

217/782-2113

CONSTRUCTION PERMIT - REVISED
NSPS SOURCE
NESHAP SOURCE

PERMITTEE

Kinder Morgan Liquids Terminals, LLC - Argo Terminal
Attn: Dennis Majerczak
8500 West 68th Street
Argo, Illinois 60501

Application No.: 01030082

I.D. No.: 031012AEA

Applicant's Designation:

Date Received: November 8, 2005

Subject: Fuel Distribution Project

Date Issued: December 7, 2005

Location: 8500 West 68th Street, Argo

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a modification to the fuel distribution project which includes a new enclosed flare (VCU-3) which will replace two vapor scrubbers (Scrubber No. 1 and No. 2) controlling various existing tanks and racks, new amine scrubber unit (Scrubber No. 3) to control existing tank W-1, new internal floating roofs for five existing tanks (Nos. 20-3, 25-23, 20-1, 25-21 and 25-8), new large fixed roof storage tank 63-1, two new small fixed roof tanks (ADD-2 and ADD-4), a portable vapor combustion unit, increased throughput for tank C-10, installation of transmix loading station, storage and loading of aviation gasoline, vapor balance control system for working losses associated with tank 5-12, vapor phase absorption filter for standing losses associated with tank 5-12, and ancillary equipment (piping, pumps, etc.) as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a.
 - i. The large storage tank No. 63-1 is subject to a New Source Performance Standard (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subparts A and Kb. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.
 - ii. At all times, the Permittee shall also, to the extent practicable, maintain and operate the storage tank No. 63-1, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
 - iii. For the storage tank No. 63-1, the Permittee shall comply with the applicable Standard for volatile organic compounds (VOC) identified in 40 CFR 60.112b.

- iv. For the storage tank No. 63-1, the Permittee shall comply with the applicable Testing and procedures identified in 40 CFR 60.113b.
 - v. For the storage tank No. 63-1, the Permittee shall comply with the applicable Reporting and recordkeeping requirements identified in 40 CFR 60.115b.
 - vi. For the storage tank No. 63-1, the Permittee shall comply with the applicable Monitoring of operations identified in 40 CFR 60.116b.
- b. For the two storage tanks Nos. 20-1 and 63-1, the Permittee shall comply with the applicable Control Requirements for Storage Containers of volatile organic liquids identified in 35 IAC 218.120.
- c. i. This permit is issued based on the two new smaller fixed roof storage tanks (ADD-2 and ADD-4) not being subject to 40 CFR 60, Subpart Kb, because each tank has a capacity less than 40 cubic meters, pursuant to 40 CFR 60.110b(a).
- ii. This permit is issued based on the two new smaller fixed roof storage tanks (ADD-2 and ADD-4) not being subject to 35 IAC Part 218.120, because each tank has a capacity less than 40,000 gallons, pursuant to 35 IAC 218.119.
- iii. This permit is issued based on the existing tank 20-1 not being subject to 40 CFR 60, Subpart Kb, because the tank was constructed prior to July 23, 1984 and installation of an internal floating roof is not considered a modification for purposes of Subpart Kb.
- 2a. This permit authorizes construction of the vapor control unit (VCU-3), which shall be used to reduce the emission of volatile organic material (VOM) from the following storage, loading and unloading operations:
- i. Storage tank Nos. 10-12, 5001-H, 5004-H, C5-H, C-8H, CL-1, D-8, 5-15, 10-18, 10-23, 10-25, 10-28, 10-30, 15-5, 20-5, 25-7, 25-9, C6-H;
 - ii. Truck loading for tank Nos. 5-15, 10-12, 10-21, 10-25, 25-7, 5001-H, 5004-H, C5-H, C-8H, CL-1, D-8, 15-2;
 - iii. Barge loading for tank Nos. 25-3 and 10-30 and any fuel-grade ethanol barge loading and gasoline barge loading; and loading of aviation gasoline at truck loading rack No. 6;
 - iv. Any railcar unloading locations where railcars delivering acrylate materials are unloaded.
- b. For the vapor control unit (VCU-3), the Permittee shall comply with the following operational requirements, except as provided in Condition 6d:

- i. The flare shall be operated with a flame present at all times;
 - ii. The presence of a flare pilot flame shall be monitored using a daily visual inspection and use of a UV scanner or other comparable device to monitor the flare pilot;
 - iii. A. The burner associated with marine vapor control shall be equipped with a strip chart recorder or other appropriate device which records the temperature of the combustor flame temperature on a daily basis;
B. The burner associated with all other vapors (excludes marine vapor) shall be equipped with a "Flame Finder Technology" to ensure complete combustion of vapors. The flame finder technology shall monitor the combustion process via a UV flame scanner and automatically inject auxiliary fuel (natural gas) when needed to maintain appropriate flame properties.
 - iv. If the pilot flame goes out, the flow of vapors to the flare shall be discontinued until the pilot flame is restored.
 - c. The Permittee shall operate the VCU-3 so as to achieve a minimum of 97 percent overall destruction of volatile organic material.
- 3a. This permit authorizes construction of the amine scrubber unit (Scrubber No. 3), which shall be used to reduce the storage and loading (VOM) emissions associated with storage tank No. W-1.
- b. The Permittee shall operate the amine scrubber unit (Scrubber No. 3) so as to achieve a minimum of 70 percent overall removal of volatile organic material from the W-1 storage tank emissions and truck loading rack No. 24 servicing storage tank No. W-1 emissions.
 - c. For the amine scrubber unit (Scrubber No. 3), the Permittee shall comply with the following operational requirements:
 - i. Measure and record inlet gas pressure (inches of water);
 - ii. Measure and record scrubbant flow via pressure sensor (psig);
 - iii. Record type of scrubbant used; and
 - iv. If the scrubber is not in operation, the flow of vapors to the scrubber shall be discontinued until the scrubber operation is restored.
- 4a. The gasoline loading rack shall be equipped with quick-disconnect and dry-disconnect fittings. As a result, drip pan losses are considered negligible.

- b. The gasoline loading rack emissions shall be controlled by the existing flare.
- c. At all times, the Permittee shall, to the extent practicable, maintain and operate the gasoline loading rack, including associated air pollution capture and control equipment, in accordance with written operating procedures that provide for good air pollution control practice for minimizing emissions. At a minimum, these practices shall include:

The following provisions are for operation of the flare, except as provided in Condition 6d:

- i. The flare shall be operated with a flame present at all times.
 - ii. The presence of a flare pilot flame shall be monitored using a thermocouple or other comparable device to detect the presence of a flame.
 - iii. If the pilot flame goes out, the flow of vapors to the flare shall be discontinued until the pilot flame is restored.
- 5a. Gasoline High Octane shall only be stored by storage tank 48-1 or similar tanks equipped with an internal floating roof.
 - b. Gasoline Low Octane shall only be stored by storage tank 55-9 or similar tanks equipped with an internal floating roof.
 - c. Fuel Ethanol shall only be stored by storage tank 55-3 or similar tanks equipped with an internal floating roof.
 - d. Jet Fuel shall only be stored by storage tank 55-8 or similar tanks (similar tanks may be equipped with emission control devices such as an internal floating roof).
 - e. The Permittee shall notify the Illinois EPA prior to storing materials in tanks other than those specifically identified above.
 - 6a. Throughput of materials, by category of service, shall not exceed the following limits:

<u>Service</u>	<u>Throughput</u>	
	<u>(Gallons/Mo)</u>	<u>(Gallons/Yr)</u>
Aviation Gasoline	625,000	5,000,000
Gasoline High Octane	6,250,000	50,000,000
Gasoline Low Octane	35,000,000	280,000,000
Fuel Ethanol*	23,875,000	191,000,000
Jet Fuel	14,317,000	114,536,000

* Out of terminal throughput

- b. Emissions from storage of material, by category of service, shall not exceed the following limits:

<u>Service</u>	VOM Emissions	
	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
Aviation Gasoline	0.26	2.08
Gasoline High Octane	0.40	2.80
Gasoline Low Octane	1.50	11.60
Fuel Ethanol	1.64	13.36
Jet Fuel	0.49	3.90
Additives	0.01	0.03
Transmix	0.02	0.16
Kerosene	0.03	0.19
High Sulfur No. 2 Oil	0.19	1.44
General (3-2, 15-2, 25-2)	0.18	1.42
General (w/VCU-3)	0.02	0.13
Amine (w/Scrubber No. 3)	0.01	<u>0.03</u>

Total: 36.38

- c. Emissions from the loading racks used for the above categories of service shall not exceed the following limits:

<u>Product</u>	VOM Emissions	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Gasoline Rack		
Gasoline, Transmix	1.34	10.51
Fuel Grade Ethanol	0.22	1.84
No. 2 Fuel Oil, Kerosene, Jet Fuel	0.01	0.06
Rack Nos. 7 & 8 - High Sulfur No. 2 Oil	0.12	0.89
Loading Racks 6, 27		
Misc. Materials	0.72	5.58
Aviation Gasoline	0.05	0.40
Barge Dock 1 - Misc. Materials	0.08	0.63
Loading Racks 28, 31, 34, 44 w/VCU-3 - Miscellaneous		
Materials	0.05	0.39
Loading Rack 24 w/Scrubber No. 3 - Miscellaneous		
Materials	0.01	<u>0.01</u>

Total: 20.31

- d. The Permittee is authorized to operate tanks and racks to store and handle materials other than gasoline without the associated control device for up to 72 hours per year provided such control is not required pursuant to 35 IAC Part 218 and 40 CFR Part 60 and Part 63. The resulting emissions of VOM from emission units otherwise controlled by the VCU and emissions of VOM from emission units otherwise controlled by the VCU-3 shall not exceed 0.75 tons/year from each control device.

- e. Volatile organic material emitted during periods of time when the floating roof(s) rest on their legs resulting in landing losses shall not exceed 4.0 tons/year for all internal floating roof tanks located at the source.
- 7. This permit is issued based on negligible emissions of volatile organic material from fugitive emissions associated with the fuel distribution project. For this purpose, fugitive emissions from pumps, sampling connections, piping flanges, and valves shall not exceed 0.214 tons/year.
- 8a. This permit authorizes installation of a portable vapor combustion unit (e.g., flare) for cleaning storage tanks.
- b. This permit is issued based on negligible emissions of nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, and volatile organic material from the portable vapor combustor unit. For this purpose, emissions of each pollutant shall not exceed a nominal emission rate of 0.44 tons/year.
- c. At all times, the Permittee shall to the extent practicable, maintain and operate the portable vapor combustion unit in a manner consistent with good air pollution control practice for minimizing emissions.
- 9a. The source has addressed the applicability and compliance of 35 IAC Part 203, Major Stationary Sources Construction and Modification (See Attachment 1). The limits established by this permit are intended to ensure that the modification addressed in this construction permit does not constitute a major modification pursuant to these rules.
- b. In particular, the limitations in Condition 6 replace limitations for the source that were established in the previous construction permit. These new limitations only become effective after the VCU-3 enters routine service.
- 10. Testing Requirements
 - a. No later than October 1, 2004, the VOM destruction efficiency of the VCU-3 shall be measured during conditions which are representative of maximum emissions.
 - b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH ₄

- c. The Illinois EPA shall be notified prior to this test to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of thirty days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
- d. At least 30 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:
 - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.
 - iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.
 - iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods.
 - v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - vi. Any proposed use of an alternative test method, with detailed justification.
 - vii. The format and content of the Source Test Report.
- e. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized. The Final Report shall include as a minimum:
 - i. A summary of results
 - ii. General information

- iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule
- iv. Detailed description of test conditions, including
 - A. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing, and
 - C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair
- v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration
- vi. An explanation of any discrepancies among individual tests or anomalous data
- f. One copy of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

and one copy of reports concerning performance testing or continuous monitoring systems shall be sent to

Illinois Environmental Protection Agency
Division of Air Pollution Control
Source Monitoring Unit
9511 West Harrison
Des Plaines, Illinois 60016

11. The Permittee shall maintain records of the following items:
 - a. Throughput for each type of product through each storage tank (gallons/month and gallons/year);
 - b. Throughput for each type of product through each loading rack (gallons/month and gallons/year);
 - c. Periods of time when the pilot flame goes out on the flares (VCU and VCU-3) and the flow of vapors to the flares have not discontinued, with an estimate of the VOM emissions from the flare stacks during each period, with supporting data and calculations;
 - d. Periods of time when the floating roof(s) rest on their legs resulting in landing losses, with an estimate of the VOM emissions from the landing losses during each period, with supporting calculations.
 - e. Operational Records for the VCU-3:
 - i. Log of visual inspections of the pilot flame;
 - ii. Temperature of the combustor flame (for Marine vapors only); and
 - iii. "Time of instability" as documented on a recorder or data logging device (all other vapors).
 - f. Operational Records for the Scrubber No. 3:
 - i. Inlet gas pressure (inches of water);
 - ii. Scrubbant flow via pressure sensor (psig); and
 - iii. Type of scrubbant used.
 - g. VOM emissions from each tank and each loading rack (tons/month and tons/year).
12. General requirements of the CAAPP permit with respect to retention and availability of records and submission of reports shall apply to the recordkeeping and reporting requirements of this permit.
13. This permit does not relax or revise requirements for the existing tanks and loading racks as established in 40 CFR 63, Subpart R; 40 CFR 60, Subpart XX; and 35 IAC 218 and set forth in the Clean Air Act Permit Program (CAAPP) permit for the source, CAAPP Permit 95120128.
14. This permit is issued based upon construction of two fixed bed adsorbers (one on each acrylate scrubber) without any increase in emissions to the atmosphere. These two fixed bed adsorbers will be

