

25 January 2006

Mr. Roger Leitch
Regional Manager
Motiva Enterprises LLC
520 Allens Avenue
Providence, RI 02905-0007

Dear Mr. Leitch:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your request for modifications to your bulk gasoline terminal located at 520 Allens Avenue, Providence.

Enclosed are new minor source permits (Approval Nos. 1875-1878 and 1879-1880) and a revised minor source permit (Approval Nos. 377, 838, 1066, 1435, 1472-1477 and 1600-1601) issued pursuant to our review.

If there are any questions concerning this permit, please contact me at 222-2808, extension 7011.

Sincerely,

Douglas L. McVay
Associate Supervising Engineer
Office of Air Resources

cc: Providence Building Official
Glenn Hardcastle – Motiva Enterprises, LLC
David Chetkowski – All4, Inc.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

MOTIVA ENTERPRISES LLC

APPROVAL NOs. 1875-1878

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

Motiva Enterprises LLC

For the following:

The conversion of Tanks T1906 (Approval No. 1875) , T3344 (Approval No. 1876), T3620 (Approval No. 1877) and T7494 (Approval No. 1878) to allow the storage of gasoline, ethanol and other petroleum liquids of lesser vapor pressure.

Located at: 520 Allens Avenue, Providence

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Motiva Enterprises LLC* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

Stephen Majkut, Chief
Office of Air Resources

Date of issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

MOTIVA ENTERPRISES LLC

APPROVAL NOS. 1875-1878

A. Storage vessels (Tanks No. T1906, T3344, T3620, and T7494)

1. Operating Requirements

a. Each storage vessel shall be allowed to store:

- (1) gasoline; or,
- (2) ethanol; or,
- (3) other petroleum liquids that have a Reid vapor pressure of 4.0 psia or less as determined by ASTM Method D323.

b. Each storage vessel shall be equipped with a fixed roof in combination with an internal floating roof and shall meet the following specifications:

- (1) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be accomplished as rapidly as possible.
- (2) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

- (b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
 - (c) A mechanical shoe primary seal and a secondary seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
- (3) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

2. Monitoring Requirements

- a. The owner/operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to initial filling of the storage vessel with gasoline or petroleum liquids with a maximum true vapor pressure greater than 0.51 psia. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner/operator shall repair the items before filling the storage vessel.
- b. For tanks in gasoline service or containing petroleum liquids with a maximum true vapor pressure greater than 0.51 psia, the owner/operator shall:
 - (1) Conduct a visual inspection through manholes and roof hatches on the fixed roof, at least once every 12 months after initial fill, of the internal floating roof, the primary seal or the secondary seal (if one is in service); and
 - (2) Empty and degas the vessel at least every 10 years and conduct a visual inspection of the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals.
- c. If, during the visual inspection through manholes and roof hatches, the internal floating roof is not resting on the liquid surface, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner/operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during the above inspection cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Office

of Air Resources in the inspection report required in Condition A.4.a. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

- d. If, during the visual inspection when the vessel is emptied and degassed, the internal floating roof has defects, the primary seal or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere or the slotted membrane has more than 10 percent open area, the owner/operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with gasoline or petroleum liquids with a maximum true vapor pressure greater than 0.51 psia.

3. Recordkeeping Requirements

- a. The owner/operator shall maintain records of each inspection performed as required by Conditions A.2.b(1)-(2). Each record shall contain;
 - (1) The identity of the storage vessel;
 - (2) The date the vessel was inspected; and
 - (3) The observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
- b. The owner/operator shall maintain the following records for each storage vessel:
 - (1) Records showing the dimensions of each tank and an analysis showing the capacity of the tank;
 - (2) The product stored, the period of storage and the maximum true vapor pressure of that product during the respective storage period for each tank. Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs in API Bulletin 2517, unless the Office of Air Resources specifically requests that the liquid be sampled, the actual storage temperature determined and the Reid vapor pressure determined from the sample(s);
 - (3) The monthly throughput for each tank for each product stored; and
 - (4) Records for both scheduled and unscheduled maintenance.

- c. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the total quantity of gasoline, ethanol or petroleum liquid loaded into the storage tanks for that month. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.

4. Reporting Requirements

- a. If any of the conditions described in Condition A.2.c are detected during the annual visual inspection, a report shall be furnished to the Office of Air Resources within 30 days of the inspection. Each report shall contain:
 - (1) The identity of the storage vessel;
 - (2) The nature of the defect(s); and
 - (3) The date the storage vessel was emptied or the nature of and date the repair was made.
- b. If any of the conditions described in Condition A.2.d are detected during the visual inspection when the vessel is emptied and degassed, a report shall be furnished to the Office of Air Resources within 30 days of the inspection. The report shall include:
 - (1) The identity of the storage vessel;
 - (2) The nature of any defects identified; and
 - (3) A list of each repair made.
- c. The owner/operator shall notify the Office of Air Resources, in writing, at least 30 days prior to the filling or refilling of each storage vessel following emptying and degassing, to afford the Office of Air Resources the opportunity to inspect the storage vessel prior to refilling. If the emptying and degassing of the storage vessel is not planned and the owner/operator could not have known about the emptying and degassing 30 days in advance of refilling the tank, the owner/operator shall notify the Office of Air Resources at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the emptying and degassing was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Office of Air Resources at least 7 days prior to the refilling.

5. Other Permit Conditions

- a. To the extent consistent with the requirements of this approval and applicable Federal and State laws, the facility shall be designed, constructed, and operated in accordance with the representation of the facility in the permit application.
- b. The facility is subject to the requirements of the Office of Air Resource's Air Pollution Control Regulation No. 11 "Petroleum Liquids Marketing and Storage". If there is any conflict between any term or condition of this permit and the applicable provisions of APC Regulation No. 11, the owner/operator shall comply with the term or condition of this permit.
- c. The facility is subject to the requirements of the following Federal New Source Performance Standards:
 - (1) 40 CFR 60 Subpart A "General Provisions"
 - (2) 40 CFR 60 Subpart Kb "Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction or Modification Commenced After July 23, 1984"

Compliance with all applicable provisions therein is required.

