Facility Name: CITERCO
City: Savannah
County: Chatham
AIRS #: 04-13-051-00200 Application #: TV- 10538

Date Application Received: March 3, 1998
Date Application Deemed Administratively Complete: May 4, 1998
Date of Draft Permit: November 30, 1998
Permit No: 2451-051-0200-V-01-0

Program	Review Engineers	Review Managers
SSPP/ASU	Susan Jenkins	John Yntema
SSCP/ASU	Alicia Woods	Lou Musgrove
ISMP	George Garten	Richard Taylor
TOXICS	Not Applicable	Not Applicable

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Title V operating permit. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being proposed pursuant to: (1) Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The primary purpose of this permit is to consolidate and identify existing state and federal air requirements applicable to **CITERCO** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the methods for determining compliance with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name: CITERCO

2. Parent/Holding Company Name: CITGO Asphalt Refining Company and Ergon, Inc.

3. Previous and/or Other Name(s): No previous names identified.

4. Facility Location: Foundation Drive, Savannah, Chatham County, Georgia 31408

5. Attainment or Non-attainment Area Location

   The facility is located in Chatham County, Georgia which is in attainment for all criteria pollutants.

6. Class I Area Impacts

   CITERCO is located within 100 km of the Wolf Island Class I Area.

B. Site Determination

CITGO Asphalt Refining Company (AFS No. 051-00012) and CITERCO (AFS No. 051-00200) are parts of the same Title V Site. The companies are located on contiguous property, operate under common control, and have the same first 2-digit SIC code (29). Note, this site is a Title V synthetic minor source for HAPs. This Title V Permit will cover only CITERCO (AFS No. 051-00200). CITGO Asphalt Refining Company (AFS No. 051-00012) has applied for a separate Title V Permit under application number TV-8901.

C. Existing Permits

Based on a comparative review of Item 19 in Section 1.10 of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office, there are no comments.

Table 1: List of Current Permits, as Amended

Permit Number and/or Purpose of Issuance	Date of Issuance and Date of Amendments (if any)	Comments	
		Yes	No
2951-025-12390	April 7, 1997 Amended August 7, 1997		X

D. Process Description

1. SIC Code(s)

Major - 2951
Other - None

2. Description of Product(s)

This plant produces polymer modified asphalt.

3. Overall Facility Process Description

CITERCO's process is designed to convert asphalt from CITGO's existing asphalt refinery into Polymer Modified Asphalt (PMA). PMA concentrate is produced by non-reactive mixing of a proprietary additive and styrene-butadiene-styrene (SBS) polymer with the asphalt feed. The concentrate is further diluted with asphalt prior to being pumped to the storage tanks.

Pelletized SBS is transported from the warehouse to the storage hopper using a vacuum-type pneumatic transport system and cyclone separator. A high speed mixer is used to mix the SBS, additive and the asphalt. The mixture is combined with a recycle stream and passed through a shearing mill prior to entering the first of two mixing tanks (T070 and T071). Product from the mixing tank (T070) is combined with recycle from the second mixing tank (T071) and passed through a second shearing mill. The product then enters the second mixing tank (T071). The PMA concentrate from the second mixing tank (T071) is combined with the diluent asphalt and pumped through an in-line mixer prior to entering one of the four storage tanks (T073-T076). These four storage tanks are insignificant activities.

The process heating requirements are provided by a unit hot oil heating system (H001). Heat from the unit is used for the process exchangers and the heating coils for the mixing and storage tanks.

The SBS polymer hopper is equipped with a baghouse, and the hopper is an insignificant activity. High speed mixer and mixing tanks (T070 and T071) are equipped with a mist eliminator (AV01), and the speed mixer is an insignificant activity. Storage tanks (T073-T076) utilize a mist eliminator (AV02) for vapor control.

4. Overall Process Flow Diagram (optional)

Received as a hard copy attachment with the application.

