

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

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

**Mississippi Phosphates Corporation
601 Highway 611
Pascagoula, Mississippi
Jackson County**

“Sulfuric Acid Plant Reliability and Upgrade Project”

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: NOV 09 2010

Permit No.: 1280-00044

Part I

A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only. (Ref.: APC-S-2, Section I.D)
2. Any activities not identified in the application are not authorized by this permit. (Ref.: Miss. Code Ann. 49-17-29 1.b)
3. The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for operating without a valid permit pursuant to State Law. (Ref.: APC-S-2, Section II.B.5)
4. It is the responsibility of the applicant/permittee to obtain all other approvals, permits, clearances, easements, agreements, etc., which may be required including, but not limited to, all required local government zoning approvals or permits. (Ref.: APC-S-2, Section I.D.6)
5. The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities. (Ref.: APC-S-2, Section II.B.7)
6. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit, unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. (Ref.: APC-S-2, Section II.B.15(a))
7. The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. (Ref.: APC-S-2, Section II.B.15(b))
8. The permit does not convey any property rights of any sort, or any exclusive privilege. (Ref.: APC-S-2, Section II.B.15(c))
9. The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality.

The permittee may furnish such records directly to the Administrator along with a claim of confidentiality. (Ref.: APC-S-2, Section II.B.15(d))

10. Design and Construction Requirements: The stationary source shall be designed and constructed so as to operate without causing a violation of an Applicable Rules and Regulations, without interfering with the attainment and maintenance of State and National Ambient Air Quality Standards, and such that the emission of air toxics does not result in an ambient concentration sufficient to adversely affect human health and well-being or unreasonably and adversely affect plant or animal life beyond the stationary source boundaries. (Ref.: APC-S-2, Section V.A)
11. Solids Removal: 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. (Ref.: Miss. Code Ann. 49-17-29)
12. Diversion and Bypass of Air Pollution Controls: 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. (Ref.: APC-S-1, Section 10)
13. Fugitive Dust Emissions from Construction Activities: The construction of the stationary source shall be performed in such a manner so as to reduce fugitive dust emissions from construction activities to a minimum. (Ref.: APC-S-2, Section V.A.4)
14. Right of Entry: 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. (Ref.: Miss. Code Ann. 49-17-21)
15. Permit Modification or Revocation: After notice and opportunity for a hearing, the Permit Board may modify the permit or revoke it in whole or in part for good cause shown including, but not limited to:
 - a) Persistent violation of any of the 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 federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

(Ref.: APC-S-2, Section II.C)

16. Public Record and Confidential Information: 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. (Ref.: Miss. Code Ann. 49-17-39)
17. Permit Transfer: This permit shall not be transferred except upon approval of the Permit Board. (Ref.: APC-S-2, Section XVI.B)
18. Severability: The provisions of this permit are severable. If any provision of the permit, or the application of any provision of the permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. (Ref. APC-S-2, Section I.D.7)
19. Permit Expiration: The permit to construct will expire if construction does not begin within eighteen (18) months from the date of issuance or if construction is suspended for eighteen (18) months or more. (Ref.: APC-S-2, Section V.C.1)
20. Certification of Construction: A new stationary source issued a Permit to Construct cannot begin operation until certification of construction by the permittee. (Ref.: APC-S-2, Section V.D.3)
21. Beginning Operation: Except as prohibited in Part I, Condition 24 of this permit, after certification of construction by the permittee, the Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance or modification of the Title V Permit or the application for issuance or modification of the State Permit to Operate, whichever is applicable, is due. This provision is not applicable to a source excluded from the requirement for a permit to operate as provided by APC-S-2, Section XIII.G. (Ref.: APC-S-2, Section V.D.4)
22. Application for a Permit to Operate: Except as otherwise specified in Part I, Condition 24 of this permit, the application for issuance or modification of the State Permit to Operate or the Title V Permit, whichever is applicable, is due twelve (12) months after beginning operation or such earlier date or time as specified in the Permit to Construct. The Permit Board may specify an earlier date or time for submittal of the application. Beginning operation will be assumed to occur upon

certification of construction, unless the permittee specifies differently in writing. (Ref.: APC-S-2, Section V.D.5)

23. Operating Under a Permit to Construct: Except as otherwise specified in Part I, Condition 24 of this permit, upon submittal of a timely and complete application for issuance or modification of a State Permit to Operate or a Title V Permit, whichever is applicable, the applicant may continue to operate under the terms and conditions of the Permit to Construct and in compliance with the submitted application until the Permit Board issues, modifies, or denies the Permit to Operate. (Ref.: APC-S-2, Section V.D.6)
24. Application Requirements for a Permit to Operate for Moderate Modifications: For moderate modifications that require contemporaneous enforceable emissions reductions from more than one emission point in order to “net” out of PSD/NSR, the applicable Title V Permit to Operate or State Permit to Operate must be modified prior to beginning operation of the modified facilities. (Ref.: APC-S-2, Section V.D.7)
25. Compliance Testing: Regarding compliance testing:
- a) The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.
 - b) Compliance testing will be performed at the expense of the permittee.
 - c) Each emission sampling and analysis report shall include but not be limited to the following:
 - (1) detailed description of testing procedures;
 - (2) sample calculation(s);
 - (3) results; and
 - (4) comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.
- (Ref.: APC-S-2, Section VI.B.3, 4, and 6)

