| CITGO Petroleum Corporation<br>Cumberland County<br>South Portland, Maine<br>A-460-70-F-A | Departmental<br>Findings of Fact and Order<br>Part 70 Air Emission License<br>Amendment #2 |
|---|---|

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., § 344 and § 590, the Department finds the following facts:

## I. REGISTRATION

A. Introduction

| | |
|---|---|
| FACILITY | CITGO Petroleum Corporation |
| CURRENT PART 70 RENEWAL & EXPIRATION DATE | A-460-70-D-R, 2/26/2012 |
| LICENSE TYPE | 06-096 CMR 140,<br>Significant Modification |
| NAICS CODES | 42271 |
| NATURE OF BUSINESS | Bulk petroleum storage and distribution |
| FACILITY LOCATION | 102 Mechanic Street, South Portland |
| AMENDMENT ISSUANCE DATE | July 18, 2008 |

B. Amendment Description

CITGO Petroleum Corporation (CITGO) is licensed to operate seven tanks for the storage of gasoline. All of these tanks are equipped with internal floating roofs. CITGO has proposed allowing the storage of either ethanol or gasoline in these tanks. Since the potential VOC emission rate is lower for ethanol than for gasoline, this change will not result in any emissions increase.

CITGO will blend the ethanol with gasoline at a 90% gasoline/10% ethanol ratio. No emissions will result from the blending as this takes place inside closed piping. However, because ethanol has the characteristic of raising the RVP of the product it is mixed with, the distribution of the blended product will result in a potential increase of fugitive VOCs from the loading rack of 2.09 ton/year. There is no anticipated increase in emissions from the control device (VCU) as there are no anticipated changes to controlled emissions measured in mg/L of product transferred.

C. Application Classification
The application for CITGO does not violate any applicable federal or state requirements. The Best Available Control Technology (BACT) analysis performed per New Source Review (NSR) was modified per *Major and Minor Source Air Emission License Regulations,* 06-096 CMR 115 (last amended December 1, 2005) in air emission license minor revision A-460-77-1-M. This action incorporates the changes of NSR amendment A-460-77-1-M into the CITGO's Part 70 license and is therefore determined to be a Part 70 Significant Modification and has been processed as such.

## II. AMENDMENT DESCRIPTION

A. Storage and Blending of Ethanol
CITGO has proposed storage of either ethanol or gasoline in tanks that are currently licensed to store gasoline. These tanks are currently equipped with internal floating roofs for control of VOC emissions.

CITGO has also proposed the distribution of a gasoline/ethanol blend from the facility's loading rack. The loading rack is controlled by a Vapor Combustion Unit (VCU). The VCU is a John Zink thermal oxidizer installed in 1995. The VCU controls emissions to less than 10 milligrams per liter of product loaded.

The use of internal floating roofs and the VCU are considered to be BACT for the storage and blending of ethanol at the facility.

B. Annual Emissions
CITGO shall be limited to the following annual emissions based on a yearly (12-month rolling total) petroleum throughput not to exceed 635 million gallons of gasoline and ethanol combined, 350 million gallons of distillate, and 590,000 gallons of additive per 12-month period (assuming all gasoline is conventional) and an annual propane usage limit of 400,000 gallons per 12-month period as auxiliary fuel to the vapor combustion unit:

**Total Allowable Annual Emissions for the Facility**
(used to calculate the annual license fee)

| | $NO_x$ | CO | VOC | Total HAP |
|---|---|---|---|---|
| Loading Rack | 34.0 | 185.0 | 66.0 | -- |
| Storage Tanks | -- | -- | 41.9 | -- |
| Marine Loading | -- | -- | 9.1 | -- |
| Process Fugitives | -- | -- | 0.3 | -- |
| Facility Wide | -- | -- | -- | 5.0 |
| **Total TPY** | **34.0** | **185.0** | **117.3** | **5.0** |

## ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 Significant Modification A-460-70-F-A pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**The following Condition shall replace Condition (14)(J) of Air Emission License A-460-70-D-R:**

(J) CITGO shall not exceed a petroleum product throughput at the loading rack as follows (based on a 12 month rolling total): [06-096 CMR 115, BACT]

1. gasoline/ethanol: 635,000,000 gallons
2. distillate: 350,000,000 gallons
3. additive: 590,000 gallons

**The following Condition shall replace Condition (14)(O) of Air Emission License A-460-70-D-R:**

(O) CITGO shall not exceed an emission limit of 117.3 tons per year of VOC based on a 12 month rolling total demonstrated by the recordkeeping requirements listed in Condition (20) of Air Emission License A-460-70-D-R. [06-096 CMR 115, BACT]

**The following Condition shall replace Condition (17) of Air Emission License A-460-70-D-R:**

(17) Gasoline/Ethanol Storage Tanks, Emission Units #004 - #005, Units #007 - #010 and Unit #013

The following requirements apply to each of the above listed storage tanks individually, unless otherwise noted.