E. Regulatory Status

1. PSD/NSR

The facility is a major PSD source because it is classified as one site under the PSD regulations with CITGO Asphalt Refining Company (AFS No. 051-00012) which is a PSD major source.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the pollutant emitted?	If emitted, what is the facility's Title V status?		
		Major Source Status	Major Source requesting SM Status	Non-Major Source Status
PM	Yes	No	No	Yes
PM_{10}	Yes	No	No	Yes
SO_2	Yes	No	No	Yes
VOC	Yes	No	No	Yes
NO_x	Yes	No	No	Yes
CO	Yes	No	No	Yes
TRS	Yes	No	No	Yes
H_2S	Yes	No	No	Yes
Individual HAP	Yes	No	No	Yes
Total HAPs	Yes	No	No	Yes

Note: Table 3 only includes emissions from CITERCO and it does not include emissions from CITGO Asphalt Refining Company.

3. MACT Standards

This site is not subject to a MACT standard because they obtained a Title V Synthetic Minor permit for HAPs before any applicable compliance date.

4. Program Applicability

Program Code 6 - PSD: no
Program Code 8 - Part 61 NESHAP: no
Program Code 9 - NSPS: yes
Program Code M - Part 63 NESHAP: no
Program Code V - Title V: yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Cap

Not Applicable.

B. Applicable Rules and Regulations

- Rules and Regulations Assessment

  The facility-wide PM emissions are limited by Georgia Rule for Air Quality Control 391-3-1-.02(2)(e)1.(i), and this limit is expressed by the following equation:

  $E = 4.1P^{0.67}$

  where E equals the allowable PM emission limit in pounds per hour and P equals the maximum dry process weight input rate in tons per hour.

- Emission and Operating Standards - Not applicable.

C. Compliance Status: See Section VII.F

D. Operational Flexibility: See Section VII.A

E. Permit Conditions

Condition 2.3.1 limits facility-wide PM emissions to that allowed by Georgia Rule (e).

III. Regulated Equipment Requirements

A. Brief Process Description

CITERCO's process is designed to convert asphalt from CITGO's existing asphalt refinery into Polymer Modified Asphalt (PMA). PMA concentrate is produced by non-reactive mixing of a proprietary additive and styrene-butadiene-styrene (SBS) polymer with the asphalt feed. The concentrate is further diluted with asphalt prior to being pumped to the storage tanks.

Pelletized SBS is transported from the warehouse to the storage hopper using a vacuum-type pneumatic transport system and cyclone separator. A high speed mixer is used to mix the SBS, additive and the asphalt. The mixture is combined with a recycle stream and passed through a shearing mill prior to entering the first of two mixing tanks (T070 and T071). Product from the mixing tank (T070) is combined with recycle from the second mixing tank (T071) and passed through a second shearing mill. The product then enters the second mixing tank (T071). The PMA concentrate from the second mixing tank (T071) is combined with the diluent asphalt and pumped through an in-line mixer prior to entering one of the four storage tanks (T073-T076). These four storage tanks are insignificant activities.

The process heating requirements are provided by a unit hot oil heating system (H001). Heat from the unit is used for the process exchangers and the heating coils for the mixing and storage tanks.

B. Equipment List for the Process

Emission Unit ID No.	Emission Unit Description	Pollutant(s) Emitted	Applicable Requirements	Is the Rule or Regulation Federally Enforceable?	APCE Control ID No.	APCE Description
H001	15.0 MMBtu/hr hot oil heater	NOx, PM, PM-10, VOC	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 60, Subpart Dc	Yes Yes Yes	None	None
T070	Non-reactive bulk mixing tank	PM	391-3-1-.02(2)(b)	Yes	AV01	Mist eliminator
T071	Non-reactive bulk mixing tank	PM	391-3-1-.02(2)(b)	Yes	AV01	Mist eliminator