removed from service following successful start-up of enclosed flare VCU-3.

- 15a. This permit is issued based upon installation of a vapor balance control system for working losses associated with tank 5-12 and a vapor phase absorption filter for standing losses associated with tank 5-12 without any increase in emissions to the atmosphere.
 - b. For the vapor adsorption filter, the Permittee shall replace or recharge the vapor adsorption filter when visible indication of vapor breakthrough is observed at the vapor outlet. Record of replacement or recharge of the filter media shall be maintained by the Permittee.
16. This permit is issued based upon construction of an additional fuel grade ethanol railcar off-loading system at Rail Siding No. 5, without any increase in emissions to the atmosphere.
17. This permit is issued based upon installation of two additional rail car off-loading positions to the existing rack serving tank No. 10-30, without any increase in emissions of VOM.
18. This permit is issued based upon the increase in material throughput and additional piping for tank 10-30 and additional controls for tank 10-30 (see also Condition 2a) not resulting in an emissions increase. Therefore, the changes to this tank are not considered a modification.
19. This permit is issued based on use of the VCU-3 for the units identified in the application dated November 7, 2005 being a discretionary action by the Permittee. While the Permittee has indicated that the VCU-3 is being utilized as part of a program to lower emissions of hazardous air pollutants so that the source would no longer be a major source, the Permittee has also requested that the use of the flare be discretionary at this time. It also did not provide the information that would be required to restrict the operation and emissions of the source so that it would not be a major source of hazardous air pollutants.
20. Operation of the equipment covered by this permit is allowed under this construction permit until the next renewal of the source's Clean Air Act Permit Program (CAAPP) permit.

It should be noted that this permit has been revised to allow various units to be controlled by the flare (VCU-3) for the purpose of lowering emissions and to install additional rail car off-loading positions.

It should also be noted that this permit does not authorize transfer and storage of products requiring controlled storage into storage tanks which are not equipped with the appropriate emission control equipment.

Page 11

If you have any questions on this, please call Jason Schnepf at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:psj

cc: Region 1
Lotus Notes

Attachment 1

Nonattainment NSR Applicability - VOM Netting Analysis

Contemporaneous Time Period of 1998 Through 2002

Table I - Emissions Increases and Decreases Associated With The Proposed Modification

<u>Item of Equipment</u>	<u>Past Actual (Tons/Yr)</u>	<u>Future Potential (Tons/Yr)</u>	<u>Emissions Increase (Tons/Year)</u>
Tank 55-6 Working Losses	0.00	0.06	0.06
Tank 55-3 Working Losses	0.00	0.06	0.06
Tank 20-3	0.22	0.30	0.08
Tank 25-23	0.29	0.33	0.04
Ethanol Loading Loss Changes	0.00	0.43	0.43
		Total:	0.67

Table II - Source-Wide Creditable Contemporaneous Emission Increases

<u>Item of Equipment</u>	<u>Emissions Increase (Tons/Year)</u>	<u>Permit Number</u>	<u>Date</u>
Fuel Distribution Permit Issued 2/18/03*	23.26	01030082	2/18/03

* Note: Since Tank 55-12 was never constructed, it was removed from the project potential emissions.

Table III - Source-Wide Creditable Contemporaneous Emission Decreases

<u>Item of Equipment</u>	<u>Emissions Decrease (Tons/Year)</u>	<u>Permit Number</u>	<u>Commencement of Operational Change Date</u>
None			

None

Table IV - Net Emissions Change

	<u>(Tons/Year)</u>
Increases and Decreases Associated With The Proposed Modification	0.67
Creditable Contemporaneous Emission Increases	23.26
Creditable Contemporaneous Emission Decreases	- 0.00
	<u>23.93</u>

JMS:psj