STATE OF MISSISSIPPI
AIR POLLUTION CONTROL
TITLE V PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Chemours Company FC LLC The, Delisle Plant
7685 Kiln DeLisle Road
Pass Christian, Mississippi
Harrison County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with Title V of the Federal Clean Air Act (42 U.S.C.A. § 7401 - 7671) and 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.

Permit Issued: March 8, 2024

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires: February 28, 2029 **Permit No.: 1020-00115**

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SECTION 1. GENERAL CONDITIONS

1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(a).)

1.2 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 this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(b).)

1.3 This permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. 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. 6.3.A(6)(c).)

1.4 Prior to its expiration, this permit may be reopened in accordance with the provisions listed below.

(a) This permit shall be reopened and revised under any of the following circumstances:

(1) Additional applicable requirements under the Federal Act become applicable to a major Title V source with a remaining permit term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended.

(2) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

(3) The Permit Board or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit.

(4) The Administrator or the Permit Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall only affect those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings shall not be initiated before a notice of such intent is provided to the Title V source by the DEQ at least 30 days in advance of the date that the permit is to be reopened, except that the Permit Board may provide a shorter time period in the case of an emergency. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.G.)

1.5 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 permittee or, for information to be confidential, the permittee shall furnish such records to 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. 6.3.A(6)(e).)

1.6 This permit does not convey any property rights of any sort, or any exclusive privilege. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(d).)

1.7 The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this 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. 6.3.A(5).)

1.8 The permittee shall pay to the DEQ an annual permit fee. The amount of fee shall be determined each year based on the provisions of regulated pollutants for fee purposes and the fee schedule specified in the Commission on Environmental Quality's order which shall be issued in accordance with the procedure outlined in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6.

(a) For purposes of fee assessment and collection, the permittee shall elect for actual or allowable emissions to be used in determining the annual quantity of emissions unless the Commission determines by order that the method chosen by the applicant for calculating actual emissions fails to reasonably represent actual emissions. Actual emissions shall be calculated using emission monitoring data or direct emissions measurements for the pollutant(s); mass balance calculations such as the amounts of the pollutant(s) entering and leaving process equipment and where mass balance calculations can be supported by direct measurement of process parameters, such direct measurement data shall be supplied; published emission factors such as those relating release quantities to throughput or equipment type (e.g., air emission factors); or other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgments where such judgments are derived from process and/or emission data which supports the estimates of maximum actual emission. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

(b) If the Commission determines that there is not sufficient information available on a facility's emissions, the determination of the fee shall be based upon the permitted allowable emissions until such time as an adequate determination of actual emissions is made. Such determination may be made anytime within one year of the submittal of actual emissions data by the permittee. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

(c) If at any time within the year the Commission determines that the information submitted by the permittee on actual emissions is insufficient or incorrect, the permittee will be notified of the deficiencies and the adjusted fee schedule. Past due fees from the adjusted fee schedule will be paid on the next scheduled quarterly payment time. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D(2).)

(d) The fee shall be due September 1 of each year. By July 1 of each year the permittee shall submit an inventory of emissions for the previous year on which the fee is to be assessed. The permittee may elect a quarterly payment method of four (4) equal payments; notification of the election of quarterly payments must be made to the

DEQ by the first payment date of September 1. The permittee shall be liable for penalty as prescribed by State Law for failure to pay the fee or quarterly portion thereof by the date due. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D.)

(e) If in disagreement with the calculation or applicability of the Title V permit fee, the permittee may petition the Commission in writing for a hearing in accordance with State Law. Any disputed portion of the fee for which a hearing has been requested will not incur any penalty or interest from and after the receipt by the Commission of the hearing petition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.C.)

1.9 No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(8).)

1.10 Any document required by this permit to be submitted to the DEQ shall contain a certification by a responsible official that states 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. 6.2.E.)

1.11 The permittee shall allow the DEQ, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to perform the following:

(a) enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;

(b) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) as authorized by the Federal Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(2).)

1.12 Except as otherwise specified or limited herein, the permittee shall have necessary sampling ports and ease of accessibility for any new air pollution control equipment, obtained after May 8, 1970, and vented to the atmosphere. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(1).)

1.13 Except as otherwise specified or limited herein, the permittee shall provide the necessary sampling ports and ease of accessibility when deemed necessary by the Permit Board for air pollution control equipment that was in existence prior to May 8, 1970. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(2).)

1.14 Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance where such applicable requirements are included and are specifically identified in the permit or where the permit contains a determination, or summary thereof, by the Permit Board that requirements specifically identified previously are not applicable to the source. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(1).)

1.15 Nothing in this permit shall alter or affect the following:

(a) the provisions of Section 303 of the Federal Act (emergency orders), including the

authority of the Administrator under that section;

(b) the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

(c) the applicable requirements of the acid rain program, consistent with Section 408(a) of the Federal Act.