* APCE = Air Pollution Control Equipment

C. Equipment & Rule Applicability

Hot Oil Heater - H001

CITERCO operates a hot oil heater, H001, that supplies heat energy to the polymer modified asphalt (PMA) storage tanks. The primary fuel for H001 is natural gas, and the unit has No. 2 fuel oil backup capability. PM emissions, SO_2 emissions, and opacity are limited from this heater by applicable regulations. PM emissions are limited by Georgia Rule for Air Quality Control 391-3-1-.02(2)(d)2.(ii), and this limit is expressed as follows:

$$E = 0.5(10/R)^{0.5}$$

where E is the allowable PM emission rate expressed in pounds per million Btu heat input and R equals the heat input in million Btu per hour. The opacity of the exhaust stream from H001 is limited by Georgia Rule for Air Quality Control 391-3-1-.02(2)(d)3. SO_2 emissions are limited from this heater by limiting the sulfur content of the fuel oil consumed to no more than 2.5 weight percent, as required by Georgia Rule for Air Quality Control 391-3-1-.02(2)(g).

H001 is subject to the requirements of 40 CFR 60 Subpart Dc because it was constructed after 1989 and has a heat input capacity greater than 10 MMBtu/hr. 40 CFR 60.42c(d) establishes a more stringent SO_2 standard than Georgia Rule for Air Quality Control 391-3-1-.02(2)(g) in that the sulfur content of the fuel oil consumed by H001 cannot exceed 0.5 weight percent.

Non-Reactive Bulk Mixing Tanks - T070 and T071

These tanks are used to mix asphalt, a polymer, and a proprietary ingredient to produce a polymer modified asphalt (PMA). CITERCO does not vent these mixing tanks directly to the atmosphere because potential PM emissions would exceed that allowed under the PSD regulation (i.e., the PSD significant threshold). Thus they operate a mist eliminator (AV01) as air pollution control equipment for T070 and T071.

Storage Tank Farm

CITERCO operates two PMA storage tanks, namely T073 and T074, and these tanks are listed in Section 4.10 of their Title V permit application. Their existing state permit lists four PMA storage tanks. The only candidate rule covering these tanks is 40 CFR 60, Subpart UU. Storage tanks that are potentially subject to that regulation must be located at an asphalt roofing plant, petroleum refinery, or an asphalt processing plant. CITERCO does not meet the definition of an asphalt roofing plant, petroleum refinery or an asphalt processing plant as defined in §60.471. Thus these storage tanks are not subject to NSPS Subpart UU. There are no other applicable rules covering CITERCO's storage tank farm.

D. Compliance Status: See Section VII.F

E. Operational Flexibility: See Section VII.A

F. Permit Conditions

Condition 3.3.1 states that the weight percent sulfur content of the fuel oil consumed by H001 cannot exceed 0.5, in accordance with 40 CFR 60.42c(d).

Condition 3.4.1 establishes the allowable PM emission rate from H001 based on Georgia Rule for Air Quality Control 391-3-1-.02(2)(d)2.(ii).

Condition 3.4.2 limits the opacity from H001 to that allowed under Georgia Rule for Air Quality Control 391-3-1-.02(2)(d)3.

Condition 3.4.3 limits the opacity from T070 and T071 to that allowed under Georgia Rule for Air Quality Control 391-3-1-.02(2)(b).

IV. Testing Requirements (with Associated Recordkeeping and Reporting)

A. General Testing Requirements

None of the regulations applicable to hot oil heater H001 require performance testing; therefore, the permit does not contain any specific testing requirements for the heater. The permit does specify that a performance test may be required at anytime upon request by the Division to determine compliance with the limits in Part 3 of their Title V permit, and test methods for measuring emissions are listed in Condition 4.1.3.

1. Exceptions to General Testing Requirements - Not Applicable.

B. Specific Testing Requirements

1. Individual Equipment - Not Applicable.

2. Equipment Groups (all subject to the same test requirements) - Not Applicable.

V. Monitoring Requirements (with Associated Recordkeeping and Reporting)

A. General Monitoring Requirements

Condition 5.1.1 requires that all monitors be operated continuously except during breakdowns, repairs, and quality assurance activities. Any repairs or maintenance should be completed in an expeditious manner so downtime is minimized. All data should also be recorded during any calibration activity to help verify that the calibration was performed and completed properly.

