



**STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR MANAGEMENT**

**NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE
A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes and Section 22a-174-3a of the Regulations of Connecticut State Agencies.

Owner/Operator: Magellan Terminals Holdings, L.P.
Address: One Williams Center, P.O. Box 22186, Tulsa, OK
74121-2186
Equipment Location: Forbes Avenue Terminal, 134 Forbes Avenue, New
Haven, Connecticut 06512
Equipment Description: Bulk Petroleum Loading Rack, Marine Barge
Distillate Loading Operation, and John Zink Vapor
Combustion Unit with a Vapor Vacuum Collection
System

Permit Number: 117-0363
Town/Premises Numbers: 117/212
Original Permit Issue Date: 11/28/2005
Modification Issue Date: May 18, 2011
Expiration Date: NONE

/s/ Anne Gobin for
Daniel C. Esty
Commissioner

May 18, 2011
Date

PERMIT FOR PROCESS EQUIPMENT

STATE OF CONNECTICUT, DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF AIR MANAGEMENT

PART I. PROCESS DESCRIPTION

Magellan Terminals Holdings, L.P. (Magellan) has a Forbes Avenue bulk petroleum terminal with principal operations consisting of the receipt, storage and distribution of gasoline and distillate products. Products are stored in bulk aboveground storage tanks and then distributed through the terminal's truck loading rack. A Vapor Combustion Unit (VCU) along with a vapor vacuum collection system (VVCS) controls the VOC emissions from the truck loading rack.

The facility consists of three gasoline loading bays, three distillate loading bays (with two of the bays controlled by the VCU), and one inactive bay. There is also a marine barge distillate loading and unloading operations at the facility.

A. Equipment Design Specifications

1. Bulk Petroleum Loading Rack

Maximum Gasoline Loading Throughput:	417,500,000 gallons/year
Maximum Distillate Loading Throughput for the two controlled bays:	525,600,000 gallons/year
for the one uncontrolled bay:	61,320,000 gallons/year

2. Marine Barge Distillate Loading Operation

Maximum Loading Throughput:	105,000,000 gallons/year
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B. Control Equipment Specifications

1. John Zink Vapor Combustion Unit

Guaranteed VOC Control Limitation:	10 mg/L of gasoline loaded
Guaranteed NOx Control Limitation:	4 mg/L of gasoline and distillate loaded
Guaranteed CO Control Limitation:	10 mg/L of gasoline and distillate loaded
Minimum Combustion Temperature:	200 °F

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 Combustion Unit

Town No: 117 Premise No: 0212 Permit No: 0363 Stack No: 24

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PART II. OPERATING REQUIREMENTS, continued

B. O&M Requirements

1. The three gasoline loading bays and two distillate bottom-loading bays shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading. [40 CFR 60.502(a)]
2. The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline cargo tanks are not to exceed 10 milligrams of total organic compounds per liter of gasoline loaded. A John Zink Vapor Vacuum Collection System (VVCS) shall be used in conjunction with the vapor collection system.
3. The VVCS shall assure that negative pressure is maintained on the trucks during loading to avoid fugitive emissions, and provide the motive force to process the vapors through the rest of the vapor collection system.
4. Loadings of liquid product into gasoline cargo tanks shall be limited to vapor-tight gasoline tank trucks. Vapor-tight gasoline cargo tank means a gasoline tank truck, which has demonstrated within the 12 preceding months, that its product delivery tank shall sustain a pressure change of not more than 25 mm of water (1.0 in. H₂O) within 5 minutes after it is pressurized to 450 mm of water (18 in. H₂O). This capability is to be demonstrated using the pressure test procedure specified in Method 27, Appendix A, 40 CFR Part 60. [40 CFR 60.502(e); 40 CFR 63.425(e)]
5. The Permittee shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system. [40 CFR 60.502(f)]
6. The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR 60.503(d). [40 CFR 60.502(h)]

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PART II. OPERATING REQUIREMENTS, continued

7. No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water). [40 CFR 60.502(i)]
8. Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected. [40 CFR 60.502(j)]

C. Emission Limits

The Permittee shall not exceed the emission limits stated herein at any time.

1. For Gasoline Loading:

i. Criteria Pollutants

<u>Pollutant</u>	<u>mg/liter</u>	<u>TPY</u>
VOC (VCU)	10.0	17.42
VOC (fugitive)	8.0	0.14
VOC (total)		17.56
NOx	4.0	6.97
CO	10.0	17.42

2. For Distillate Loading:

i. Criteria Pollutants

<u>Pollutant</u>	<u>mg/liter</u>	<u>TPY</u>
VOC* (for vapor balance service)		0.35
VOC (for splash loading: normal service)		0.93
VOC (total)		1.27
NOx	4.00	8.77
CO	10.00	21.93

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PART II. OPERATING REQUIREMENTS, continued

* The VOC emissions for vapor balance service include 0.07 tpy for rack fugitive VOC emissions.