(d) the ability of EPA to obtain information from a source pursuant to Section 114 of the Federal Act.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(2).)

1.16 The permittee shall comply with the requirement to register a Risk Management Plan if permittee's facility is required pursuant to Section 112(r) of the Act to register such a plan. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.H.)

1.17 Expiration of this permit terminates the permittee's right to operate unless a timely and complete renewal application has been submitted. A timely application is one which is submitted at least six (6) months prior to expiration of the Title V permit. If the permittee submits a timely and complete application, the failure to have a Title V permit is not a violation of regulations until the Permit Board takes final action on the permit application. This protection shall cease to apply if, subsequent to the completeness determination, the permittee fails to submit by the deadline specified in writing by the DEQ any additional information identified as being needed to process the application. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.C(2)., R. 6.4.B., and R. 6.2.A(1)(c).)

1.18 The permittee is authorized to make changes within their facility without requiring a permit revision (ref: Section 502(b)(10) of the Act) if:

(a) the changes are not modifications under any provision of Title I of the Act;

(b) the changes do not exceed the emissions allowable under this permit;

(c) the permittee provides the Administrator and the Department with written notification in advance of the proposed changes (at least seven (7) days, or such other time frame as provided in other regulations for emergencies) and the notification includes:

(1) a brief description of the change(s),

(2) the date on which the change will occur,

(3) any change in emissions, and

(4) any permit term or condition that is no longer applicable as a result of the change;

(d) the permit shield shall not apply to any Section 502(b)(10) change.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.F(1).)

1.19 Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in 11 Miss. Admin. Code Pt. 2, Ch. 3., "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared. (Ref.: 11 Miss. Admin. Code Pt. 2, Ch. 3.)

1.20 Except as otherwise provided herein, a modification of the facility may require a Permit to Construct in accordance with the provisions of Regulations 11 Miss. Admin. Code Pt. 2,

Ch. 2., "Permit Regulations for the Construction and/or Operation of Air Emissions Equipment", and may require modification of this permit in accordance with Regulations 11 Miss. Admin. Code Pt. 2, Ch. 6., "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act". Modification is defined as "[a]ny physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

(a) routine maintenance, repair, and replacement;

(b) use of an alternative fuel or raw material by reason of an order under Sections 2 (a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(c) use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;

(d) use of an alternative fuel or raw material by a stationary source which:

(1) the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51, Subpart I, or 40 CFR 51.166; or

(2) the source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, or 40 CFR 51.166;

(e) an increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166; or

(f) any change in ownership of the stationary source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15).)

1.21 Any change in ownership or operational control must be approved by the Permit Board. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.D(4).)

1.22 This permit is a Federally approved operating permit under Title V of the Federal Clean Air Act as amended in 1990. All terms and conditions, including any designed to limit the source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act as well as the Commission. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.B(1).)

1.23 Except as otherwise specified or limited herein, the open burning of residential, commercial, institutional, or industrial solid waste, is prohibited. This prohibition does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, debris from emergency clean-up operations, and ordnance. Open burning of land-clearing debris must not use starter or auxiliary fuels which cause excessive smoke (rubber tires, plastics, etc.); must not be performed if prohibited by local ordinances; must not cause a traffic hazard; must not take place where there is a High Fire Danger Alert declared by the Mississippi Forestry Commission or

Emergency Air Pollution Episode Alert imposed by the Executive Director and must meet the following buffer zones.

(a) Open burning without a forced-draft air system must not occur within 500 yards of an occupied dwelling.

(b) Open burning utilizing a forced-draft air system on all fires to improve the combustion rate and reduce smoke may be done within 500 yards of but not within 50 yards of an occupied dwelling.

(c) Burning must not occur within 500 yards of commercial airport property, private air fields, or marked off-runway aircraft approach corridors unless written approval to conduct burning is secured from the proper airport authority, owner or operator.

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

1.24 Except as otherwise specified herein, the permittee shall be subject to the following provision with respect to emergencies:

(a) Except as otherwise specified herein, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(b) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (c) following are met.

(c) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:

(1) an emergency occurred and that the permittee can identify the cause(s) of the emergency;

(2) the permitted facility was at the time being properly operated;

(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.G.)

1.25 Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

(a) Upsets (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) For an upset, the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

(i) An upset occurred and that the source can identify the cause(s) of the upset;

(ii) The source was at the time being properly operated;

(iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;

(iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;

(v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.

(2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.

(3) This provision is in addition to any upset provision contained in any applicable requirement.

(4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

(b) Startups and Shutdowns (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

(2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).

(3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.

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

1.26 The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M, as adopted by reference in Regulation 11 Miss Admin. Code Pt. 2, R. 1.8. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities. (Ref.: 11 Miss Admin. Code Pt. 2, R. 1.8.)

