY)
59999	VOC-TOTAL	2000	C	6.0584	33.2114	0.0000	0.0000	0.0000

----------End of Report----------

KINDER MORGAN

Certified Mail: 7004 2510 0000 4727 5981

March 28, 2004

Emissions Banking and Trading Program
Texas Commission on Environmental Quality
MC-162
P.O. Box 13087
Austin, TX 78711-3087

Subject: **2004 DERC GENERATION REGISTRATION**
KM Liquids Terminals, L.P – Galena Park Terminals
HG-0262-H, CN 602717092, RN100237452

RECEIVED
MAR 31 2005
AIR PERMITS DIVISION

Dear Sir/Madam:

The following DERC registration forms and calculations are enclosed:

1. TCEQ Form DEC-1
2. Back-up Calculations
3. HAP Emission Speciation
4. Annual Inventory data from baseline and strategy periods

If you need any additional information please do not hesitate to call me at (281) 450-0404.

Sincerely,

MC Harris

Christina Harris
Project Manager - EHS

Enclosure

cc: Harris County Pollution Control
Texas Commission on Environmental Quality, Region 12, Houston
File

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TCEQ Form DEC-1

Form DEC-1 (Page 1)
Notice of Generation and Generator Cer 301346
of Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.3

UPDATE: The TNRCC is now requiring all applications to be accompani orm
located at:www.tnrcc.state.tx.us/permitting/projects/c

A notice of generation and generator certification must be submitted to the Texas Natural Resource Conse.. :RC Registry
in accordance with the following requirements if the reduction is to be creditable and marketable:

I. COMPANY IDENTIFYING INFORMATION		
A. Company Name: **KM Liquids Terminals, L.P.**		
B. Owner or Operator of Generator Source: **KM Liquids Terminals, L.P.**		
C. Plant/Site Name: **Galena Park Terminal**		
D. Street Address: **906 Clinton Drive**		
E. Nearest City: **Galena Park**	F. Zip Code: **77547**	
G. County: **Harris**	H. Primary SIC: **4226**	
I. TNRCC Account No.: **HG-0262-H**		
J. Telephone: **(713) 455-1231**	K. Fax: **(713) 450-7485**	
L. Mailing Address: **405 Clinton Drive**		
City: **Galena Park**	State: **TX**	Zip Code: **77547**

II. TECHNICAL CONTACT IDENTIFYING INFORMATION		
A. Technical Contact Name: (x Mr. __Mrs. __Ms. __Dr.) **Christina Harris**		
B. Technical Contact Title: **Project Manager - EHS**		
C. Telephone: **(713) 450-0404**	D. Fax: **(713) 450-0454**	E. Email: **christina_harris@kindermorgan.com**
F. Mailing Address: **405 Clinton Drive**		
G. City: **Galena Park**	State: **TX**	Zip Code: **77547**

III. CONTACT FOR SALE OF CERTIFICATE		
A. Contact Name: (x Mr. __Mrs. __Ms. __Dr.) **Christina Harris**		
B. Sale Contact Title: **Project Manager - EHS**		
C. Telephone: **(713) 450-0404**	D. Fax: **(713) 450-0454**	E. Email: **christina_harris@kindermorgan.com**
F. Mailing Address: **405 Clinton Drive**		
G. City: **Galena Park**	State: **TX**	Zip Code: **77547**

IV. Generation Period

__x__ 12 months
_____ Other _____ Days/months

Generation Period Start Date 1/1/04
Generation Period End Date 12/31/04

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V. Generation Activity

☐ **Shutdown** ☑ **Additional Control** ☐ **Other:**

Date of Shutdown: / /

Date of Reduction: / /

TNRCC

Form DEC-1 (Page 2)
Notice of Generation and Generator Certification of Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.374)

VI. EMISSIONS RATE DATA

Attach documentation which demonstrates the basis for each value represented in the following table.

If SA ≥ BA, then: (BER*BA) - (SER*SA) = reduction

If SA < BA, then: (BER*BA) - (SER*BA) = reduction

Emission Point No.	FIN	Air Contaminant	Calculation of DERCs					
			Baseline Activity (units)	Baseline Emission Rate (units)	Strategy Activity (units)	Strategy Emission Rate (units)	Most stringent emission rate (units)	DERCs (T)
Ship Dock 2	SD2	VOC	17,260 bbls/day	0.013 lbs/bbl	6,219 bbls/day	0.0019 lbs/bbl	♦	35
Ship Dock 3	SD3	VOC	17,397 bbls/day	0.011 lbs/bbl	4,657 bbls/day	0.0016 lbs/bbl	♦	29
Barge Dock 2	BD2	VOC	12,986 bbls/day	0.018 lbs/bbl	13,945 bbls/day	0.0024 lbs/bbl	♦	36

VII. Shutdown Emission Reduction Strategies

Has production shifted from the shutdown facility to another facility in the same nonattainment area? ☐ Yes* ☑ No

*If Yes, DERC can not be claimed.