3. For Truck Equipment Leak Components:

i. Criteria Pollutants

<u>Pollutant</u>	<u>lb/hr</u>	<u>TPY</u>
VOC	0.035	0.15

4. For Marine Barge Loading Operation:

i. Criteria Pollutants

<u>Pollutant</u>	<u>lb/hr</u>	<u>TPY</u>
VOC	1.91	0.68
VOC (equipment leak)	0.003	0.01
VOC (Total)	1.91	0.69

5. Total Emissions for Gasoline and Distillate Loading, Marine Barge Loading Operation, and for Fugitive Emissions:

i. Criteria Pollutants

<u>Pollutant</u>	<u>TPY</u>
VOC	19.67
NOx	15.74
CO	39.35

ii. Hazardous Air Pollutants (HAPs)

<u>Pollutant</u>	<u>MASC (ug/m³)</u>
Hexane	1.15E+04
Benzene	4.78E+02
Toluene	2.39E+04
Ethylbenzene	2.77E+04
Xylene	2.77E+04
Cumene	1.56E+04

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PART II. OPERATING REQUIREMENTS, continued

- 6. Demonstration of compliance with the above emission limits shall be met by calculating the emission rates using emission factors from the following sources:
 - i. AP-42, Section 5.2, 5th edition, January 1995
 - ii. VCU Manufacturer's Guaranteed Emission Factors
 - iii. Protocol for equipment Leak Emission Estimate, Table 2-3, November 1995
 - iv. MACT Subpart R, December 14, 1994
 - v. NSPS Subpart XX
 - vi. Compilation of Air Emission Factors for Petroleum Distribution and Retail Marketing Facilities by American Petroleum Institute, September 1995

The above statement shall not preclude the Commissioner from requiring other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.

D. Federal Requirements

This is a NSPS source and subject to all applicable requirements of 40 CFR 60 Subpart XX.

PART III. STACK EMISSION TEST REQUIREMENTS (see Appendix B for General Requirements if applicable)

Stack emission/performance testing shall be required every five years from the date of last test for the following (see Appendix B):

- | | |
|--|---|
| <input type="checkbox"/> None at this time | |
| <input type="checkbox"/> TSP | <input type="checkbox"/> PM-10 |
| <input type="checkbox"/> SOx | <input type="checkbox"/> NOx |
| <input type="checkbox"/> CO | <input checked="" type="checkbox"/> VOC |
| <input type="checkbox"/> Pb | <input type="checkbox"/> Other: |

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PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Criteria Pollutant(s)

1. A daily log of throughput must be kept and made available for inspection by this Department at any time.
2. The combustion unit must be in operation anytime gasoline is loaded at the truck rack or distillate is loaded at the two bottom-loading bays.
3. The Permittee shall utilize a terminal automation system (a card lock-out system) to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading. The Permittee shall make available (e.g., via facsimile), a copy of the documentation, for inspection by permitting authority representatives during the course of a site visit, or within a mutually agreeable time frame. [40 CFR 60.505(e) (2)]
 - i. The copy of each record shall be an exact duplicate image of the original paper record with certifying signatures.
 - ii. The permitting authority shall be notified in writing that each terminal using this alternative is in compliance.
4. The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information: [40 CFR 60.505(b)]
 - i. Test title: Gasoline Delivery Tank Pressure Test-EPA Reference Method 27.
 - ii. Tank owner and address.
 - iii. Tank identification number.
 - iv. Testing location.
 - v. Date of test.
 - vi. Tester name and signature.
 - vii. Witnessing inspector, if any: Name, signature, and affiliation.
 - viii. Test results: Actual pressure change in 5 minutes, mm of water (average for 2 runs).