- d. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
- e. Except as provided in Condition A.5.f, the owner/operator shall not store, sell or supply as fuel, at or from this facility, a gasoline having a Reid Vapor Pressure greater than 9.0 pounds per square inch, during the period of 1 May through 15 September of each year. Sampling and testing of gasoline shall be in accordance with ASTM Method D323-82 or any equivalent method approved by the Office of Air Resources and EPA.
- f. The owner/operator shall not store, sell or supply as fuel, at or from this facility, a gasoline - ethanol blend (containing at least 9% ethanol) having a Reid Vapor Pressure greater than 10.0 pounds per square inch, during the period of 1 May through 15 September of each year. Sampling and testing of gasoline - ethanol blends shall be in accordance with ASTM Method D323-82 or any equivalent method approved by the Office of Air Resources and EPA.
- g. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for

minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

6. Definitions

As used throughout this permit, the following terms shall, where the context permits, be construed as follows:

"Fill" means the introduction of gasoline, petroleum liquid or other approved products into a storage vessel but not necessarily to complete capacity.

"Gasoline" means any petroleum distillate having a Reid vapor pressure of more than 4.0 psia as determined by ASTM Method D323. This term includes but is not limited to mixtures of alcohols and gasoline, gasoline blending stocks, off-specification gasoline, avgas and dimate.

"Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid around the circumference of the tank between the tank wall and the floating roof.

"Mechanical shoe seal" includes but is not limited to a metal sheet held vertically against the tank wall by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

"Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale and coal.

"Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

"Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquefied petroleum gases, as determined by ASTM D323-82.

"Storage vessel" means each tank, reservoir, or container used for the storage of gasoline or other petroleum liquids that have a Reid vapor pressure of 4.0 psia or less as determined by ASTM Method D323.

"Vapor-mounted seal" means a primary seal mounted so there is a vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

MOTIVA ENTERPRISES LLC

APPROVAL NOs. 1879 & 1880

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

Motiva Enterprises LLC

For the following:

Installation of a vapor combustion unit (VCU) (Approval No. 1880) which will treat emissions from marine vessel loading of ethanol (Approval No. 1879). Ethanol will be limited to a maximum annual throughput of 229,950,000 gallons per year.

Located at: 520 Allens Avenue, Providence

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Motiva Enterprises LLC* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

**Stephen Majkut, Chief
Office of Air Resources**

Date of issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

MOTIVA ENTERPRISES LLC

APPROVAL NOs. 1879 & 1880

A. Marine Vessel Loading

1. Emission Limitations

- a. Emissions of volatile organic compounds (VOCs) from the loading of ethanol into marine tank vessels shall not exceed 5.0 mg per liter of ethanol loaded.

2. Operating Requirements

- a. All loading of ethanol into marine tank vessels shall be made only into those vessels that are equipped with vapor collection equipment that is compatible with the facility's vapor collection system.
- b. All loading of ethanol into marine tank vessels shall be made only when the marine tank vessel's vapor collection equipment is connected to the facility's vapor collection system.
- c. All loading of ethanol into marine tank vessels shall be conducted with the vapor collection system in operation. VOC emissions generated during the loading events shall be captured and discharged through the vapor combustion unit for destruction.
- d. All loading of ethanol into marine tank vessels shall be conducted at less than atmospheric pressure (i.e., at negative gauge pressure). A specific negative pressure shall be maintained, as specified by the manufacturer's operating recommendations and instructions, during the loading of ethanol into marine tank vessels. The owner/operator shall provide the Office of Air Resources the specific negative pressure specified by the manufacturer's operating recommendations and instructions prior to the compliance testing required by Condition A.4.a.
- e. If the vacuum system should fail, the operator has 30 minutes to correct the problem and restore the vacuum. Loading operations shall cease if the vacuum is not restored within 30 minutes of failure. The loading operations may resume once proper vacuum has been restored.

- f. The minimum operating temperature and averaging period of the vapor combustion unit during loading shall be determined from the initial performance test and revised, as appropriate, from the results of subsequent performance tests. After each performance test, the following shall be provided to the Office of Air Resources: the rationale for the minimum operating temperature, monitoring frequency and averaging time, including data and calculations used to develop the temperature and a description of why the temperature, monitoring frequency and averaging time demonstrate continuous compliance with the emission limitation in condition A.1.a.
- g. The vapor combustion unit shall be equipped with an interlock system that ensures ignition of the pilot flame before product loading into the marine vessel begins.
- h. The fill rate of ethanol into marine tank vessels shall not exceed 180,000 gallons per hour.

3. Monitoring Requirements

- a. The owner/operator shall install, calibrate, maintain, and operate a recording pressure measurement device (magnehelic gauge or equivalent device) and an audible and visible alarm system that is activated when a pressure vacuum is not attained. The pressure shall be measured between the facility's vapor connection and its manual isolation valve. The owner/operator shall place the alarm system so that it can be seen and heard where cargo transfer is controlled. The owner/operator shall verify the accuracy of the pressure device once each calendar year with a reference pressure monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent pressure measurement device dedicated for this purpose). The pressure shall be continuously monitored and averaged over rolling 15-minute periods.
- b. The owner/operator shall install, calibrate, operate, and maintain a temperature monitor accurate to within $\pm 5.6^{\circ}\text{C}$ ($\pm 10^{\circ}\text{F}$) or within 1 percent of the baseline temperature, whichever is less stringent, to measure the operating temperature of the vapor combustion unit. The monitor shall be installed as close to the firebox as practical or in the ductwork immediately downstream from the firebox before any substantial heat exchange occurs. The owner/operator shall verify the accuracy of the temperature monitor once each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested.

4. Compliance Demonstration/Testing

- a. Compliance with the emission limitation in specified in Condition A.1.a shall be demonstrated within 180 days of start up of loading of ethanol into marine tank vessels. Testing shall be conducted in accordance with the test methods in 40 CFR 63.565 as amended or another EPA approved method which has been accepted by the Director. This test shall be conducted so that at least 50% of the total liquid loaded is included.
- b. During each performance test required in Condition A.4.a, the owner/operator shall determine the average operating temperature of the vapor combustion unit. The average operating temperature is the temperature monitored per condition A.3.b averaged over the course of the performance test
- c. A stack testing protocol shall be submitted to the Office of Air Resources for review and approval at least 60 days prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any stack test.
- d. All test procedures used for stack testing shall be approved by the Office of Air Resources prior to the performance of any stack tests.
- e. The owner/operator shall install any and all test ports or platforms necessary to conduct the required stack testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
- f. All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emissions limitation.
- g. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
- h. All stack testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable.