VIII. VOC

List Specific Compounds reduced:

Emission Point No.	FIN	Name of Air Contaminant	DERCs (T)
Marine Loading Ship Dock 2	SD2	Blendstocks, HPG, LPC Pygas, MTBE, Octylene, Styrene, Toluene-Xylene	24
Marine Loading Ship Dock 3	SD3	Blendstocks, MTBE	8
Marine Loading Barge Dock 2	BD2	Blendstocks, Aromatic Concentrate, HPG, LPC Pygas, MTBE, Octylene, Styrene, Toluene-Xylene, Vinyl Acetate	14

♦ Regulation V requirements are 90% control on marine loading

TNRCC

Form DEC-1 (Page 3)
Notice of Generation and Generator Certification of Discrete Emission Credits
(Title 30 Texas Administrative Code § 101.370 - § 101.374)

VIII. Most Strigent Emission Rate

Describe basis for most stringent emission rate: ☐ Permit_____ ☑ RACT_____ ☐Other:

IX. Protocol

Protocol used to calculate DERC: **See backup calculations.**

VIII. CERTIFICATION BY RESPONSIBLE OFFICIAL

I, Carlos T. Munguia, hereby certify that the emission reductions claimed on this notice meet the requirements of 30 TAC Chapter 101, Subchapter H, Division 4 and are not based on an emission strategy prohibited in 30 TAC Chapter 101, Subchapter H, Division 4 to the best of my knowledge and belief and that the information entered in this application is correct to the best of my knowledge and belief.

Signature Carlos T. Munguia Signature Date 3/28/05.

Title Manager Engineering, Maintenance, and Information Technology.

Mail application to:
Emission Banking and Trading Program
TNRCC MC 162
PO BOX 13087
AUSTIN, TX 78711-3087

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MAR 31 2005
AIR PERMITS DIVISION

Title 30 Texas Administrative Code § 101.370 - § 101.374
DERC Generation Checklist

The following checklist is designed to help you confirm that you meet Title 30 Texas Administrative Code § 101.370 - § 101.374 requirements. Submittal of this checklist is optional, but recommended.

Please check the appropriate box.	Applicant	TNRCC
Administrative Information		
Is the Form DEC-1 being submitted within 90 days from the end of the generation period?	Y	
Have you provided verification as to whether production shifted from the facility receiving credit to another facility in the same area?	N/A	
Emission reduction strategy emission rate (unless credit will be generated from a shutdown)	Y	
Is the generation period less than or equal to 12 months?	Y	
Is a list of all applicable Permit and Permit by Rule numbers for each EPN/FIN included?	Y	
Is a copy of the Emissions Inventory from the most recent year of emissions inventory used for SIP determinations for each EPN/FIN included?	N – Forms not Yet available	
Is a copy of the Emissions Inventory for the two consecutive calendar years used for the baseline period for each EPN/FIN included?	Y	
Is a complete description of the calculation protocols used to determine the amount of credit requested included?	Y	
Is a statement containing an explanation of how the credit is real, surplus, and quantifiable included?	Y	
Is a list all rule citations for any applicable local, state or federal requirements included? A tank may have a state and a federal requirement. Therefore, listing the TNRCC Chapter 115 rule citation that applies along with the EPA NSPS K, Ka, or Kb should all be listed. This should be done for each EPN/.FIN.	Y	
State whether or not each EPN/FIN is subject to the Mass Emissions Cap and Trade program or any other cap and trade program. If yes, have you taken a permanent reduction in your allowances?	N/A	
Technical Review Requirements		
Is the reduction strategy or shutdown description included?	Y	
If VOC reduction, is a speciated VOC and HAP list and amounts included?	Y	
Is the baseline emission activity (ex. fuel usage records, production, use, throughput, hours of operation) included?	Y	
Is the baseline emission rate (ex. emission rate from CEMS or PEMS, guaranteed by vendor, NSR calculation protocol, AP-42) included?	Y	
The most stringent emission rate or standard applicable to each EPN/FIN considering all local, state and federal requirements (ex. RACT, ESAD, NSPS, NESHAPS, MACT, etc.)	Y	
Is the backup documentation for the two consecutive calender years of baseline activity such as production records, or use records, operating logs, or heat input included?	Y	
Are calculations for each EPN/FIN to show how each credit generation amount was determined using the equation in §101.373(d)(1) included?	Y	
Is backup documentation for the baseline emission rate or factor such as CEMS, PEMS, stack test data, or vendor guarantee included?	N	
Is NSPS applicable? If yes, what part(s)?	N	
Is NESHAPS applicable? If yes, what part(s)?	Y (Benzene)	
Is there a MACT standard for these facilities? If yes, what part(s)?	Y*	
Does RACT apply? If yes, what part(s)?	Y – Reg V	

* Facility became applicable to 40 CFR 63.640 (Subpart Y) in January 2003.

Back-up Calculations

DERC Back-up Calculations
FIN: SD2

- Establish Baseline Emission Rate (BER) by averaging annual marine throughputs and emissions at 90% efficiency for years 2000 and 2001 and dividing the emissions by throughputs.

	Throughput	Emissions
2000	6.21 MMbbls	43.17 t
2001	6.38 MMbbls	44.26 t
Average	6.30 MMbbls	43.71 t

$$BER = \frac{43.71t}{6.30\,MMbbls} \times \frac{2000\ lbs}{1t} = .013\ {}^{lb}/_{bbl}$$

- Baseline Activity is the average annual loading throughput divided by 365 days.

$$BA = \frac{6.30MMbls}{365days} = 17{,}260\,{}^{bbls}/_{day}$$

- Air Permit 2193 requires marine emissions control at 90% efficiency. Kinder Morgan controls marine emissions at 98% efficiency. SA is marine loading activity for January 1, 2004 through December 31, 2004.

$$SA = \frac{2.27MMbbls}{365days} \times \frac{10^6\,bbl}{1MMbbls} = 6{,}219\,{}^{bbls}/_{day}$$

$$SER = \frac{2.22t}{2.28MMbbls} \times \frac{2000lbs}{1t} \times \frac{1MMbbls}{10^6\,bbl} = 0.0019\,{}^{lb}/_{bbl}$$