1. Exceptions to General Monitoring Requirements - Not Applicable.

B. Specific Monitoring Requirements

1. Individual Equipment:

a. Specific monitoring requirements

Hot Oil Heater - H001

While PM emissions from this heater are limited by Georgia Rule for Air Quality Control 391-3-1-.02(2)(d), PM emissions from the combustion of natural gas and distillate fuel oil are insignificant. Therefore, no compliance monitoring for Georgia Rule (d) is included. To assure compliance with Georgia Rule for Air Quality Control 391-3-1-.02(2)(g) and 40 CFR 60.42c(d) for fuel oil consumed by this heater, CITERCO is given the option of either sampling and analyzing the oil (by approved methods) or obtaining from the oil supplier, a statement certifying that the oil has been sampled and analyzed using approved methods.

CITERCO must monitor the amount of natural gas and fuel oil consumed by H001, as required by 40 CFR 60.48c(g).

Non-Reactive Bulk Mixing Tanks - T070 and T071

The PM emissions from these mixing tanks are controlled by mist eliminator AV01. CITERCO must continuously monitor the pressure differential across AV01.

b. Recordkeeping for monitoring

Hot Oil Heater - H001

CITERCO must verify that each shipment of fuel oil received for combustion in H001 is distillate oil and complies with the fuel oil sulfur weight percent content limit expressed by 40 CFR 60.48c(d) and Georgia Rule for Air Quality Control 391-3-1-.02(2)(g). Verification shall consist of fuel oil receipts obtained from the fuel supplier certifying that the oil is distillate oil or an analysis of the fuel oil conducted by methods of sampling and analysis which have been specified or approved by the Division.

40 CFR 60.48c(g) requires that CITERCO record and maintain daily records of the amounts of natural gas and fuel oil combusted each day in heater H001. Based upon guidance provided in a

letter to the Division dated August 14, 1996 and from an EPA memorandum dated February 28, 1992, the EPD may approve a monthly fuel usage recordkeeping frequency as an alternative to a daily fuel usage recordkeeping frequency for boilers in which only natural gas or low sulfur fuel oil certified by the fuel supplier are burned. Thus, the frequency of recordkeeping for this unit is set at monthly.

Non-Reactive Mixing Tanks - T070 and T071

CITERCO must record the pressure differential across AV01 at least once per shift. The maximum pressure differential is set at 8 inches of water and this value was obtained from data recorded by the compliance engineer during the last several inspections. Any three consecutive readings above 8 inches of water shall be reported as a deviation.

c. Reporting for monitoring

Hot Oil Heater - H001

CITERCO is required to submit quarterly reports to the Division which include information listed in 40 CFR 60.48c(e). The content of the fuel supplier certifications is defined in 40 CFR 60.48c(f). A quarterly report is not required if fuel oil was not burned during the quarter, unless otherwise notified by the Division.

2. Equipment Groups (all subject to the same monitoring requirements) - Not Applicable.

VI. Other Recordkeeping and Reporting Requirements

A. General Recordkeeping and Reporting Requirements

General requirements for the maintenance of all records for a period of five years are included in Condition 5.3.3. Prompt reporting shall be as described in Condition 6.1.1.

B. Specific Recordkeeping and Reporting Requirements

Condition 6.2.1 requires CITERCO to maintain monthly usage records of natural gas and fuel oil burned in heater H001.

Condition 6.2.2 requires CITERCO to submit quarterly reports that include information about H001 as required by 40 CFR 60.48c(d), 40 CFR 60.48c(e) and 40 CFR 60.48c(f).

VII. Specific Requirements

A. Operational Flexibility

Operational flexibility does not need to be incorporated into this Title V Permit. The applicant did not include any alternative operating scenarios in their Title V permit application.

B. Alternative Requirements

There are no alternative requirements that need to be incorporated into the Title V Permit.