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PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS, cont

- 5. The Permittee shall record pressure at each bay and also before or after the VVCS. The Permittee shall keep copies of all records at the premises for at least five (5) years after such record is made except if specified otherwise. During start-up, pressure monitoring records may indicate momentary spikes of positive pressure when each load arm is connected.
- 6. The Permittee shall record the date and period of time during which the VVCS is not in operation. The permit shall also record the throughput for each bay during this time.
- 7. The Permittee shall monitor and keep records of the combustion temperature of the VCU.
- 8. The Permittee shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 5 years. [40 CFR 60.505(f); RCSA 22a-174-5]

B. Hazardous Air Pollutants (HAPs) MASC

- 1. The Permittee can demonstrate that the HAPs actual stack concentration (ASC) does not exceed the maximum allowable stack concentration (MASC) using Equation 1,

$$\text{MASC} = 3.19 \times \text{HLV} \quad (\text{Equation 1})$$

Where: MASC = Maximum Allowable Stack Concentration (ug/m³ or ppmv)
 HLV = Hazard Limiting Value (ug/m³ or ppmv)

The MASC is derived using the HAPs corresponding HLV as listed in RCSA Section 22a-174-29 and is based on the stack parameters given in Part I of this permit.

PART V. PREMISE REQUIREMENTS

- A.** The Permittee shall not cause or permit the emission of any substance or combination of substances that creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA Section 22a-174-23.

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PART V. PREMISE REQUIREMENTS, continued

- B. The Permittee shall operate this source and all accompanying equipment at all times in a manner so as not to violate or significantly contribute to the violation of any applicable state noise control regulations, as set forth in Sections 22a-69-1 through 22a-69-7.4 of the Regulations.

PART VI. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of the DEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons of municipalities who are not parties to this permit.

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PART VI. ADDITIONAL TERMS AND CONDITIONS, continued

- E.** Any document, including any notice, which is required to be submitted to the Commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under Section 22a-175 of the Connecticut General Statutes, under Section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F.** Nothing in this permit shall affect the Commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the Commissioner.
- G.** Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.
- H.** The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be

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PART VI. ADDITIONAL TERMS AND CONDITIONS, continued

submitted or performed by the next business day thereafter.

- I. Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

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Appendices attached (Applicable if -X- checked):

- A Continuous Emission Monitoring Requirements
- B Stack Emission Test Requirements
- C New Source Performance Standards (NSPS) Subpart XX
- E Control Equipment Design Specifications

Appendix B
SOURCE STACK TESTING GENERAL REQUIREMENTS

The owner/operator shall conduct stack testing within sixty (60) days of achieving the maximum production rate, but not later than one hundred-eighty (180) days after initial start up.

Pursuant to the Regulations of Connecticut State Agencies, the owner/operator of this facility shall submit an Intent-to-Test (ITT) package consisting of an ITT form (Form AE404) and a test protocol. The test protocol shall be consistent with the Bureau's Emission Source Test Guideline specifying the test methodology to be followed and the conditions under which the process and its control equipment will be operated. The process shall be operated at a minimum of 90% of the permitted maximum rated capacity and the control equipment shall be operated as specified in this permit.

All proposed test methods shall comply with appropriate Federal test methods or methods acceptable to the Bureau. The ITT package must demonstrate compliance with applicable requirements of the Code of Federal Regulations (CFR) Title 40 Parts 51, 60 and 61. Any proposed test methods that deviate from those specified in these regulations must be approved by the Bureau prior to stack testing. All sampling ports shall be installed and located in compliance with 40 CFR Part 60 Appendix A, Method 1. Final plans showing the location of all sampling ports shall be submitted with the ITT package to the Air Bureau's Stack Test Group for approval prior to stack testing. Please submit an original and one copy of the ITT package to: Bureau of Air Management, Compliance & Field Operations, Stack Test Group, 79 Elm Street, 6th Floor, Hartford, Connecticut 06106-5127.

An inspection of the source may be conducted to verify that appropriate instrumentation is available, and to determine the source process parameters, indicative of compliant operation, to be monitored during stack testing. Once the ITT package is approved, the owner/operator shall be notified, in writing, by the Bureau's Stack Test Group.

The source test must be scheduled, monitored by Bureau personnel, and completed within sixty (60) days from the date of Bureau approval of the proposed ITT package. It is the source's responsibility to conduct preparatory testing for tuning or debugging purposes prior to the Bureau-monitored stack testing. An acceptable test report must be submitted to the Bureau within forty-five (45) days of the completion of emissions testing. The owner/operator shall respond to any test report deficiency within fifteen (15) days of notification by the Bureau.

Acceptable test results will be incorporated into the final permit to construct and operate. In the event that the stack test report is unacceptable, or the tested values show that the source is not in compliance with applicable permit conditions or regulations, a final permit to construct and operate will be not be issued until the owner/operator responds to and corrects any deficiencies. The Bureau may issue an Administrative Order if there is a likelihood that the source may demonstrate compliance through a process modification and a retest.