- Since SA<BA

$$reductions = (BER \times BA) - (SER \times BA)$$

$$= (0.013\,{}^{lb}/_{bbl} \times 17260\,{}^{lb}/_{day}) - (0.0019\,{}^{lb}/_{bbl} \times 17260\,{}^{bbl}/_{day})$$

$$= 191.59 \, lb/day \times \frac{365 days}{2000 lb/t}$$

DERCS = 35 tons

- HAPS during strategy period are based on HAPS and total throughput ratio:

$$\frac{1.618 MMbbl}{2.268 MMbbl} = 71\%$$

HAPS = 35 tons x 71%

HAPS = 24 tons

DERC Back-up Calculations
FIN: SD3

- Establish Baseline Emission Rate (BER) by averaging annual marine throughputs and emissions at 90% efficiency for years 2000 and 2001 and dividing the emissions by throughputs.

	Throughput	Emissions
2000	7.15 MMbbls	38.55 t
2001	5.54 MMbbls	30.26 t
Average	6.35 MMbbls	34.40 t

$$BER = \frac{34.40t}{6.35\,MMbbls} \times \frac{2000\ lbs}{1t} = .011\ {}^{lb}/_{bbl}$$

- Baseline Activity is the average annual loading throughput divided by 365 days.

$$BA = \frac{6.35MMbls}{365days} = 17{,}397\,{}^{bbls}/_{day}$$

- Air Permit 2193 requires marine emissions control at 90% efficiency. Kinder Morgan controls marine emissions at 98% efficiency. SA is marine loading activity for January 1, 2004 through December 31, 2004.

$$SA = \frac{1.700MMbls}{365days} \times \frac{10^6\,bbl}{1MMbbl} = 4{,}657\,{}^{bbls}/_{day}$$

$$SER = \frac{1.34t}{1.70MMbbls} \times \frac{2000lbs}{1t} \times \frac{1MMbbl}{10^6\,bbl} = .0016\,{}^{lb}/_{bbl}$$

- Since SA<BA

$$reductions = BER \times BA - SER \times SA$$

$$= .011\,{}^{lb}/_{bbl} \times 17379\,{}^{lb}/_{day} - .0016\,{}^{lb}/_{bbl} \times 17379\,{}^{bbl}/_{day}$$

$$= 163.36 \, {}^{lb}/_{day} \times \frac{365 days}{2000 lb/t}$$

DERCS = 29 tons

- HAPS during strategy period are based on HAPS and total throughput ratio:

$$\frac{0.501 MMbbl}{1.700 MMbbl} = 29\%$$

HAPS = 29 tons x 29%

HAPS = 8 tons

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DERC Back-up Calculations
FIN: BD2

- Establish Baseline Emission Rate (BER) by averaging annual marine throughputs and emissions at 90% efficiency for years 2000 and 2001 and dividing the emissions by throughputs.

	Throughput	Emissions
2000	3.70 MMbbls	38.03 t
2001	5.78 MMbbls	50.08 t
Average	4.74 MMbbls	44.08 t

$$BER = \frac{44.08t}{4.74MMbbls} \times \frac{2000lbs}{1t} = .018 \, lb/bbl$$

- Baseline Activity is the average annual loading throughput divided by 365 days.

$$BA = \frac{4.74MMbls}{365days} = 12{,}986 \, bbls/day$$

- Air Permit 2193 requires marine emissions control at 90% efficiency. Kinder Morgan controls marine emissions at 98% efficiency. SA is marine loading activity for January 1, 2004 through December 31, 2004.

$$SA = \frac{5.090MMbls}{365days} \times \frac{10^6 bbl}{1MMbbl} = 13{,}945 \, bbls/day$$

$$SER = \frac{6.02t}{5.09MMbbls} \times \frac{2000lbs}{1t} \times \frac{1MMbbl}{10^6 bbl} = 0.0024 \, lb/bbl$$

- Since SA>BA

$$reductions = BER \times BA - SER \times SA$$

$$= (\frac{0.018lb}{bbl} \times \frac{12{,}986bbl}{day}) - (\frac{0.0024lb}{bbl} \times \frac{13{,}945bbl}{day})$$

$$= 200.27 \, {}^{lb}/_{day} \times \frac{365 days}{2000 lb/t}$$

DERCS = 36 tons

- HAPS during strategy period are based on HAPS and total throughput ratio:

$$\frac{2.09 MMbbl}{5.09 MMbbl} = 41\%$$

HAPS = 36 tons x 41%

HAPS = 14 tons

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HAP Emission Speciation

Galena Park Marine Loading Emissions
January 01, 2004 - December 30, 2004

EPN	Product	Vent	Vessel	Barrels Loaded	Gallons Loaded	Factor	Vapor Pressure @ 70F	Sat Factor	Temp R	Loading Losses lb/yr	Loading Losses tons/yr	Marine Fugitives tons/yr	VRU Emissions 98% tons/yr
BD2	MTBE	Flare	BARGE	217,888	9,151,296	12.46	6.31	0.5	530	59833.7821	29.9169	1.4958	0.5684
BD2	Gasoline Blendstock	Flare	BARGE	916,736	38,502,912	12.46	6.93	0.5	530	194460.1775	97.2301	4.8615	1.8474
BD2	LA Blendstock	Flare	BARGE	53,239	2,236,038	12.46	1.6861	0.5	530	2747.6814	1.3738	0.0687	0.0261
BD2	Aromatic Conc.	Flare	BARGE	1,307,826	54,928,692	12.46	6.93	0.5	530	313215.1130	156.6076	7.8304	2.9755
BD2	DCPD	Flare	BARGE	99,486	4,178,412	12.46	0.38945	0.5	530	2528.9454	1.2645	0.0632	0.0240
BD2	LPC Pygas	Flare	BARGE	101,356	4,256,952	12.46	5.58	0.5	530	16468.3428	8.2342	0.4117	0.1564
BD2	Naphtha	Flare	BARGE	1,170,226	49,149,492	12.46	0.68	0.5	530	31428.9672	15.7145	0.7857	0.2986
BD2	HPG	Flare	BARGE	1,056,204	44,360,568	12.46	0.2849	0.5	530	12311.1625	6.1556	0.3078	0.0154
BD2	Reformate	Flare	BARGE	90,620	3,806,040	12.46	2.26375	0.5	530	8392.8861	4.1964	0.2098	0.0797
BD2	Octylene	Flare	BARGE	49,547	2,080,974	12.46	0.6088	0.5	530	1191.3612	0.5957	0.0298	0.0113
BD2	Vinyl Acetate Monomer	Flare	BARGE	3,742	157,164	12.46	1.721	0.5	530	229.2670	0.1146	0.0057	0.0022
BD2	Toulene-Xylene	Flare	BARGE	23,618	991,956	12.46	2.08746	0.5	530	1755.1662	0.8776	0.0439	0.0167
SD2	MTBE	Flare	BARGE	109,133	4,583,586	12.46	6.31	0.5	530	29968.7920	14.9844	0.7492	0.2847
SD2	Gasoline Blendstock	Flare	BARGE	290,532	12,202,344	12.46	6.93	0.5	530	61628.3252	30.8142	1.5407	0.5855
SD2	LA Blendstock	Flare	BARGE	14,964	628,488	12.46	1.6861	0.5	530	772.2967	0.3861	0.0193	0.0073
SD2	LPC Pygas	Flare	BARGE	158,589	6,660,738	12.46	5.58	0.5	530	25767.5718	12.8838	0.6442	0.2448
SD2	Naphtha	Flare	BARGE	39,985	1,679,370	12.46	0.68	0.5	530	1073.8842	0.5369	0.0268	0.0102
SD2	Styrene	Flare	BARGE	2,575	108,150	12.46	0.129	0.5	530	17.0800	0.8540	0.3245	0.0162
SD2	HPG	Flare	BARGE	471,084	19,785,528	12.46	0.2849	0.5	530	5490.9768	2.7455	0.1373	0.0069
SD2	Octylene	Flare	BARGE	10,831	454,902	12.46	0.6088	0.5	530	269.7752	0.1349	0.0067	0.0026
SD3	Gasoline Blendstock	Flare	BARGE	94,817	3,982,314	12.46	6.93	0.5	530	20112.8031	10.0564	0.5028	0.1911
SD3	Ethanol	Flare	BARGE	35,157	1,476,594	12.46	0.87	0.5	530	1208.0433	0.6040	0.0302	0.0115
SD2	MTBE	Flare	SHIP	916,849	38,507,658	12.46	6.31	0.2	530	100709.6184	50.3548	2.5177	0.9567
SD2	Gasoline Blendstock	Flare	SHIP	97,142	4,079,964	12.46	6.93	0.2	530	8242.3950	4.1212	0.2061	0.0783
SD2	DCPD	Flare	SHIP	33,648	1,413,216	12.46	0.38945	0.2	530	342.1344	0.1711	0.0086	0.0033
SD2	HPG	Flare	SHIP	49,955	2,098,110	12.46	0.2849	0.2	530	232.9111	0.1165	0.0058	0.0003
SD2	Toulene-Xylene	Flare	SHIP	73,152	3,072,384	12.46	2.08746	0.2	530	2174.5096	1.0873	0.0544	0.0207
SD3	MTBE	Flare	SHIP	157,750	6,625,500	12.46	6.31	0.2	530	17327.7631	8.6639	0.4332	0.1646
SD3	Gasoline Blendstock	Flare	SHIP	1,177,244	49,444,248	12.46	6.93	0.2	530	99887.8967	49.9439	2.4972	0.9489
SD3	Ethanol	Flare	SHIP	234,957	9,868,194	12.46	0.87	0.2	530	3229.3795	1.6147	0.0807	0.0307