C. Insignificant Activities

- refer to §4.10 of the Title V permit application

Category	Description of Insignificant Activity	Quantity
Trade Operations	1. Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities whose emissions of hazardous air pollutants (HAPs) fall below 1,000 pounds per year.	4
Maintenance, Cleaning, and Housekeeping	5. Non-routine clean out of tanks and equipment for the purposes of worker entry or in preparation for maintenance or decommissioning.	5
Laboratories and Testing	1. Research and development facilities, quality control facilities and/or small pilot projects, where combined daily emissions from all operations are not individually major or are support facilities not making significant contributions to the product of a collocated major manufacturing facility.	8
Storage Tanks and Equipment	2. All petroleum liquid storage tanks with a capacity of less than 40,000 gallons storing a liquid with a true vapor pressure of equal to ore less than 2.0 psia as stored that are not subject to any standard, limitation or other requirement under Section 111 or 112, (excluding 112(r)) of the Federal Act.	5
	6. Portable drums, barrels and totes provided that the volume of each container does not exceed 550 gallons.	1

D. Temporary Sources

CITERCO has not requested to operate any temporary sources.

E. Short-Term Activities

Not Applicable.

F. Compliance Schedule/Progress Reports

The facility is in compliance with all Air Quality Regulations. Therefore, no compliance schedule or process reports are necessary.

G. Emissions Trading

This facility is not involved in any emission trading programs.

H. Acid Rain Requirements

This facility is not subject to any requirements in Title IV of the Clean Air Act.

I. Prevention of Accidental Releases

CITERCO is not subject to the requirements of 40 CFR 68.

J. Stratospheric Ozone Protection Requirements

The standard permit condition pursuant to 40 CFR 82 Subpart F has been included in the Title V Permit even though CITERCO does not operate any equipment that is subject to Title VI of the 1990 Clean Air Act Amendments.

K. Pollution Prevention

There are no pollution prevention provisions incorporated into this Title V Permit.

L. Specific Conditions: None

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

TITLE V APPLICATION REVIEW

Closing Block: We have reviewed and recommend issuance of draft Permit No. 2951-051-0200-V-01-0

Program	Review Engineers	Dates	Review Managers	Dates
SSPP/ASU				
SSCP/ASU				
ISMP				
TOXICS				

Stationary Source Permitting Program Manager Date

Addendum to Narrative

Public notice of CITERCO's Title V permit was run in the Sunday, January 3, 1999, Savannah Morning News. The public notice comment period ended February 2, 1999, and comments were received from CITERCO on January 8, 1999. The EPA comment period ended February 17, 1999 and no comments were received from EPA.

CITERCO's Comments of Permit No. 2951-051-0200-V-01-0 (Draft)

1. Condition 1.3

   CITERCO did not install mist eliminator AV02 on storage tanks T073-T076 as in the original permit application. Mist eliminator AV01 was constructed and controls emissions from the high speed mixer and mixing tanks (T070 and T071). Thus the last paragraph to Condition 1.3 is changed to read as follows:

   > "The SBS polymer hopper is equipped with a baghouse, and the hopper is an insignificant activity. High speed mixer, mixing tanks T070 and T071, and storage tanks T073-T076 are equipped with a mist eliminator AV01. The high speed mixer is an insignificant activity."

2. Condition 5.2.2

   This condition establishes the value of the differential pressure to be maintained across mist eliminator AV01. This value was specified as 8 inches of water column in the draft Title V permit; however, the manufacturer recommends that the filter element be either cleaned or changed out when the element's differential pressure reaches 14 inches of water, not 8 inches. Thus, this condition will be revised to specify 14 inches of water as the differential pressure to be maintained across mist eliminator AV01.

3. Condition 5.2.3

   This condition specifies when a deviation must be reported in accordance with Condition 5.3.1 with respect to the pressure differential across mist eliminator AV01. The "trigger value" is changed from 8 inches of water to 14 inches of water.

4. Condition 7.11

   CITERCO requested that this condition be removed from their Title V permit since 40 CFR 82, Subpart F is not an applicable requirement. This condition cannot be removed because it is part of the Title V permit template.

5. Condition 8.22

   CITERCO requested that this condition be removed from their Title V permit since no fugitive dust emissions are possible from this facility. This condition cannot be removed because it is part of the Title V permit template.