5. Record Keeping and Reporting

- a. The owner/operator shall continuously measure and record the marine tank vessel loading pressure.
- b. The owner/operator shall continuously measure and record the operating temperature of the vapor combustion unit.
- c. The owner/operator shall record the following information about each loading event and maintain this information at the facility for a period of five years;

- (1) The date and time at which the marine vessel arrived and departed from the facility.
 - (2) The name, registry of vessels and name and address of the legal owner of the marine tank vessel participating in the loading event.
 - (3) The prior cargo carried by the receiving marine tank vessel.
 - (4) The amount of ethanol loaded into the receiving marine tank vessel.
 - (5) The condition of the receiving tanks prior to being loaded (i.e. cleaned, crude oil, washed, gas freed, etc.)
- d. The owner/operator shall collect and record the following information and maintain the information for a period of 5 years. These records shall be made available to the Office of Air Resources and EPA upon request.
- (1) The date and results of each emission test performed at the facility as required in Condition A.4.a;
 - (2) A log of operating time for the capture system, vapor combustion unit and monitoring equipment;
 - (3) A maintenance log for the capture system, vapor combustion unit and monitoring equipment detailing all routine and non-routine maintenance performed, including dates and duration of any outages;
 - (4) The dates of any loading events which bypassed the vapor combustion unit or were not conducted at a negative gauge pressure.
 - (5) All periods of operation in which the average operating temperature was more than 50°F less than the minimum operating temperature over the specified averaging period.

6. Malfunctions

- a. In the case of a malfunction of the air pollution control system, all reasonable measures shall be taken to assure resumption of the designed control efficiency as soon as possible. In the event that the malfunction of the air pollution control system is expected or may reasonably be expected to continue for longer than 24 hours and if the owner or operator wishes to operate the source on which it is installed at any time beyond that period, the Director shall be petitioned for a variance under Section 23-23-15 of the General Laws of Rhode Island, as amended. Such petition shall include, but is not limited to, the following:

- (1) Identification of the specific air pollution control system and source on which it is installed;
 - (2) The expected period of time that the air pollution control system will be malfunctioning or out of service;
 - (3) The nature and quantity of air contaminants likely to be emitted during said period;
 - (4) Measures that will be taken to minimize the length of said period;
 - (5) The reasons that it would be impossible or impractical to cease the source operation during said period.
- b. The owner/operator may seek to establish that a malfunction of any air pollution control system that would result in noncompliance with any of the terms of this permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:
- (1) The malfunction was not attributable to improperly designed air pollution control equipment, lack of preventative maintenance, careless or improper operation, or operator error;
 - (2) The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
 - (3) Repairs necessary to bring the air pollution control system back to normal and proper operation were performed in an expeditious fashion. Off-shift labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable. Any parts or material needed should be shipped overnight where possible or practical.
 - (4) All possible steps were taken to minimize emissions during the period of time that the repairs were performed.
 - (5) Emissions during the period of time that the repairs were performed will not:
 - (a) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 and any Calculated Acceptable Ambient Levels; and

- (b) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.
- (6) The reasons that it would be impossible or impractical to cease the source operation during said period.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.

7. Other Permit Conditions

- a. To the extent consistent with the requirements of this approval and applicable Federal and State laws, the facility shall be designed, constructed, and operated in accordance with the representation of the facility in the permit application.
- b. The facility may be subject to the requirements of the Office of Air Resource's Air Pollution Control Regulation No. 32 "Control of Volatile Organic Compounds from Marine Vessel Loading Operations". If there is any conflict between any term or condition of this permit and the applicable provisions of APC Regulation No. 32, the owner/operator shall comply with the term or condition of this permit.
- c. There shall be no bypassing of the vapor combustion unit during times when loading of ethanol into marine tank vessels is taking place.
- d. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
- e. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

MOTIVA ENTERPRISES LLC

APPROVAL NOS. 377, 838, 1066, 1435, 1472-1477 and 1600-1601

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

Motiva Enterprises LLC

For the following:

Approval to begin storing ethanol, gasoline blending stocks, off-spec gasoline and dimate; an increase in the annual throughput of gasoline from 527,000,000 gallons per year to 766,500,000 gallons per year which will include gasoline blending stocks, off-spec gasoline, and dimate; installation of a vapor combustion unit (VCU)(Approval No. 1880) which will serve as a backup to the existing vapor recovery unit (VRU) to treat emissions from tank truck loading prior to discharge to the atmosphere; and modifications to the tank truck loading rack including the installation of a vacuum-assist (VA) system and the construction of one additional loading lane. Other changes include the construction of rail car unloading equipment and changes to allow the denaturing of neat ethanol with gasoline.

Located at: *520 Allens Avenue, Providence*

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Motiva Enterprises LLC* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

Stephen Majkut, Chief
Office of Air Resources

Date of issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

MOTIVA ENTERPRISES LLC

APPROVAL NOs. 377, 838, 1066, 1435, 1472-1477 and 1600-1601
(revised January 2006)

- A. Loading racks
1. Emission Limitations
 - a. Total organic compound emissions to the atmosphere from the vapor collection and processing system due to the loading of liquid product into gasoline tank trucks shall not exceed 10 mg per liter of product loaded.
 2. Operating Requirements
 - a. The loading rack shall be equipped with a vapor collection and processing system designed to collect the total organic compounds vapors displaced from gasoline tank trucks during product loading and to reduce the quantity of displaced vapors prior to discharge to the atmosphere.
 - b. The loading rack shall be equipped with a vacuum-assist vapor collection system designed to maintain a negative pressure, as specified by the manufacturer's operating recommendations and instructions, during loading of gasoline tank trucks. The owner/operator shall provide the Office of Air Resources the specific negative pressure specified by the manufacturer's operating recommendations and instructions prior to the compliance testing required by Condition A.4.a (2).
 - c. The vacuum-assist collection system shall be operated at all times while loading is occurring, except when the system is off-line for maintenance or repairs. Loading while the system is off-line or not performing to specification may occur for up to 104 hours in any 12-month period.
 - d. The total quantity of gasoline, excluding aviation gasoline, loaded into tank trucks shall not exceed:
 - (1) 766,500,000 gallons in any 12-month period, or:
 - (2) 2,800,000 gallons in any 24-hour period, or;