THROUGHPUT REDUCTION SPECIATION

SHIP DOCK 2

Chemical	Average Weight %	TCEQ Cont. Code	HAP	*Total T-put (bbls)	*Total Speciated T-put (bbls)	2004 HAP Tput (bbls)	2004 HAP T-put w/o HAP (bbls)
Gasoline Blendstock**				442,623			
Ethylbenzene	2	52450	Yes		8,852	8,852	-
Naphthalene	2	52460	Yes		8,852	8,852	-
Toluene	20	52490	Yes		88,525	88,525	-
Xylenes	3	52510	Yes		13,279	13,279	-
VOC-U	73	50001	No		323,115	-	323,115
Aromatic Concentrate				-			
Benzene	40.5	52420	Yes		-	-	-
Toluene	1.75	52490	Yes		-	-	-
1,3-Butadiene	2.5	55150	Yes		-	-	-
VOC-U	55.25	50001	No		-	-	-
HPG				521,039			
Benzene	35	52420	Yes		182,364	182,364	-
Toluene	12.5	52490	Yes		65,130	65,130	-
Xylenes	3.5	52510	Yes		18,236	18,236	-
Ethylbenzene	4	52450	Yes		20,842	20,842	-
VOC-U	45	50001	No		234,468	-	234,468
DCPD	100	55225	No	33,648	33,648	-	33,648
Ethanol							
Ehtyl Alcohol	95	51460	No		-	-	-
VOC-U	5	50001	No		-	-	-
Octylene				10,831			
Octene	89	56673	No		9,640	-	9,640
Xylenes	10	52510	Yes		1,083	1,083	-
Benzene	0.15	52420	Yes		16	16	-
Ethylbenzene	0.15	52450	Yes		16	16	-
VOC-U	0.7	50001	No		76	-	76
Styrene	100	52480	Yes	2,575	2,575	2,575	-
Toluene-Xylene				73,152			
Benzene	1	52420	Yes		732	732	-
Toluene	65	52490	Yes		47,549	47,549	-
Ethylbenzene	16	52450	Yes		11,704	11,704	-
Xylenes	8.75	52510	Yes		6,401	6,401	-
Styrene	0.25	52480	Yes		183	183	-
VOC-U	9	50001	No		6,584	-	6,584
MTBE	100	52878	Yes	1,025,982	1,025,982	1,025,982	-
Vinyl Acetate Monomer	100	52891	Yes	-	-	-	-
LPC Pygas				158,589			
Benzene	45	52420	Yes		71,365	71,365	-
Toluene	12.5	52490	Yes		19,824	19,824	-
Ethylbenzene	5	52450	Yes		7,929	7,929	-
1,3-Butadiene	1.5	55150	Yes		2,379	2,379	-
Xylenes	5	52510	Yes		7,929	7,929	-
Styrene	4.5	52480	Yes		7,137	7,137	-
VOC-U	26.5	50001	No		42,026	-	42,026
TOTALS				**2,268,439**	**2,268,439**	**1,618,883**	**649,556**
					%HAP	71%	

*Emission Reduction achieved by controlling marine emissions at 98% recovery instead of 90%.

**Blendstock = Naptha, Reformate, LA Blendstock, Gasoline Blendstock

THROUGHPUT REDUCTION SPECIATION

SHIP DOCK 3

Chemical	Average Weight %	TCEQ Cont. Code	HAP	*Total T-put (bbls)	*Total Speciated T-put (bbls)	2004 HAP Tput (bbls)	2004 HAP T-put w/o HAP (bbls)
Gasoline Blendstock**				1,272,061			
Ethylbenzene	2	52450	Yes		25,441	25,441	-
Naphthalene	2	52460	Yes		25,441	25,441	-
Toluene	20	52490	Yes		254,412	254,412	-
Xylenes	3	52510	Yes		38,162	38,162	-
VOC-U	73	50001	No		928,605	-	928,605
Aromatic Concentrate				-			
Benzene	40.5	52420	Yes		-	-	-
Toluene	1.75	52490	Yes		-	-	-
1,3-Butadiene	2.5	55150	Yes		-	-	-
VOC-U	55.25	50001	No		-	-	-
HPG				-			
Benzene	35	52420	Yes		-	-	-
Toluene	12.5	52490	Yes		-	-	-
Xylenes	3.5	52510	Yes		-	-	-
Ethylbenzene	4	52450	Yes		-	-	-
VOC-U	45	50001	No		-	-	-
DCPD	100	55225	No	-	-	-	-
Ethanol				270,114			
Ehtyl Alcohol	95	51460	No		256,608	-	256,608
VOC-U	5	50001	No		13,506	-	13,506
Octylene				-			
Octene	89	56673	No		-	-	-
Xylenes	10	52510	Yes		-	-	-
Benzene	0.15	52420	Yes		-	-	-
Ethylbenzene	0.15	52450	Yes		-	-	-
VOC-U	0.7	50001	No		-	-	-
Styrene	100	52480	Yes	-	-	-	-
Toluene-Xylene				-			
Benzene	1	52420	Yes		-	-	-
Toluene	65	52490	Yes		-	-	-
Ethylbenzene	16	52450	Yes		-	-	-
Xylenes	8.75	52510	Yes		-	-	-
Styrene	0.25	52480	Yes		-	-	-
VOC-U	9	50001	No		-	-	-
MTBE	100	52878	Yes	157,750	157,750	157,750	-
Vinyl Acetate Monomer	100	52891	Yes	-	-	-	-
LPC Pygas				-			
Benzene	45	52420	Yes		-	-	-
Toluene	12.5	52490	Yes		-	-	-
Ethylbenzene	5	52450	Yes		-	-	-
1,3-Butadiene	1.5	55150	Yes		-	-	-
Xylenes	5	52510	Yes		-	-	-
Styrene	4.5	52480	Yes		-	-	-
VOC-U	26.5	50001	No		-	-	-
TOTALS				**1,699,925**	**1,699,925**	**501,206**	**1,198,719**
					%HAP	29%	

*Emission Reduction achieved by controlling marine emissions at 98% recovery instead of 90%.

