

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

AND PREVENTION OF SIGNIFICANT
DETERIORATION AUTHORITY
TO CONSTRUCT AIR EMISSIONS EQUIPMENT
THIS CERTIFIES THAT

**Pursue Energy Corporation
Thomasville Gas Plant
2173 Shell Oil Road
Brandon, Mississippi 39042
Rankin County**

has been granted permission to construct air emissions equipment to comply with emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder and under authority granted by the Environmental Protection Agency under 40 CFR 52.01 and 52.21.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: January 19, 1984

Permit No.: 2380-00036

Permit Modified: February 28, 1984

(Name change)

Permit Modified: NOV 07 2007

(Change monitoring requirements and
unit conversion of HAP emission rates)

PART I
GENERAL CONDITIONS

1. Any activities not identified in the application are not authorized by this permit.
2. All air pollution control facilities shall be designed and constructed such as to allow proper operation and maintenance of the facilities.
3. The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits.
4. The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation APC-S-1, "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10.
5. The construction of facilities shall be performed in such a manner as to reduce both point source and fugitive dust emissions to a minimum.
6. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon presentation of credentials:
 - a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and
 - b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emissions.
7. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:
 - a. Violation of any terms or conditions of this permit.
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - c. A change in any condition that required either a temporary or permanent reduction or elimination of authorized air emission.

8. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control.
9. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
10. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances.
11. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.
12. This permit is for air pollution control purposes only.
13. Approval to construct will expire should construction not begin within eighteen (18) months of the issuance of this permit, or should construction be suspended for eighteen (18) months.
14. Prior to startup of air emissions equipment at this source, the permittee must obtain a Permit to Operate and submit certification that construction was completed in accordance with the approved plans and specifications.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning [**Modification Date**], the permittee is authorized to construct air emissions equipment and emit air contaminants from Emission Point AA-001, the 100 MM cubic feet per day (2.8 MM cubic meters per day or 1465 long tons sulfur per day) maximum capacity, Sour Gas Treating, Glycol Dehydration and 3-Stage Claus Sulfur Recovery Facility for converting hydrogen Sulfide (H₂S) to elemental sulfur. The Tail Gas from the sulfur recovery facility is vented through a closed-vent system to a catalytic oxidizer then through a thermal oxidizer (emergency backup tail gas oxidizer which may be used in the event of catalytic oxidizer failure) and finally vented through a stack.

NOTE: All of the equipment listed was constructed during 1972, with the exception of the Catalytic Oxidizer which was constructed during 1984.

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSIONS LIMITATIONS

Sulfur Dioxide	0.084 lb SO ₂ per lb of sulfur processed
Carbonyl Sulfide (COS) + Carbon Disulfide (CS ₂) [Expressed as SO ₂]	0.009 lb SO ₂ per lb of sulfur processed
Total Sulfur Dioxide [SO ₂ + (COS + CS ₂ expressed as SO ₂)]	0.093 lb SO ₂ per lb of sulfur processed

All testing methods or their approved equivalents which are in effect [**Modification Date**], shall be performed in accordance with the test methods specified in 40 CFR 60, Appendix A.

MONITORING REQUIREMENTS

- (1) For Emissions Point AA-001, the permittee shall monitor once per quarter and report both quarterly results semi-annually; the SO₂ emissions based on production calculations and as specified in Part III, Condition (1).
- (2) For Emission Point AA-001, the permittee shall monitor once per quarter and report both quarterly results semi-annually, the SO₂ emissions based on a chromatographic analyses of an acid, tail and stack gas sample and as specified in Part III, Condition (1).
- (3) For Emission Point AA-001, the permittee shall perform a one-time stack test for sulfur dioxide (SO₂) emissions as specified in Part III, Condition (6).
- (4) For Emission Point AA-001, the permittee shall perform a one-time stack test for Carbonyl Sulfide (COS) emissions as specified in Part III, Condition (6).
- (5) For Emission Point AA-001, the permittee shall perform a one-time stack test for Carbon Disulfide (CS₂) emissions as specified in Part III, Condition (6).