- (3) 700,000 gallons in any 4-hour period.
- e. The total quantity of aviation gasoline loaded into tank trucks shall not exceed 5,000,000 gallons in any 12-month period.
- f. The total quantity of distillate fuel oil loaded into tank trucks shall not exceed 298,000,000 gallons in any 12-month period.
- g. Any connecting pipe or hose from the loading rack to the gasoline tank truck and any vapor space connection on the gasoline tank truck shall be equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic materials to the best extent possible.
- h. Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the procedures specified in Conditions A.2.h (1)-(5). A vapor-tight gasoline truck is a tank truck which has demonstrated within the 12 preceding months that it meets the annual certification test requirements in Condition A.4.c and which is subject at all times to the test requirements in Conditions A.4.d, A.4.e and A.4.f and which displays a sticker near the Department of Transportation Certification plate that indicates the date the gasoline tank truck last passed the test required in Condition A.4.c and the identification number of the gasoline tank truck.
 - (1) The owner/operator shall obtain the vapor tightness documentation described in Condition A.5.a (3) for each gasoline tank truck that is to be loaded.
 - (2) The owner/operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded.
 - (3) The owner/operator shall crosscheck each tank identification number obtained above with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.
 - (4) The terminal owner/operator shall notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the facility within 3 weeks after the loading has occurred.
 - (5) The terminal owner/operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the facility until vapor tightness documentation for that gasoline tank truck is obtained which documents that:
 - (a) The gasoline tank truck meets the applicable test requirements in Condition A.4.c;

- (b) For each gasoline tank truck failing the test in Condition A.4.d or A.4.e at the facility, the tank truck either:
 - (i) Before repair work is performed on the tank truck, meets the test requirements in Condition A.4.e or A.4.f, or
 - (ii) After repair work is performed on the tank truck before or during the tests in Condition A.4.e or A.4.f, subsequently passes the annual certification test described in Condition A.4.c.
- i. The owner/operator shall act to assure that loadings of gasoline tank trucks at the facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.
- j. The owner/operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the loading rack.
- k. The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4500 Pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in Condition A.4.b.
- l. No pressure-vacuum vent in the vapor collection system shall begin to open at a system pressure less than 4500 Pascals (450 mm of water).
- m. The minimum operating temperature and averaging period of the vapor combustion unit during loading shall be determined from the initial performance test and revised, as appropriate, from the results of subsequent performance tests. After each performance test, the following shall be provided to the Office of Air Resources: the rationale for the minimum operating temperature, monitoring frequency and averaging time, including data and calculations used to develop the temperature and a description of why the temperature, monitoring frequency and averaging time demonstrate continuous compliance with the emission limitation in condition A.1.a.
- n. The vapor combustion unit shall be equipped with an interlock system that ensures ignition of the pilot flame before product loading begins at the loading rack.

3. Monitoring

- a. The owner/operator shall install, calibrate, certify, operate and maintain according to the manufacturer's specifications, a continuous emissions monitoring system (CEMS) capable of measuring organic compound concentration in the exhaust air stream of the carbon adsorber.
- b. The owner/operator shall install, calibrate, operate, and maintain a temperature monitor accurate to within $\pm 5.6^{\circ}\text{C}$ ($\pm 10^{\circ}\text{F}$) or within 1 percent of the baseline temperature, whichever is less stringent, to measure the operating temperature of the vapor combustion unit. The monitor shall be installed as close to the firebox as practical or in the ductwork immediately downstream from the firebox before any substantial heat exchange occurs. The owner/operator shall verify the accuracy of the temperature monitor once each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested.
- c. The owner/operator shall install, calibrate, maintain, and operate a recording pressure measurement device (magnehelic gauge or equivalent device) and an audible and visible alarm system that is activated when a pressure vacuum is not attained. The pressure shall be measured between the facility's vapor connection and its manual isolation valve. The owner/operator shall place the alarm system so that it can be seen and heard where cargo transfer is controlled. The owner/operator shall verify the accuracy of the pressure device once each calendar year with a reference pressure monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent pressure measurement device dedicated for this purpose). The pressure shall be continuously monitored and averaged over rolling 15-minute periods.
- d. The owner/operator shall operate the carbon adsorber in a manner not to exceed or not to go below, as appropriate, the operating parameter value established using the procedures in A.4.a (10). Operation of the carbon adsorber in a manner exceeding or going below the operating parameter value, as specified above, shall constitute a violation of the emission standard in Condition A.1.a.

4. Test Methods and Procedures

- a. Carbon Adsorber and Vapor Combustion Unit
 - (1) Within 180 days after the modifications to the tank truck loading rack are completed, performance testing shall be conducted to demonstrate

compliance with the applicable emission limitation in Condition A.1.a. Performance testing shall be conducted in accordance with the test methods and procedures in 40 CFR 60.503(c).

- (2) Within 180 days of startup of the vapor combustion unit for control of emissions from tank truck loading, performance testing shall be conducted to demonstrate compliance with the applicable emission limitation in Condition A.1.a. Performance testing shall be conducted in accordance with the test methods and procedures in 40 CFR 60.503(c).
- (3) A stack testing protocol shall be submitted to the Office of Air Resources for review and approval prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any stack test.
- (4) All test procedures used for stack testing shall be approved by the Office of Air Resources prior to the performance of any stack tests.
- (5) The owner/operator shall install any and all test ports or platforms necessary to conduct the required stack testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
- (6) All testing shall be conducted under operating conditions deemed acceptable and representative for the purpose of assessing compliance with the applicable emission limitations.
- (7) A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
- (8) All stack testing must be observed by the Office of Air Resources or its authorized representatives to be considered acceptable.
- (9) Immediately before conducting any performance test required to determine compliance with Condition A.1.a or A.2.k, the owner/operator shall use 40 CFR 60, Appendix A, Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner/operator shall repair all leaks with readings of 500 ppm (as methane) or greater before conducting the performance test.
- (10) During the performance test conducted under paragraph (1) or (2) of this section, the owner/operator shall determine a monitored operating

parameter value for each vapor processing system using the following procedure:

- (a) During the performance test, continuously record the operating parameter for the continuous emission monitoring system required by Condition A.3.a;
 - (b) Determine an operating parameter value based on the parameter data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations; and
 - (c) Provide for the Office of Air Resource's approval, the rationale for the selected operating parameter value and monitoring frequency and averaging time, including data and calculations used to develop the value and a description of why the value, monitoring frequency and averaging time demonstrate continuous compliance with the emission standard in Condition A.1.a.
- (11) For performance tests performed after the initial test, the owner/operator shall document the reasons for any change in the operating parameter value since the previous performance test.

b. Vapor collection and liquid loading equipment

- (1) The owner/operator shall determine compliance with the standard in Condition A.2.k as follows:
 - (a) A pressure measurement device (liquid manometer, magnehelic gauge or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with " 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor collection system at a pressure tap located as close as possible to the connection with the gasoline tank truck.
 - (b) During any performance test, the pressure shall be recorded every 5 minutes while a gasoline tank truck is being loaded; the highest instantaneous pressure that occurs during each loading shall be recorded. Every loading position must be tested at least once during the performance test.

c. Annual Certification Test for Gasoline Tank Trucks

The annual certification test for gasoline tank trucks shall consist of the following test methods and procedures:

- (1) Method 27, appendix A, 40 CFR 60. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (P_i) for the pressure test shall be 460 mm H₂O (18 in. H₂O), gauge. The initial vacuum (V_i) for the vacuum test shall be 150 mm H₂O (6 in. H₂O), gauge. The maximum allowable pressure and vacuum changes (Δp , Δv) are as shown in the second column of Table 1.
- (2) Pressure test of the cargo tank's internal vapor valve as follows:
 - (a) After completing the tests under paragraph c(1) of this condition, use the procedures in Method 27 to repressurize the tank to 460 mm H₂O (18 in. H₂O), gauge. Close the tank's internal vapor valve(s), thereby isolating the vapor return line and manifold from the tank.
 - (b) Relieve the pressure in the vapor return line to atmospheric pressure, then reseal the line. After 5 minutes, record the gauge pressure in the vapor return line and manifold. The maximum allowable 5-minute pressure increase is 130 mm H₂O (5 in. H₂O).

d. Leak detection test

- (1) The leak detection test shall be performed using 40 CFR 60, Appendix A, Method 21, except omit section 4.3.2 of Method 21. A vapor-tight gasoline tank truck shall have no leaks at any time when tested according to the procedures in this condition.
- (2) The leak definition shall be 21,000 ppm as propane. Use propane to calibrate the instrument, setting the span at the leak definition. The response time to 90 percent of the final stable reading shall be less than 8 seconds for the detector with the sampling line and probe attached.
- (3) In addition to the procedures in Method 21, include the following procedures:
 - (a) Perform the test on each compartment during loading of that compartment or while the compartment is still under pressure.
 - (b) To eliminate a positive instrument drift, the dwell time for each leak detection shall not exceed two times the instrument response time. Purge the instrument with ambient air between each leak detection. The duration of the purge shall be in excess of two instrument response times.

- (c) Attempt to block the wind from the area being monitored.
Record the highest detector reading and location for each leak.

e. Nitrogen pressure decay field test

For those cargo tanks with manifolded product lines, this test procedure shall be conducted on each compartment.

- (1) Record the cargo tank capacity. Upon completion of the loading operation, record the total volume loaded. Seal the cargo tank vapor collection system at the vapor coupler. The sealing apparatus shall have a pressure tap. Open the internal vapor valve(s) of the cargo tank and record the initial headspace pressure. Reduce or increase, as necessary, the initial headspace pressure to 460 mm H₂O (18.0 in. H₂O), gauge by releasing pressure or by adding commercial grade nitrogen gas from a high-pressure cylinder capable of maintaining a pressure of 2,000 psig.
 - (a) The cylinder shall be equipped with a compatible two-stage regulator with a relief valve and a flow control metering valve. The flow rate of the nitrogen shall be no less than 2 cfm. The maximum allowable time to pressurize cargo tanks with headspace volumes of 1,000 gallons or less to the appropriate pressure is 4 minutes. For cargo tanks with a headspace of greater than 1,000 gallons, use as a maximum allowable time to pressurize 4 minutes or the result from the equation below, whichever is greater.

$$T = V_h \times 0.004$$

where:

T = maximum allowable time to pressurize the cargo tank, min;

V_h = cargo tank headspace volume during testing, gal.

- (2) It is recommended that after the cargo tank headspace pressure reaches approximately 460 mm H₂O (18 in. H₂O), gauge, a fine adjust valve be used to adjust the headspace pressure to 460 mm H₂O (18.0 in. H₂O), gauge for the next 30 ± 5 seconds.
- (3) Reseal the cargo tank vapor collection system and record the headspace pressure after 1 minute. The measured headspace pressure after 1 minute shall be greater than the minimum allowable final headspace pressure (P_f) as calculated from the following equation:

$$P_f = 18 \left(\frac{18 - N}{18.0} \right)^{\left(\frac{V_s}{5(V_h)} \right)}$$

where:

P_f = minimum allowable final headspace pressure, in. H₂O, gauge;

V_s = total cargo tank shell capacity, gal;

V_h = cargo tank headspace volume after loading, gal;

18.0 = initial pressure at start of test, in. H₂O, gauge;

N = 5-minute continuous performance standard at any time from the third column of Table 1, inches H₂O.

- (4) Conduct the internal vapor valve portion of this test by repressurizing the cargo tank headspace with nitrogen to 460 mm H₂O (18 in. H₂O), gauge. Close the internal vapor valve(s), wait for 30 ± 5 seconds, then relieve the pressure downstream of the vapor valve in the vapor collection system to atmospheric pressure. Wait 15 seconds, then reseal the vapor collection system. Measure and record the pressure every minute for 5 minutes. Within 5 seconds of the pressure measurement at the end of 5 minutes, open the vapor valve and record the headspace pressure as the "final pressure."
- (5) If the decrease in pressure in the vapor collection system is less than at least one of the interval pressure change values in Table 2, or if the final pressure is equal to or greater than 20 percent of the 1-minute final headspace pressure determined in the test in paragraph (3) of this condition, then the cargo tank is considered to be a vapor-tight gasoline cargo tank.

f. Continuous performance pressure decay test

The continuous performance pressure decay test shall be performed using 40 CFR 60, Appendix A, Method 27. Conduct only the positive pressure test using a time period (t) of 5 minutes. The initial pressure (P_i) shall be 460 mm H₂O (18 in. H₂O), gauge. The maximum allowable 5-minute pressure change (Δp) which shall be met at any time is shown in the third column of Table 1.

5. Recordkeeping

- a. The owner/operator shall continuously monitor the pressure/vacuum of the vapor collection system during loading.
- b. The owner/operator shall keep records of the test results for each gasoline tank truck loading at the facility as follows:
 - (1) Annual certification testing performed under Condition A.4.c; and
 - (2) Continuous performance testing performed at any time at that facility under Condition A.4.d, A.4.e and A.4.f.
 - (3) The documentation file shall be kept up-to-date for each gasoline tank truck loading at the facility. The documentation for each test shall include, as a minimum, the following information:
 - (a) Name of test:

Annual Certification Test—Method 27 [Condition A.4.c (1)],
Annual Certification Test—Internal Vapor Valve
[Condition A.4.c (2)],
Leak Detection Test [Condition A.4.d],
Nitrogen Pressure Decay Field Test [Condition A.4.e], or
Continuous Performance Pressure Decay Test
[Condition A.4.f].
 - (b) Cargo tank owner's name and address.
 - (c) Cargo tank identification number.
 - (d) Test location and date.
 - (e) Tester name and signature.
 - (f) Witnessing inspector, if any: Name, signature, and affiliation.
 - (g) Vapor tightness repair: nature of repair work and when performed in relation to vapor tightness testing.
 - (h) Test results: pressure or vacuum change, mm of water; time period of test; number of leaks found with instrument and leak definition.
- c. The owner/operator shall record and report simultaneously with the notification of compliance status required under 40 CFR 63.9(h), all data and

calculations, engineering assessments, and manufacturer's recommendations used in determining the operating parameter value under Condition A.4.a (10).