**Blendstock = Naptha, Reformate, LA Blendstock, Gasoline Blendstock

THROUGHPUT REDUCTION SPECIATION

BARGE DOCK 2

Chemical	Average Weight %	TCEQ Cont. Code	HAP	*Total T-put (bbls)	*Total Speciated T-put (bbls)	2004 HAP Tput (bbls)	2004 HAP T-put w/o HAP (bbls)
Gasoline Blendstock**				2,230,821			
Ethylbenzene	2	52450	Yes		44,616	44,616	-
Naphthalene	2	52460	Yes		44,616	44,616	-
Toluene	20	52490	Yes		446,164	446,164	-
Xylenes	3	52510	Yes		66,925	66,925	-
VOC-U	73	50001	No		1,628,499	-	1,628,499
Aromatic Concentrate				1,307,826			
Benzene	40.5	52420	Yes		529,670	529,670	-
Toluene	1.75	52490	Yes		22,887	22,887	-
1,3-Butadiene	2.5	55150	Yes		32,696	32,696	-
VOC-U	55.25	50001	No		722,574	-	722,574
HPG				1,056,204			
Benzene	35	52420	Yes		369,671	369,671	-
Toluene	12.5	52490	Yes		132,026	132,026	-
Xylenes	3.5	52510	Yes		36,967	36,967	-
Ethylbenzene	4	52450	Yes		42,248	42,248	-
VOC-U	45	50001	No		475,292	-	475,292
DCPD	100	55225	No	99,486	99,486	-	99,486
Ethanol				-			
Ehtyl Alcohol	95	51460	No		-	-	-
VOC-U	5	50001	No		-	-	-
Octylene				49,547			
Octene	89	56673	No		44,097	-	44,097
Xylenes	10	52510	Yes		4,955	4,955	-
Benzene	0.15	52420	Yes		74	74	-
Ethylbenzene	0.15	52450	Yes		74	74	-
VOC-U	0.7	50001	No		347	-	347
Styrene	100	52480	Yes	-	-	-	-
Toluene-Xylene				23,618			
Benzene	1	52420	Yes		236	236	-
Toluene	65	52490	Yes		15,352	15,352	-
Ethylbenzene	16	52450	Yes		3,779	3,779	-
Xylenes	8.75	52510	Yes		2,067	2,067	-
Styrene	0.25	52480	Yes		59	59	-
VOC-U	9	50001	No		2,126	-	2,126
MTBE	100	52878	Yes	217,888	217,888	217,888	-
Vinyl Acetate Monomer	100	52891	Yes	3,742	3,742	3,742	-
LPC Pygas				101,356			
Benzene	45	52420	Yes		45,610	45,610	-
Toluene	12.5	52490	Yes		12,670	12,670	-
Ethylbenzene	5	52450	Yes		5,068	5,068	-
1,3-Butadiene	1.5	55150	Yes		1,520	1,520	-
Xylenes	5	52510	Yes		5,068	5,068	-
Styrene	4.5	52480	Yes		4,561	4,561	-
VOC-U	26.5	50001	No		26,859	-	26,859
TOTALS				**5,090,488**	**5,090,488**	**2,091,208**	**2,999,280**
					%HAP	41%	

*Emission Reduction achieved by controlling marine emissions at 98% recovery instead of 90%.

**Blendstock = Naptha, Reformate, LA Blendstock, Gasoline Blendstock

Annual Inventory Data from Baseline and Strategy Periods

Galena Park Terminal
Marine Loading Throughput January 1, 2004 - December 31, 2004

Vent	Flare

Sum of Barrels Loaded		EPN			
Category	Product	BD2	SD2	SD3	Grand Total
Blendstock	Gasoline Blendstock	916,736	387,674	1,272,061	2,576,471
	LA Blendstock	53,239	14,964		68,203
	Naphtha	1,170,226	39,985		1,210,211
	Reformate	90,620			90,620
Blendstock Total		2,230,821	442,623	1,272,061	3,945,505
(blank)	Aromatic Conc.	1,307,826			1,307,826
	DCPD	99,486	33,648		133,134
	Ethanol			270,114	270,114
	HPG	1,056,204	521,039		1,577,243
	LPC Pygas	101,356	158,589		259,945
	MTBE	217,888	1,025,982	157,750	1,401,620
	Octylene	49,547	10,831		60,378
	Styrene		2,575		2,575
	Toulene-Xylene	23,618	73,152		96,770
	Vinyl Acetate Monomer	3,742			3,742
(blank) Total		2,859,667	1,825,816	427,864	5,113,347
Grand Total		5,090,488	2,268,439	1,699,925	9,058,852

Galena Park Terminal
Marine Loading Emissions Summary January 1, 2004 - December 31, 2004

Vent	Flare

Sum of VRU Emissions 98% tons/yr		EPN			
Category	Product	BD2	SD2	SD3	Grand Total
Blendstock	Gasoline Blendstock	1.8474	0.6638	1.1400	3.6512
	LA Blendstock	0.0261	0.0073		0.0334
	Naphtha	0.2986	0.0102		0.3088
	Reformate	0.0797			0.0797
Blendstock Total		2.2518	0.6813	1.1400	4.0731
(blank)	Aromatic Conc.	2.9755			2.9755
	DCPD	0.0240	0.0033		0.0273
	Ethanol			0.0422	0.0422
	HPG	0.0154	0.0072		0.0225
	LPC Pygas	0.1564	0.2448		0.4012
	MTBE	0.5684	1.2414	0.1646	1.9745
	Octylene	0.0113	0.0026		0.0139
	Styrene		0.0162		0.0162
	Toulene-Xylene	0.0167	0.0207		0.0373
	Vinyl Acetate Monomer	0.0022			0.0022
(blank) Total		3.7700	1.5361	0.2068	5.5129
Grand Total		6.0218	2.2174	1.3468	9.5860

Galena Park Marine Loading Emissions - 01/01/00 - 12/01/00
Excluding Benzene Products