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS
(Emission Point AA-001 Continued)

MACT STANDARD, SUBPART HH (40 CFR PART 63.670)

Emission Point AA-001 is subject to and shall comply with the Section 112, National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT), as described in 40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities

Specifically, only the glycol dehydration unit is subject to the Subpart HH MACT Standard. However, the glycol dehydrator is exempt from the requirements of this subpart per 40 CFR 63.764(e):

- (1) The owner or operator is exempt from the glycol dehydrator requirements if the criteria listed in paragraph (e)(1)(ii) of this section are met, except that the records of the determination of these criteria must be maintained as required in 40 CFR 63.774(d)(1).
- (ii) The actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere are less than 0.90 megagrams per year, as determined by the procedures specified in 40 CFR 63.772(b)(2).

PART III
OTHER REQUIREMENTS

- (1) The permittee shall provide written report of the results of SO₂ emissions determinations required in Part II, Emission Point AA-001 within thirty (30) days following the end of the reporting period. The report shall include:
 - (A) The monitoring and records of the pounds of sulfur processed each day via daily monitoring of volume of untreated gas processed and semi-annual analysis of sulfur content of untreated gas.
 - (B) The monitoring and records of the pounds of sulfur recovered each day via daily gauging of sulfur tanks.
 - (C) The monitoring and records of the composition of the acid gas feed, the tail gas and the incinerator stack gas once per quarter via chromatographic analysis.
 - (D) The calculated actual SO₂ emissions (lbs per lb of sulfur processed) using the monitoring data above as follows:
 - (i) for each day using each day's operational data and the most recent untreated gas analysis; and
 - (ii) once per quarter based on the most recent acid gas, tail gas, and stack gas analyses.

The calculations shall address SO₂, COS and CS₂ and total SO₂ (including COS and CS₂ expressed as SO₂). In lieu of this speciation of emissions, the permittee may calculate emissions as total sulfur expressed as SO₂ (lbs per lb of sulfur processed) provided the calculated value is less than 0.084 pounds per pound of sulfur processed.
 - (E) The overall Sulfur Recovery Efficiency (expressed in percent) of the Sulfur Recovery Unit as determined by Carbon Balance Calculations using the Acid Gas and Tail Gas chromatograph analyses.
- (2) In the event of failure of the catalytic oxidation control device, the permittee shall utilize the thermal oxidation control device until operation of the catalytic oxidation control device can be resumed. During the operation of the thermal oxidation device, the emission limitation for sulfur dioxide shall be 0.12 lb. SO₂ per lb of sulfur processed, as stated in APC-S-1, Section 4.2(d).

PART III
OTHER REQUIREMENTS CONTINUED

- (3) The permittee shall give notice of any flaring or direct venting of gases through the emergency flares as soon as possible after the event commences. The permittee shall follow up the initial notice with submittal of a written report within five (5) days of the end of the event. The report shall provide the date, time, duration, cause, and remedial and preventive actions taken or planned.
- (4) In the event the thermal oxidizer is operated in lieu of the catalytic oxidizer, the permittee shall assure a minimum tail gas residence time of 1.5 seconds in the mixing chamber and maintain a minimum temperature of 870 °F in the mixing chamber. The temperature shall be monitored using a thermocouple and recorded via a strip chart.
- (5) In the event the thermal oxidizer is operated in lieu of the catalytic oxidizer, the permittee shall maintain records of any event or failure or bypass of the catalytic oxidizer. The records shall include the date, time, duration, cause, whether or not the backup thermal oxidizer functioned properly during the event, and remedial and preventive actions taken or planned. The permittee shall give notice as soon as possible after the event commences. The permittee shall follow up the initial notice with submittal of a written report within five (5) days of the end of the event.
- (6) The permittee shall demonstrate compliance with SO₂, COS and CS₂ emission limitations by stack testing in accordance with EPA Reference Methods within 60 days of startup of the catalytic oxidation control device and submittal of a stack test report within 30 days of the stack test date. The Bureau of Pollution Control must be notified prior to the scheduled test date. At least ten (10) DAYS notice should be given so that an observer may be scheduled to witness the test(s).
- (7) The permittee shall adjust the time of any scheduled flaring at the production well(s) of untreated gas to coincide with periods of optimum dispersion.