- d. The owner/operator shall keep an up-to-date, readily accessible record of the continuous emissions monitoring data required under Condition A.4.a. This record shall indicate the time intervals during which loadings of gasoline tank trucks have occurred or, alternatively, shall record the operating parameter data only during such loadings. The date and time of day shall also be indicated at reasonable intervals on this record.
- e. The owner/operator shall maintain the following records for the loading rack:
 - (1) Records of daily throughput quantities of gasoline, aviation gasoline, gasoline-additives, distillate fuel oil, and ethanol.
 - (2) Records of daily throughput quantities of distillate fuel oil that is top-loaded into tank trucks.
 - (3) Records of the operating hours of the vapor recovery unit and/or vapor combustion unit.
 - (4) Records of the operating hours of the vacuum-assist system.
 - (5) Records of both scheduled and unscheduled maintenance of the vapor processing system.

B. Gasoline storage vessels

(Tanks No. 7132, 7488, 7489, 7548, 7549, 7651, 7652, 31641 and 31726)

1. Operating Requirements

- a. Each gasoline storage vessel shall be equipped with a fixed roof in combination with an internal floating roof and shall meet the following specifications:
 - (1) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals, when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be accomplished as rapidly as possible.

- (2) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor mounted, but both must be continuous.
 - (b) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
 - (3) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- b. Storage vessels T7132, T7488, T7489, T7548, T7549, T31641 and T31726 shall be allowed to store:
- (1) gasoline; or,
 - (2) other petroleum liquids that have a Reid vapor pressure of 4.0 psia or less as determined by ASTM Method D323.
- c. Storage vessels T7651 and T7652 shall be allowed to store:
- (1) aviation gasoline; or,
 - (2) other petroleum liquids that have a Reid vapor pressure of 7.1 psia or less as determined by ASTM Method D323.

2. Monitoring

- a. The owner/operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to filling the storage vessel with gasoline. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof or both, the owner or operator shall repair the items before filling the storage vessel.

- b. For vessels equipped with a mechanical shoe seal, the owner/operator shall:
 - (1) conduct a visual inspection through manholes and roof hatches on the fixed roof, at least once every 12 months after initial fill, of the internal floating roof, the primary seal or the secondary seal (if one is in service; and
 - (2) empty and degas the vessel at least every 10 years and conduct a visual inspection of the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals.

- c. For vessels equipped with a double-seal system as specified in Condition B.1.a.2.(a), the owner/operator shall:
 - (1) conduct a visual inspection through manholes and roof hatches on the fixed roof, at least once every 12 months after initial fill, of the internal floating roof, the primary seal or the secondary seal (if one is in service and empty and degas the vessel at least every 10 years and conduct a visual inspection of the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals; or
 - (2) empty and degas the vessel at least every 5 years and conduct a visual inspection of the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals.

- d. If, during the visual inspection through manholes and roof hatches, the internal floating roof is not resting on the liquid surface, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner/operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during the above inspection cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Office of Air Resources in the inspection report required in Condition B.4.b. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

- e. If, during the visual inspection when the vessel is emptied and degassed, the internal floating roof has defects, the primary seal or secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere or the slotted membrane has more than 10 percent open area, the owner/operator shall repair the items as

necessary so that none of the conditions specified this paragraph exist before refilling the storage vessel with gasoline.

- f. The owner/operator shall notify the Office of Air Resources, in writing, at least 30 days prior to the filling or refilling of each storage vessel following emptying and degassing, to afford the Office of Air Resources the opportunity to inspect the storage vessel prior to refilling. If the emptying and degassing of the storage vessel is not planned and the owner/operator could not have known about the emptying and degassing 30 days in advance of refilling the tank, the owner/operator shall notify the Office of Air Resources at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the emptying and degassing was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Office of Air Resources at least 7 days prior to the refilling.

3. Recordkeeping

- a. The owner/operator shall maintain records of each inspection performed as required by Condition B.2.a-e. Each record shall contain;
 - (1) The identity of the storage vessel;
 - (2) The date the vessel was inspected; and
 - (3) The observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
- b. The owner/operator shall maintain the following records for all gasoline storage vessels:
 - (1) Records showing the dimensions of each tank and an analysis showing the capacity of the tank;
 - (2) The product stored, the period of storage and the maximum true vapor pressure of that product during the respective storage period for each tank. Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs in API Bulletin 2517, unless the Office of Air Resources specifically requests that the liquid be sampled, the actual storage temperature determined and the Reid vapor pressure determined from the sample(s); and
 - (3) The monthly throughput for each tank for each product stored.

4. Reporting

- a. If any of the conditions described in Condition B.2.d are detected during the annual visual inspection, a report shall be furnished to the Office of Air Resources within 30 days of the inspection. Each report shall contain:
 - (1) The identity of the storage vessel;
 - (2) The nature of the defect(s); and
 - (3) The date the storage vessel was emptied or the nature of and date the repair was made.

- b. If any of the conditions described in Condition B.2.e are detected during the visual inspection when the vessel is emptied and degassed, a report shall be furnished to the Office of Air Resources within 30 days of the inspection. The report shall include:
 - (1) The identity of the storage vessel;
 - (2) The nature of any defects identified; and
 - (3) A list of each repair made.

C. Facility-wide Requirements

1. Operating Requirements

- a. The owner/operator shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:
 - (1) Minimize gasoline spills;
 - (2) Clean up spills as expeditiously as practicable;
 - (3) Cover all open gasoline containers with a gasketed seal when not in use;
 - (4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

- b. The total quantity of ethanol loaded into tank trucks and marine tank vessels shall not exceed 229,950,000 gallons in any 12-month period.