SHIP DOCK 2

FIN: SD2	MTBE	MTBE (barge)	Blendstock	Blendstock (barge)	Alkylate	Alkylate (barge)	Methanol (barge)	Butanol	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	636301	474295	1927289	104229	2473789	118858	441592	34465	6210828	
gal	26724642	19920390	80946138	4377618	103899558	4992036	18546864	1447530		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	6.31	10.9	10.9	10.9	10.9	3.4	2.73		
Sat Factor	0.2	0.5	0.2	0.5	0.2	0.5	0.5	0.2		
Temp R	530	530	530	530	530	530	530	530		
Loading Losses lb/yr	69893.33128	130245.1888	291984.2813	34775.08706	369800.4158	39855.92396	23719.82933	1377.20249	961451.26	Loading Losses lb/yr
Loading Losses tons/yr	100.06926	65.12259441	145.9921407	17.38754353	184.9002079	19.82796198	11.85991466	0.688601245	480.72563	Loading Losses tons/yr
Marine Fugitives tons/yr	5.003463002	3.256129721	7.299607033	0.869377177	9.245010395	0.991398099	0.592995733	0.034430062	27.29241122	Marine Fugitives tons/yr
VRU Emissions 80% tons/yr	9.506579705	1.237329294	13.86925336	0.330363327	17.56551975	0.376731278	0.225338379	0.065417118	43.17653221	VRU Emissions 80% tons/yr
VRU Emissions 98% tons/yr	1.901315941	6.186646469	2.773850672	1.651816635	3.51310395	1.883656388	1.126691893	0.013083424	19.05016537	VRU Emissions 98% tons/yr
					12.75811434		0.818334112	0.047513488		

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

SHIP DOCK 3

FIN: SD3	MTBE	MTBE (barge)	Blendstock	Alkylate	TBA (barge)	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	5795272	51783	606249	597394	98425	7149124	
gal	243401424	2174886	25462458	25090548	4133892		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	6.31	10.9	10.9	1.23		
Sat Factor	0.2	0.5	0.2	0.2	0.5		
Temp R	530	530	530	530	530		
Loading Losses lb/yr	636571.1601	10001.60557	80907.85388	79726.09681	4430.082618	811636.799	Loading Losses lb/yr
Loading Losses tons/yr	318.28558	5.000802786	40.45392694	39.8630484	2.215041308	405.8183995	Loading Losses tons/yr
Marine Fugitives tons/yr	15.914279	0.250040139	2.022696347	1.99315242	0.110752065	20.29091997	Marine Fugitives tons/yr
VRU Emissions 90% tons/yr	30.2371301	0.475076265	3.843123059	3.786989598	0.210428924	38.55274795	VRU Emissions 90% tons/yr
VRU Emissions 98% tons/yr	6.047426021	0.095015253	0.768624612	0.75739792	0.042085785	7.71054959	VRU Emissions 98% tons/yr

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

Barge Dock 2

FIN: BD2	MTBE	Blendstock	Alkylate	Butanol	Methanol	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	1783652	133207	609714	3912	1166051	3696536	
gal	74913384	5594694	25607988	164304	48974142		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	10.9	10.9	2.73	3.4		
Sat Factor	0.5	0.5	0.5	0.5	0.5		
Temp R	530	530	530	530	530		
Loading Losses lb/yr	489805.0613	44443.34132	203425.7014	390.803434	62633.67703	800698.5845	Loading Losses lb/yr
Loading Losses tons/yr	244.9025306	22.22167066	101.7128507	0.195401717	31.31683852	400.3492922	Loading Losses tons/yr
Marine Fugitives tons/yr	12.24512653	1.111083533	5.085642535	0.009770086	1.565841926	20.01746461	Marine Fugitives tons/yr
VRU Emissions 98% tons/yr	4.653148082	0.422211743	1.932544163	0.003712633	0.595019932	7.606636552	VRU Emissions 98% tons/yr
VRU Emissions 90% tons/yr	23.26574041	2.111058713	9.662720817	0.018563163	2.975099659	38.03318276	VRU Emissions 90% tons/yr

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

Galena Park Marine Loading Emissions - 01/01/01 - 12/01/01
Excluding Benzene Products

SHIP DOCK 2

FIN: SD2	MTBE	MTBE (barge)	Blendstock	Blendstock (barge)	Alkylate	Alkylate (barge)	Methanol (barge)	Butanol	Styrene	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	2000227	228328	862828	121073	2240832	387258	476119	57794	10168	6384427	
gal	84009534	9589776	36230376	5085066	94114944	16264836	19996998	2427348	427056		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46	12.46	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	6.31	10.9	10.9	10.9	10.9	3.4	2.73	0.192		
Sat Factor	0.2	0.5	0.2	0.5	0.2	0.5	0.5	0.2	0.2		
Temp R	530	530	530	530	530	530	530	530	530		
Loading Losses lb/yr	219711.3133	62700.68939	122550.6003	43001.06429	318347.3141	137541.0385	25574.42485	2309.510004	40.15295382	931776.1076	Loading Losses lb/yr
Loading Losses tons/yr	109.8556566	31.35034469	61.27530017	21.50053214	159.173657	68.77051925	12.78721243	1.154755002	0.020076477	465.8880538	Loading Losses tons/yr
Marine Fugitives tons/yr	5.492782831	1.567517235	3.063765008	1.075026607	7.958682852	3.438525962	0.639360621	0.05773775	0.001003824	23.29440269	Marine Fugitives tons/yr
VRU Emissions 90% tons/yr	10.43628738	2.978282746	5.821153516	2.042550554	15.12149742	6.533199329	1.214785181	0.109701725	0.001907265	44.25936511	VRU Emissions 90% tons/yr
VRU Emissions 98% tons/yr	2.087257476	0.595656549	1.164230703	0.408510111	3.024299484	1.306639866	0.242957038	0.021940345	0.000381453	8.851873023	VRU Emissions 98% tons/yr