B. GENERAL NOTIFICATION REQUIREMENTS

1. Within fifteen (15) days of beginning actual construction, the permittee must notify DEQ in writing that construction has begun. (Ref.: APC-S-2, Section V.C.2)
2. The permittee must notify DEQ in writing when construction does not begin within eighteen (18) months of issuance or if construction is suspended for eighteen (18) months or more. (Ref.: APC-S-2, Section V.C.3)
3. Upon the completion of construction or installation of an approved stationary source or modification, the applicant shall notify the Permit Board that construction or installation was performed in accordance with the approved plans and specifications on file with the Permit Board. (Ref.: APC-S-2, Section V.D.1)
4. The Permit Board shall be promptly notified in writing of any change in construction from the previously approved plans and specifications or permit. If the Permit Board determines the changes are substantial, it may require the submission of a new application to construct with “as built” plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an “as built” application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law. (Ref.: APC-S-2, Section V.D.2)

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning upon permit issuance, the permittee is authorized to modify air emissions equipment for the emission of air contaminants from Emission Points AA-001 and AA-017, the No. 2 and No. 3 Sulfuric Acid Plants, respectively. The sulfuric acid plants currently have dual absorption systems for control of SO₂ emissions and are equipped with Brinks Demisters in the final absorption towers and other mist eliminators throughout the process to control sulfuric acid mist. Modifications to reduce SO₂ emission will include replacement of the vanadium catalyst with cesium catalyst in the 3rd and 4th converter passes. To reduce sulfuric acid mist, additional vertical tube mist eliminators, or candles, will be installed, and the economizer prior to each final absorption tower will be replaced. Other modifications may include replacement of the drying towers, interpass absorption towers, final absorption towers, acid coolers, and heat exchangers.

The air emissions equipment shall be modified to comply with the emission limitations and monitoring requirements specified below. **These emission limitations shall become effective as specified below but no later than five years from the date Mississippi's Regional Haze SIP is approved by EPA.**

EMISSION LIMITATIONS^{1,2}

Sulfur Dioxide (SO ₂) ³	3.0 lb SO ₂ /ton of 100% H ₂ SO ₄ produced (3-hr rolling average, determined hourly – BACT limit), not to exceed 225 lb/hr (24-hr rolling average, determined hourly – BART limit) and 1700 TPY (365-day rolling total, determined daily)
Sulfuric Acid (H ₂ SO ₄) ⁴	0.10 lb H ₂ SO ₄ /ton of 100% H ₂ SO ₄ produced (3-hr block average – BACT limit), not to exceed 7.5 lb/hr (3-hr block average) and 32.85 TPY

¹ The emission limitations shall apply at all times, except as provided for in APC-S-1, Section 10. All emissions, including those during startups, shutdowns, and malfunctions, shall be used to determine compliance with the TPY emission limitations.

² The SO₂ TPY limit is a combined limit for both sulfuric acid plants (Emission Point AA-001 and AA-017). All other emission limits are individual limits for each sulfuric acid plant.

³ The permittee shall comply with the short-term SO₂ emission limitations above for each plant upon certification of construction and startup of the modified converter, including the replacement of vanadium catalyst with cesium catalyst in both the 3rd and 4th passes. The permittee shall comply with the combined TPY SO₂ emission limit above upon certification and startup of the converters in both sulfuric acid plants.

⁴ The permittee shall comply with the H₂SO₄ emission limitations above for each plant upon certification of construction and startup of the modified/replaced interpass absorption tower and replacement of the economizer prior to the final absorption tower.

NSPS Subpart H - SULFURIC ACID PLANTS

For Emission Points AA-001 and AA-017, the permittee is subject to and shall comply with the *New Source Performance Standards for Sulfuric Acid Plants* (40 CFR Part 60, Subpart H) and the applicable requirements of the *General Provisions* (40 CFR Part 60, Subpart A).

