STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

TO CONSTRUCT AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

PowerChem Inc Plant Road off of Lower Woodville Road Natchez, Mississippi Adams County

has been granted permission to construct air emissions equipment to comply with the 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.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

Nrustal Kudolph	
AUTHORIZED SIGNATURE	
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALIT	'Y

Issued: October 27, 2021 Permit No.: 0040-00061

SECTION 1

A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.1.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)

8. The permit does not convey any property rights of any sort, or any exclusive privilege.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.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 11 Miss. Admin. Code Pt. 2, R. 1.10., "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants."

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.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.: 11 Miss. Admin. Code Pt. 2, R. 2.2.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.: 11 Miss. Admin. Code Pt. 2, R. 2.16.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.: 11 Miss. Admin. Code Pt. 2, R. 2.1.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(3).)

21. Beginning Operation: Except as prohibited in Section 1, 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 11 Miss. Admin. Code Pt. 2, R. 2.13.G.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(4).)

22. Application for a Permit to Operate: Except as otherwise specified in Section 1, 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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(5).)

23. Operating Under a Permit to Construct: Except as otherwise specified in Section 1, 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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7).)

25. General Duty: All air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

26. Deviation Reporting: Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

- 27. 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.: 11 Miss. Admin. Code Pt. 2, R. 2.6.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(3).)

3. Upon the completion of construction or installation of an approved stationary source or modification, and prior to commencing operation, 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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(1) and (3).)

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.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(2).)

SECTION 2 EMISSION POINT DESCRIPTION

The permittee is authorized to construct and operate, upon certification of construction, air emissions equipment, as described in the following table.

Emission Point	Description		
AB-001	UHPA Plant No. 1 Front End Process Vents, vented to Emission Point AB-004		
AB-002	HCl Offgas Scrubber		
AB-003	Phase Transformation Process, vented to Emission Point AB-004		
AB-004	HCl Recovery Unit with Baghouse and Packed Bed Absorber		
AB-005	Alumina Finishing Mill with Baghouse		
AB-006	5,000 Gallon HCl Storage Tank, vented to Emission Point AB-004		
AB-007	1,500 Gallon HCl Recovery Product Tank, vented to Emission Point AB-004		
AB-008	5,000 Gallon HCl Recovery Product Tank, vented to Emission Point AB-004		
AB-009	5,000 Gallon Caustic Storage Tank		
AB-010	1,800 Gallon Dilute Caustic Storage Tank		
AB-012	6,000 Gallon R.O. Water Storage Tank		
AB-013	Electric Steam Boiler		
AB-014	125 ton nominal capacity Cooling Tower		
AB-015	UHPA Plant No. 1 Equipment Leak Fugitives		

^{*}Emission Points denoted with AB are associated with the UHPA Plant No. 1

Emission Point	Description	
AC-001	UHPA Plant No. 2 Front End Process Vents, vented to Emission Point AB-002	
AC-003	Phase Transformation Process, vented to Emission Point AC-004	
AC-004	HCl Recovery Unit with Baghouse and Packed Bed Absorber	
AC-005	Alumina Finishing Mill with Baghouse	
AC-007	1,500 Gallon HCl Recovery Product Tank, vented to AB-002	
AC-008	Electric Steam Boiler	
AC-009	125 ton nominal capacity Cooling Tower	
AC-010	UHPA Plant No. 2 Equipment Leak Fugitives	
AC-011	0.5 MMBtu/hr Comfort Heaters	

^{*}Emission Points denoted with AC are associated with the UHPA Plant No. 2

SECTION 3 EMISSION LIMITATIONS AND STANDARDS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limitation/Standard
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.1	HC1	8.0 tpy
Facility- Wide	11 Miss. Admin. Code Pt. 2, R. 1.3.A.	3.2	- Opacity	ty Facility-wide opacity limitations
	11 Miss. Admin. Code Pt. 2, R. 1.3.B.	3.3		
AB-002 AB-004 AC-004	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.4	HCl	All emissions shall be routed through the HCl off gas scrubbers
AC-011	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.5	SO_2	Emissions shall not exceed 4.8 lbs/MMBtu
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.6	PM (filterable only)	0.6 lb/MMBTU per hour heat input

3.1. For the entire facility, the permittee shall limit the emissions of Hydrochloric Acid (HCl) to less than 8.0 tons per year for each rolling 12-month period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.2. For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity. Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.3. For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.1. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: <u>11 Miss. Admin. Code Pt. 2, R. 1.3.B.</u>)

- 3.4. For Emission Points AB-002, AB-004, and AC-004, the permittee shall demonstrate a control efficiency of at least 99% by operating the HCl scrubbers according to the requirements in paragraphs (a) through (c) below:
 - (a) The scrubbers shall be operated at all times when emissions may be vented to them. Should the scrubbers become nonoperational then the respective process shall be shut down immediately, but not as to cause damage to equipment or property, or cause further environmental problems. The process shall not startup until such time that the scrubber becomes operational. The permittee shall maintain on hand at all times sufficient equipment as is necessary to repair and/or overhaul each scrubber at all times.
 - (b) The scrubbers shall be operated and maintained according to the manufacturer's recommendations including the minimum pH, scrubber liquid recirculation/flow rate, and pressure drop required for each scrubber to achieve a 99% control efficiency of HCl.
 - (c) The permittee shall maintain a pH meter, flow meter, and differential pressure monitor at all times when emissions may be vented to the scrubbers.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.5. For Emission Point AC-011, the permittee shall not discharge sulfur oxides from any fuel burning installation in which fuel is burned primarily to produce heat or power by indirect heat transfer in excess of 4.8 pounds per MMBTU heat input (measured as sulfur dioxide).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

3.6. For Emission Point AC-011, the permittee shall limit the particulate emissions from fossil fuel burning installations of less than 10 MMBTU/hr heat input to no more than 0.6 pounds per MMBTU per hour heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).)