2. Monitoring Requirements

- a. The owner/operator shall perform a monthly leak inspection of all equipment in gasoline and/or ethanol service. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. Each piece of equipment that is in gasoline and/or ethanol service shall be inspected during the loading of a gasoline cargo tank. Each piece of equipment that is in only ethanol service shall be inspected during the loading of an ethanol cargo tank.
- b. A log book shall be used and shall be signed by the owner/operator at the completion of each inspection. A section of the log shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline and/or ethanol service at the facility.
- c. Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except as provided in Condition C.2.d of this permit.
- d. Delay of repair of leaking equipment will be allowed upon a demonstration to the Office of Air Resources that repair within 15 days is not feasible. The owner/operator shall provide the reason(s) a delay is needed and the date by which each repair is expected to be completed.
- e. As an alternative to compliance with the provisions in Conditions a. through d. of this section, the owner/operator may implement an instrument leak-monitoring program that has been demonstrated to the Office of Air Resources as at least equivalent.

3. Recordkeeping

- a. The owner/operator, to comply with the provisions of Condition C.2.a-d shall record the following information in the logbook for each leak that is detected:
 - (1) The equipment type and identification number,
 - (2) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell),
 - (3) The date the leak was detected and the date of each attempt to repair the leak,
 - (4) Repair methods applied in each attempt to repair the leak,

- (5) "Repair delayed" and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak,
 - (6) The expected date of successful repair of the leak if the leak is not repaired within 15 days, and
 - (7) The date of successful repair of the leak.
- b. The owner/operator shall maintain, for the facility, records of monthly throughput quantities of gasoline, gasoline blending stocks, off-spec gasoline, dimate, aviation gasoline, gasoline-additives, distillate fuel oil, and ethanol.
- c. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the following:
- (1) The total quantity of gasoline loaded into tank trucks for that month.
 - (2) The total quantity of aviation gasoline loaded into tank trucks for that month.
 - (3) The total quantity of distillate fuel oil loaded into tank trucks for that month.
 - (4) The total quantity of ethanol loaded into tank trucks for that month.
 - (5) The total quantity of gasoline, gasoline blending stocks, off-spec gasoline, and dimate loaded into the gasoline storage tanks for that month.
 - (6) The total quantity of aviation gasoline loaded into storage tanks for that month.
 - (7) The total quantity of distillate fuel oil loaded into the distillate fuel oil storage tanks for that month.
 - (8) The total quantity of ethanol loaded into storage tanks for that month.

The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.

4. Reporting

- a. The owner/operator shall report to the Office of Air Resources a description of the types, identification numbers, and locations of all equipment in gasoline and/or ethanol service no later than 18 months from the date of issuance of this

permit. For facilities electing to implement an instrument program under Condition C.2.e, the report shall contain a full description of the program.

- b. The owner/operator shall include in a semiannual report to the Office of Air Resources the following information:
 - (1) Each loading of a gasoline tank truck for which vapor tightness documentation had not been previously obtained by the facility,
 - (2) The number of equipment leaks not repaired within 5 days after detection.

- c. The owner/operator shall include in the excess emissions report to the Office of Air Resources required under 40 CFR 63.10(e)(3) the following information:
 - (1) Each exceedance or failure to maintain, as appropriate, the monitored operating parameter value determined under Condition A.4.a(10). The report shall include the monitoring data for the days on which exceedances or failures to maintain have occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection and processing system or the CEMS.
 - (2) Each instance of a nonvapor-tight gasoline tank truck loading at the facility in which the owner or operator failed to take steps to assure that such cargo tank would not be reloaded at the facility before vapor tightness documentation for that cargo tank was obtained.
 - (3) Each reloading of a nonvapor-tight gasoline tank truck at the facility before vapor tightness documentation for that cargo tank is obtained by the facility in accordance with Condition A.2.h.(5).
 - (4) For each occurrence of an equipment leak for which no repair attempt was made within 5 days or for which repair was not completed within 15 days after detection:
 - (a) The date on which the leak was detected,
 - (b) The date of each attempt to repair the leak,
 - (c) The reasons for the delay of repair, and
 - (d) The date of successful repair.

- d. The owner/operator shall notify the Office of Air Resources in writing, within 15 days after discovery, whenever any of the following occurs:

- (1) The total quantity of gasoline, excluding aviation gasoline, loaded into tank trucks exceeds 766,500,000 gallons in any 12-month period.
 - (2) The total quantity of gasoline, excluding aviation gasoline, loaded into tank trucks exceeds 2,800,000 gallons in any 24-hour period.
 - (3) The total quantity of gasoline, excluding aviation gasoline, loaded into tank trucks exceeds 700,000 gallons in any 4-hour period.
 - (4) The total quantity of aviation gasoline loaded into tank trucks exceeds 5,000,000 gallons in any 12-month period.
 - (5) The total quantity of distillate fuel oil loaded into tank trucks exceeds 298,000,000 gallons in any 12-month period.
 - (6) The total quantity of ethanol loaded into tank trucks and marine tank vessels exceeds 229,950,000 gallons in any 12-month period.
- e. The owner/operator shall notify the Office of Air Resources of any record showing noncompliance with the terms of this permit or any other air pollution control rule or regulation applicable to the facility by sending a copy of the record to the Office of Air Resources within 30 days after discovery.
- f. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.
- g. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to any equipment that would:
- (1) Change the representation of the facility in the application.
 - (2) Alter the applicability of any state or federal air pollution rules or regulations.
 - (3) Result in the violation of any terms or conditions of this permit.
 - (4) Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.

- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

- h. Deviations from permit conditions, including those attributable to upset conditions as defined in this permit, shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
- i. All records required as a condition of this permit must be made available to the Office of Air Resources or its representative upon request. These records must be maintained for a minimum of five years after the date of each record.

D. Malfunctions

1. In the case of a malfunction of any air pollution control system, all reasonable measures shall be taken to assure resumption of the designed control efficiency as soon as possible. In the event that the malfunction of an air pollution control system is expected or may reasonably be expected to continue for longer than 24 hours and if the owner or operator wishes to operate the source on which it is installed at any time beyond that period, the Director shall be petitioned for a variance under Section 23-23-15 of the General Laws of Rhode Island, as amended. Such petition shall include, but is not limited to, the following:
 - a. Identification of the specific air pollution control system and source on which it is installed;
 - b. The expected period of time that the air pollution control system will be malfunctioning or out of service;
 - c. The nature and quantity of air contaminants likely to be emitted during said period;
 - d. Measures that will be taken to minimize the length of said period;
 - e. The reasons that it would be impossible or impractical to cease the source operation during said period.
2. The owner/operator may seek to establish that a malfunction of any air pollution control system that would result in noncompliance with any of the terms of this permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:

- a. The malfunction was not attributable to improperly designed air pollution control equipment, lack of preventative maintenance, careless or improper operation, or operator error;
- b. The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- c. Repairs necessary to bring the air pollution control system back to normal and proper operation were performed in an expeditious fashion. Off-shift labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable. Any parts or material needed should be shipped overnight where possible or practical.
- d. All possible steps were taken to minimize emissions during the period of time that the repairs were performed.
- e. Emissions during the period of time that the repairs were performed will not:
 - (1) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by Air Pollution Control Regulation No. 22 and any Calculated Acceptable Ambient Levels; and
 - (2) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.
- f. The reasons that it would be impossible or impractical to cease the source operation during said period.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.