Sulfur Dioxide:

The permittee shall not discharge into the atmosphere any gases which contain sulfur dioxide in excess of 4 lb per ton of acid produced, the production being expressed as 100 percent H₂SO₄. (Ref.: 40 CFR 60.82(a))

Sulfuric Acid Mist:

The permittee shall not discharge into the atmosphere any gases which contain acid mist, expressed as H₂SO₄, in excess of 0.15 lb per ton of acid produced, the production being expressed as 100 percent H₂SO₄. (Ref.: 40 CFR 60.83(a)(1))

Opacity:

The permittee shall not discharge into the atmosphere any gases which exhibit 10 percent opacity, or greater. (Ref.: 40 CFR 60.83(a)(2))

INITIAL COMPLIANCE DEMONSTRATION

For each sulfuric acid plant, within 60 days after achieving the maximum production rate at which the plant will be operated, but not later than 180 days after completion of modification/replacement of the interpass absorption tower and replacement of the economizer prior to the final absorption tower, the permittee shall demonstrate initial compliance with the emission limits and standards for the following pollutant by stack testing in accordance with the specified method(s).

Sulfuric Acid Mist

EPA Test Methods 8
(40 CFR Part 60, Subpart A)

All test methods specified above shall be those versions, or their approved equivalents, which are in effect upon permit issuance. For the purpose of demonstrating compliance, the permittee shall operate the sulfuric acid plant as close to its maximum rated capacity as operating conditions allow.

The permittee shall use the procedures in 40 CFR 60.85(d) to determine the lb H₂SO₄/ton of 100% H₂SO₄ produced.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ must be notified at least ten (10) days prior to the scheduled test date so that an observer may be scheduled to witness the test(s). A stack test report containing the results of the test(s) shall be submitted within sixty (60) days of completion of the required test(s).

MONITORING REQUIREMENTS

Sulfur Dioxide:

To demonstrate compliance with the SO₂ emission limits expressed as lb/ton, lb/hr, and TPY, the permittee shall develop a comprehensive monitoring plan containing the following information:

- (1) The use of a continuous emissions monitoring system for measuring and recording the concentration of SO₂ emissions from each sulfuric acid plant, including the frequency of measurement, performance specifications, and quality assurance procedures;
- (2) The use of an instrument for continuously measuring and recording the exhaust flow from each sulfuric acid plant, including performance specifications and quality assurance procedures;
- (3) The procedures the permittee will use to determine the hourly production rate of 100% sulfuric acid at each sulfuric acid plant;
- (4) The methods and/or calculations the permittee will use to determine the lb/hr and lb/ton SO₂ emission rate on an hourly basis and the ton/day SO₂ emission rate on a daily basis; and
- (5) The use of an automated data acquisition and handling system, including a description of the data acquired, the method by which data will be reduced to the units and averaging periods of the applicable emission limitations, and the procedures for addressing missing or invalid data.

The comprehensive monitoring plan shall be submitted to both the Environmental Permits Division and the Environmental Compliance and Enforcement Division of DEQ for approval within two years of permit issuance or 120 days prior to the effective date of the SO₂ limits for either sulfuric acid plant, whichever date comes first.

RECORDKEEPING REQUIREMENTS

In accordance with Part III, Condition 1, the permittee shall maintain electronic records of all CEMS data required to be monitored and recorded in a data acquisition and handling system and production data used to convert SO₂ emissions to units of lb/ton. The permittee shall maintain electronic records of the average hourly SO₂ emission rates in lb/ton, the average hourly SO₂ emission rate in lb/hr, and the calculated 3-hr rolling average SO₂ emission rates in lb/ton and lb/hr. The permittee shall calculate and record the daily SO₂ emissions in ton/day and the rolling 365-day total SO₂ emissions in TPY.

NOTIFICATION AND REPORTING REQUIREMENTS

In addition to the reporting requirements of 40 CFR 60.7, the permittee shall report all deviations from the permitting requirements specified herein in accordance with Part III, Condition 3.

Within sixty (60) days of permit issuance, the permittee shall submit a schedule of proposed construction activities and modifications to take place at the No. 2 and No. 3 Sulfuric Acid Plants. The schedule shall be updated annually thereafter to reflect completed construction, on-going construction, and planned construction.

The permittee shall promptly notify DEQ of any delay(s) in construction in accordance with Part I.B.2. of this permit. In accordance with Part I.B.3, the permittee shall also certify construction for each significant modification to the sulfuric acid plants, including but not limited to any modification that will trigger the emission limits established herein and replacement of any absorption or drying tower.

**PART III
OTHER REQUIREMENTS**

Records:

- (1) The permittee shall maintain on-site records of all required monitoring data and support information required by this permit for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. These records shall be made available for review upon request from DEQ personnel.

Reporting Deviations:

- (2) The permittee shall report any deviations from the permit requirements, including deviations attributable to upsets, within five (5) working days of such deviation. The report shall also include the cause of the deviation(s) and any corrective action(s) or preventive measure(s) taken. A copy of the report shall be maintained in accordance with Part III, Condition 1.

Semiannual Reports:

- (3) The permittee shall submit semiannual reports of the information specified in herein by July 30 and January 30 for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and a responsible official must certify all required reports.