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

SHIP DOCK 3

FIN: SD3	MTBE	MTBE (barge)	Blendstock	Alkylate	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	4945430	70521	209269	315448	5540668	
gal	207708060	2961882	8789298	13248816		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	6.31	10.9	10.9		
Sat Factor	0.2	0.5	0.2	0.2		
Temp R	530	530	530	530		
Loading Losses lb/yr	543221.8043	18365.6289	29730.12884	44814.61508	637132.1771	Loading Losses lb/yr
Loading Losses tons/yr	271.6109021	9.682814452	14.86506442	22.40730754	318.5680886	Loading Losses tons/yr
Marine Fugitives tons/yr	13.58054511	0.484140723	0.743253221	1.120365377	15.92830443	Marine Fugitives tons/yr
VRU Emissions 90% tons/yr	25.8030357	0.919867373	1.41218112	2.128694216	30.26377841	VRU Emissions 90% tons/yr
VRU Emissions 98% tons/yr	5.160607141	0.183973475	0.282436224	0.425738843	6.052755682	VRU Emissions 98% tons/yr

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

Barge Dock 2

FIN: BD2	MTBE	Blendstock	Alkylate	Butanol	Methanol	Naphtha	TOTAL	
	Total Vessel Loading	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*	*Total Vessel Loading*		
bbls	1896646	361108	852721	17346	1102831	1545045	5775697	
gal	79659132	15166536	35814282	728532	46318902	64891890		
	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees	@70 degrees		
Factor	12.46	12.46	12.46	12.46	12.46	12.46		
Vapor Pressure	6.31	10.9	10.9	2.73	3.4	0.68		
Sat Factor	0.5	0.5	0.5	0.5	0.5	0.5		
Temp R	530	530	530	530	530	530		
Loading Losses lb/yr	520834.1146	128253.4365	302857.8871	1732.841607	59237.85553	41495.54759	1054411.863	Loading Losses lb/yr
Loading Losses tons/yr	260.4170573	64.12671827	151.4289335	0.866420804	29.61892776	20.7477738	527.2058315	Loading Losses tons/yr
Marine Fugitives tons/yr	13.02085287	3.206335914	7.571446677	0.04332104	1.480946388	1.03738869	26.36029157	Marine Fugitives tons/yr
VRU Emissions 90% tons/yr	24.73962045	6.092038236	14.38574869	0.082309976	2.813798138	1.971038511	50.08455399	VRU Emissions 90%
VRU Emissions 98% tons/yr	4.947924089	1.218407647	2.877149737	0.018461995	0.562759628	0.394207702	10.0169108	VRU Emissions 98% tons/yr

Marine Fugitives = collection losses at 5% of loading losses
VRU = Marine Flares

The State of Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Certificate Number

D-2065

Number of Credits

6.4 tons VOC

Discrete Emission Reduction Credit Certificate

This certifies that
Kinder Morgan Liquids Terminals, LLC
405 Clinton Drive
Galena Park, TX 77547

is the owner of 6.4 tons of volatile organic compound discrete emission reduction credits established under the laws of the State of Texas, transferable only on the books of the Texas Commission on Environmental Quality, by the holder hereof in person or by duly authorized Attorney, upon surrender of this certificate.

The owner of this certificate is entitled to utilize the discrete emission credits evidenced herein for all purpose authorized by the laws and regulations of the State of Texas and is subject to all limitations prescribed by the laws and regulations of the State of Texas.

Discrete Emission Reduction Generation Period: 1/1/2004 - 12/31/2004

Generator Regulated Entity No.: RN100237452 Generator Certificate: NA

Doc 6266

County of Generation: Harris

Date

Executive Director
Texas Commission on Environmental Quality

The State of Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Certificate Number

D-2066

Number of Credits

6.7 tons HAP

Discrete Emission Reduction Credit Certificate

This certifies that
Kinder Morgan Liquids Terminals, LLC
405 Clinton Drive
Galena Park, TX 77547

is the owner of 6.7 tons of hazardous air pollutant discrete emission reduction credits established under the laws of the State of Texas, transferable only on the books of the Texas Commission on Environmental Quality, by the holder hereof in person or by duly authorized Attorney, upon surrender of this certificate.

The owner of this certificate is entitled to utilize the discrete emission credits evidenced herein for all purpose authorized by the laws and regulations of the State of Texas and is subject to all limitations prescribed by the laws and regulations of the State of Texas.

Discrete Emission Reduction Generation Period: 1/1/2004 - 12/31/2004

Generator Regulated Entity No.: RN100237452 Generator Certificate: NA

County of Generation: Harris

Doc 6267

Date

Executive Director
Texas Commission on Environmental Quality

The State of Texas

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Certificate Number

D-1133

Number of Credits

23.6 tons VOC-HAP

Discrete Emission Reduction Credit Certificate

This certifies that
Kinder Morgan Liquids Terminals, LLC
P.O. Box 465
Galena Park, TX 77547

is the owner of 23.6 tons of hazardous air pollutant (VOC-HAP) discrete emission reduction credits established under the laws of the State of Texas, transferable only on the books of the Texas Commission on Environmental Quality, by the holder hereof in person or by duly authorized Attorney, upon surrender of this certificate.

The owner of this certificate is entitled to utilize the discrete emission credits evidenced herein for all purpose authorized by the laws and regulations of the State of Texas and is subject to all limitations prescribed by the laws and regulations of the State of Texas.

Discrete Emission Reduction Generation Period: January 1, 2003 - December 31, 2003

Generator Regulated Entity No.: RN100237452 Generator Certificate: N/A

County of Generation: Harris

Doc # 3909

Date

Acting Executive Director
Texas Commission on Environmental Quality