A. All gasoline storage tanks shall be equipped, maintained, and operated such that:
   1. There is an internal floating roof with closure seal(s) between the roof edge and the tank wall and these are maintained so as to prevent vapor leakage; [06-096 CMR 111]
   2. The internal floating roof and closure seal(s) will be maintained such that there are no holes, tears, or other openings in the seal or between the seal and the floating roof; [06-096 CMR 111]
   3. All storage tank openings, except stub drains, are equipped with covers, lids or seals which remain closed at all times; [06-096 CMR 111]
   4. All automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports; [06-096 CMR 111]
   5. All rim vents, if provided, are to be set to open only when the roof is being floated off leg supports or at the manufacturers recommended setting; [06-096 CMR 111]
   6. If any holes, tears, or other openings are present the source shall notify the Department in writing within 10 days of discovery of such holes, tears or other openings and the course of action to be taken for repair. The licensee shall demonstrate to the Department that all repairs were made as soon as practicable, but no later than 30 calendar days from detection. If such holes, tears or other openings are detected between June 1 and August 31, the licensee may contact the Department to request flexibility in order to make repairs outside the period restricting the emptying and degassing of tanks. [A-460-74-G-A/R (7/25/95) & A-460-70-A-I (4/9/02), BPT]

B. CITGO shall comply with the following source inspection requirements: [06-096 CMR 111]
   1. Routine inspections of floating roofs are conducted through roof hatches once every month.
   2. A complete inspection of the cover and seal is to be performed at least once every ten years and each time the vessel is emptied and degassed. These inspections shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seals and may be conducted entirely from

the top side of the floating roof as long as there is visual access to all deck components.

3. CITGO shall not empty and degas any storage tank for the purpose of performing a complete inspection between June 1 and August 31 of each calendar year.

C. The following records shall be maintained at the source and available for inspection by the Department:
   1. Inspection log documenting routine monthly inspections of floating roof covers and seals, including LEL readings from such inspections, which are to include notification and explanation of any excessive increases in LEL readings as compared to normal operating conditions. [A-460-74-G-A/R (7/25/95), BPT]
   2. Inspection log documenting all complete inspections of cover and seal to be performed whenever the tank is emptied and degassed, at a minimum of once every ten years. [06-096 CMR 111]
   3. Inspection log documenting any detected leaks, holes, tears, or other openings and the corrective action taken. [06-096 CMR 115, BACT]
   4. Monthly throughput specifying quantity and types of volatile petroleum liquids in each tank and the period of storage. [06-096 CMR 111]
   5. Average monthly product storage temperatures and maximum true vapor pressures or Reid vapor pressures of volatile petroleum liquids stored. [06-096 CMR 111]
   6. Calculations showing annual VOC emissions from equipment seals, and transfer piping and fittings determined in accordance with American Petroleum Institute, Manual of Petroleum Measurement Standard, Chapter 19, Section 2, Evaporative Loss from Floating Roof Tanks (method of calculating VOC emission from tanks). [A-460-70-A-I (4/9/02), BPT]

D. Emission units #005 (Tank #7), #010 (Tank #6), and #013 (Tank #1) will be a dual storage tanks. These tanks are equipped to store gasoline or ethanol, however, typical storage will be distillate. Therefore, CITGO shall comply with all requirements, as applicable, for storage of gasoline or ethanol whenever these tanks are put into such service. No notification to the Department is required when products are switched. CITGO shall maintain records as stated in Conditions (16) of Air Emission License A-460-70-D-R and Condition (3)(A), (B) and (C) of this license.
[06-096 CMR 115, BACT]

**The following Condition shall replace Condition (19) of Air Emission License A-460-70-D-R:**

(19) The total annual emissions from CITGO shall not exceed the following, based on a 12 month rolling total. [06-096 CMR 115, BACT]

| Pollutant | TPY |
|---|---|
| PM | negligible |
| $PM_{10}$ | negligible |
| $SO_2$ | negligible |
| $NO_x$ | 34.0 |
| CO | 185.0 |
| VOC | 117.3 |
| Total HAPs | 5.0 |

**Condition (29) of Air Emission License A-460-70-D-R is deleted.**

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 4/30/08
Date of application acceptance: 5/9/08

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.