SECTION 4 WORK PRACTICES

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Work Practice
Facility- Wide	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	4.1	Facility-Wide Emissions	Operate all equipment as efficiently as possible

4.1. For the entire facility, the permittee shall operate and maintain the sources, in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. Determination of whether such operation and maintenance procedures are being used will be based on information available to the DEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the sources.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

SECTION 5 MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Monitoring/Recordkeeping Requirement
AB-002 AB-004 AC-004	11 Miss. Admin. Code pt. 2, R. 2.2.B(11).	5.1	HCl	HCl offgas scrubber continuous monitoring
		5.2		Perform scrubber performance testing
		5.3		Recordkeeping

- 5.1. For Emission Points AB-002, AB-004, and AC-004, the permittee shall comply with Condition 3.4 by continuously monitoring and recording the following for each HCl offgas scrubber:
 - (a) pH of scrubber effluent liquid;
 - (b) flow rate of scrubber liquid feed; and
 - (c) scrubber pressure gas drop.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.2. For Emission Points AB-002, AB-004, and AC-004, the permittee shall perform an initial performance test for each scrubber within 180 days of startup according to 40 CFR 60, Method 26A or an EPA approved alternative test method for HCl. During the initial performance test, the permittee shall determine and record the pH range, scrubber liquid recirculation/flow rate and pressure drop. Subsequent stack testing shall be performed every 3 years not to exceed 37 months from the previous one. The permittee shall operate the scrubbers within the ranges determined by the performance test for pH, flow rate, and pressure drop.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.3. For Emission Points AB-002, AB-004, and AC-004, the permittee shall record in log form the date of shutdown and startup, and any corrective actions that are taken to make the scrubber's operational again.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

SECTION 6 REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Reporting Requirement	
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.1	Report permit deviations within five (5) working days.	
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.2	All documents submitted to DEQ shall be certified by a Responsible Official.	
Facility-	11 Miss. Admin. Code Pt. 2, R. 2.5.C(2).	6.3	Submit Commencement of Construction	
Wide	11 Miss. Admin. Code Pt. 2, R, 2.5.C(3).	6.4	Submit notice of no construction for an 18 month period	
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.5	Submit Certification of Construction	
		6.6	Submit Startup Notifications	
		6.7	Submit Synthetic Minor monitoring report	
AB-002	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	6.8	Performance test notification requirements	
AB-004 AC-004		6.9	Submit records	

6.1. Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.2. For the entire facility, any document required by this permit to be submitted to the DEQ shall contain a certification signed by a responsible official stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.3. The permittee shall notify DEQ in writing within fifteen (15) days of beginning actual construction that construction has begun.

(Ref.: 11 Miss. Admin. Code Pt2. 2, R. 2.5.C(2).)

6.4. The permittee shall notify DEQ in writing when construction does not begin within eighteen (18) months of coverage issuance or if construction is suspended for eighteen

(18) months or more. If the permittee does not commence construction within eighteen (18) months of coverage issuance or construction is suspended for eighteen (18) months, coverage expires unless the permittee submits an extension of construction request to DEQ. Upon receipt, this request extends the construction period for one additional eighteen (18) month period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(3).)

6.5. The permittee shall submit a Certification of Construction and shall not begin operation until the Certification of Construction is submitted DEQ.

(Ref.: <u>11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).</u>)

6.6. The permittee shall notify MDEQ in writing within fifteen (15) days of startup of a new facility or new equipment that is part of a modification of an existing facility. The permittee may elect to have the Certification of Construction, if required, serve as notice of startup.

(Ref.: <u>11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).</u>)

6.7. Except as otherwise specified herein, the permittee shall submit a certified annual synthetic minor monitoring report postmarked no later than 31st of January for the preceding calendar year. This report shall address any required monitoring specified in the permit. All instances of deviations from permit requirements must be clearly identified in the report. Where no monitoring data is required to be reported and/or there are no deviations to report, the report shall contain the appropriate negative declaration.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.8. For Emission Points AB-002, AB-004, and AC-004, the permittee shall submit a copy of each performance test report within 60 days after the test has been completed. The performance test report shall include pH, scrubber liquid recirculation/flow rate, and pressure drop recorded during the performance test.

For all required testing, the permittee shall submit a written test protocol at least thirty (30) days prior to the intended test date(s) to ensure that all test methods and procedures are acceptable to the DEQ. Also, the permittee shall notify the DEQ in writing at least ten (10) days prior to the intended test date(s) so that an observer may be afforded the opportunity to witness the test.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.9. For Emission Points AB-002, AB-004, AC-004, the permittee shall report in accordance with Condition 6.7, the records required by Condition 5.3.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)