E. Other Permit Conditions

- 1. To the extent consistent with the requirements of this approval and applicable Federal and State laws, the facility shall be designed, constructed, and operated in accordance with the representation of the facility in the permit application.

2. The facility is subject to the requirements of the Office of Air Resource's Air Pollution Control Regulation No. 11 "Petroleum Liquids Marketing and Storage". If there is any conflict between any term or condition of this permit and the applicable provisions of APC Regulation No. 11, the owner/operator shall comply with the term or condition of this permit.
3. The facility is subject to the requirements of the following Federal National Emission Standards for Hazardous Air Pollutants for Source Categories:
 - a. 40 CFR 63.1-15, Subpart A, "General Provisions", as indicated in Table 1 to Subpart R of 40 CFR 63.
 - b. 40 CFR 63.420-429, Subpart R, "National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)".
4. The facility is subject to the requirements of the following Federal New Source Performance Standards:
 - a. 40 CFR 60 Subpart A, "General Provisions"
 - b. 40 CFR 60 Subpart Kb, "Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction or Modification Commenced After July 23, 1984"
 - c. 40 CFR 60 Subpart XX, "Standards of Performance for Bulk Gasoline Terminals"

Compliance with all applicable provisions therein is required.

5. There shall be no bypassing of the air pollution control equipment during times when VOC is being discharged to the device.
6. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
7. Except as provided in Condition E.8, the owner/operator shall not store, sell or supply as fuel, at or from this facility, a gasoline having a Reid Vapor Pressure greater than 9.0 pounds per square inch, during the period of 1 May through 15 September of each year. Sampling and testing of gasoline shall be in accordance with ASTM Method D323-82 or any equivalent method approved by the Office of Air Resources and EPA.
8. The owner/operator shall not store, sell or supply as fuel, at or from this facility, a gasoline - ethanol blend (containing at least 9% ethanol) having a Reid Vapor Pressure

greater than 10.0 pounds per square inch, during the period of 1 May through 15 September of each year. Sampling and testing of gasoline - ethanol blends shall be in accordance with ASTM Method D323-82 or any equivalent method approved by the Office of Air Resources and EPA.

9. The emergency venting of gasoline tank trucks shall be in accordance with the federal DOT specifications for cargo tanks and tank cars authorized to carry hazardous materials. Emergency venting shall not be considered a violation of any term or condition of this permit.
10. The Director may, at any time, monitor a gasoline tank truck, vapor collection system or vapor processing system, by the methods referenced in this permit, to confirm continuing compliance with the terms of this permit.
11. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

F. Definitions

As used throughout this permit, the following terms shall, where the context permits, be construed as follows:

"Best extent possible" means there shall be no reading at 2.5 centimeters from any potential leak source, greater than or equal to 100% of the lower explosive limit, LEL, measured as propane, as detected by a combustible gas detector using the test procedure described in Appendix B of the EPA document entitled "Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems" (EPA-450/2-78-051).

"Condensate" means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

"Equipment" means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in the gasoline liquid transfer and vapor collection systems. This definition also includes the entire vapor processing system except the exhaust port(s) or stack(s).

"Fill" means the introduction of gasoline or petroleum liquid into a storage vessel but not necessarily to complete capacity.

"Gasoline" means any petroleum distillate having a Reid vapor pressure of more than 4.0 psia as determined by ASTM Method D323. This term includes but is not limited to mixtures of alcohols and gasoline.

"Gasoline tank truck" means a delivery tank truck or railcar which is loading gasoline or which has loaded gasoline on the immediately previous load.

"In gasoline service" means that a piece of equipment is used in a system that transfers gasoline or gasoline vapors.

"Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid around the circumference of the tank between the tank wall and the floating roof.

"Loading rack" means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill delivery tank trucks.

"Mechanical shoe seal" includes but is not limited to a metal sheet held vertically against the tank wall by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

"Operating parameter value" means a value for an operating or emission parameter of the vapor processing system (e.g., temperature) which, if maintained continuously by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with the applicable emission standard. The operating parameter value is determined using the procedures outlined in Condition C.4.a (10).

"Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale and coal.

"Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

"Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquefied petroleum gases, as determined by ASTM D323-82.

"Storage vessel" means each tank, reservoir, or container used for the storage of gasoline or other petroleum liquids that have a Reid vapor pressure of 4.0 psia or less as determined by ASTM Method D323.

"Total organic compounds" means those compounds measured according to the procedures in 40 CFR 60.503(c).

"Vapor collection system" means any equipment used for containing total organic compounds vapors displaced during the loading of gasoline tank trucks.

"Vapor-mounted seal" means a primary seal mounted so there is a vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

"Vapor processing system" means all equipment used for recovering or oxidizing total organic compound vapors displaced from this facility.

"Vapor tight" means the condition where a combustible gas detector does not detect a leak of volatile organic materials when the probe of this meter is held parallel to the flow of volatile organic materials from the leak source.

TABLE 1. — ALLOWABLE CARGO TANK TEST PRESSURE OR VACUUM CHANGE

| Cargo Tank or Compartment Capacity, liters (gal) | Annual Certification-Allowable Pressure or Vacuum Change (Δp , Δv) in 5 Minutes, mm H ₂ O (in. H ₂ O) | Allowable Pressure Change (Δp) in 5 Minutes at Any Time, mm H ₂ O (in. H ₂ O) |
|--|---|---|
| 9,464 or more (2,500 or more) | 25 (1.0) | 64 (2.5) |
| 9,463 to 5,678 (2,499 to 1,500) | 38 (1.5) | 76 (3.0) |
| 5,679 to 3,785 (1,499 to 1,000) | 51 (2.0) | 89 (3.5) |
| 3,782 or less (999 or less) | 64 (2.5) | 102 (4.0) |

TABLE 2. — PRESSURE CHANGE FOR INTERNAL VAPOR VALVE TEST

| Time Interval | Interval Pressure Change, mm H ₂ O (in. H ₂ O) |
|-----------------|--|
| After 1 minute | 28 (1.1) |
| After 2 minutes | 56 (2.2) |
| After 3 minutes | 84 (3.3) |
| After 4 minutes | 112 (4.4) |
| After 5 minutes | 140 (5.5) |