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-001	Plantwide Fugitive Emissions
Coke Unloading and Storage Process	
AA-101	Coke Unloading Building
AA-102	Coke Unloading & Storage controlled by Baghouse #1
AA-103	Coke Unloading & Storage controlled by Baghouse #2
AA-104	Coke Transfer Silo with Baghouse
AA-105	1016 Dust Abatement Stack, a common stack including emissions from Coke Storage Silo Baghouse and the 1016 Dust Abatement Baghouse which controls the Line 1 & 2 Wet Ore Bins and respective Covered Belt Conveying System
Ore Unloading and Storage Process	
AA-201	Ore Railcar Unloading Building
AA-202	Transporting Wet Recovered Ore in Trucks
AA-203	Virgin Ore Storage Piles & Handling
AA-204	Recovered Ore Storage Pile
AA-205	Recovered Ore Handling
Chlorine Unloading and Storage Process	
AA-301	Chlorine Unloading & Storage Process with a Caustic Scrubber for control of chlorine emissions
$TiCl_4$ Intermediate Process	
AB-102	Line 1 Ore Dryer (30 MMBTU/hr, natural gas-fired, low-NO_x burner) equipped with dual cyclones & wet scrubber for emission control
AB-106	1,500 hp (1,119 kW) Line 1 diesel-fired Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) manufactured in 2005
AB-108	Line 1 Cooling Tower (Two Cell, Cross-Flow)
AB-109	Startup Scrubber controlling particulate matter generated from the Line 1 or Line 2 Chlorination Reactor light-off mode (i.e., initial heating of reactor prior to introducing chlorine) and the Chlorination Reactor process idle mode (i.e., periods when chlorination ceases but the reactor is kept hot to prevent damage to the reactor).
AB-202	Line 2 Ore Dryer (30 MMBTU/hr, natural gas-fired, low-NO_x burner) equipped with dual cyclone & wet scrubber for emission control
AB-206	1,500 hp (1,119 kW) Line 2 diesel-fired Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) manufactured in 2005
AB-208	Line 2 Cooling Tower (Two Cell, Counter-Flow)
AB-301	1052 Dust Abatement Stack, a common stack venting emissions from six baghouses (Coke Bin Baghouse, Line 1 Dry Ore Bin Baghouse, Line 2 Dry Ore Bin Baghouse, Line 1 Dust Abatement Baghouse, Line 2 Dust Abatement Baghouse, and Line 2 STIFS Baghouse)

Emission Point	Description
Line 1 and Line 2 Chlorination Reactors with HCl Recovery	
AC-101	Line 1 Chlorinator Reactor routed to a 4-stage scrubbing system to scrub and recover HCl for use elsewhere in the plant. Caustic is used in the 4th stage for scrubbing both HCl and SO_2. During normal operation, gas leaves 4th stage scrubber and is sent to the Tail Gas Burner (TGB) System. The TGB System has an inlet scrubber, thermal oxidizer (equipped with a 40 MMBTU/hr, low-NO_x, natural gas-fired primary burner, and a 10 MMBTU/hr, low-NO_x, natural gas-fired secondary burner), a quench chamber, final caustic scrubber, and cyclonic gas-liquid separator. If excess HCl is in the reactor exhaust, the 4th stage scrubber may vent to the Emergency Cl_2 scrubber then to the stack, bypassing the TGB System.
AC-102	Line 1 Maintenance Vacuum Scrubber controlling emissions during equipment maintenance activities from both Line 1 and Line 2 $TiCl_4$ Intermediate and HCl Recovery Processes
AC-106	Line 1 Thermal Oxidizer Uptime Stack which only emits products of natural gas combustion associated with the Thermal Oxidizer burner during Line 1 Reaction downtime. The Thermal Oxidizer continues to operate in standby mode to be readily available for use and prevent damage to the refractory.
AC-201	Line 2 Chlorinator Reactor routed to a 4-stage scrubbing system to scrub and recover HCl for use elsewhere in the plant. Caustic is used in the 4th stage for scrubbing both HCl and SO_2. During normal operation, gas leaves 4th stage scrubber and is sent to the Tail Gas Burner (TGB) System. The TGB System has an inlet scrubber, thermal oxidizer (equipped with a 40 MMBTU/hr, low-NO_x, natural gas-fired primary burner, and a 10 MMBTU/hr, low-NO_x, natural gas-fired secondary burner), quench chamber, final caustic scrubber, and cyclonic gas-liquid separator. If excess HCl is in the reactor exhaust, the 4th stage scrubber may vent to the Emergency Cl_2 scrubber then to the stack, bypassing the TGB System.
AC-202	Line 2 Maintenance Vacuum Scrubber controlling emissions during equipment maintenance activities from both Line 1 and Line 2 $TiCl_4$ Intermediate and HCl Recovery Processes when AC-102 is down for maintenance
AC-206	Line 2 Thermal Oxidizer Uptime Stack which only emits products of natural gas combustion associated with the Thermal Oxidizer burner during Line 2 Reaction downtime. The Thermal Oxidizer continues to operate in standby mode to be readily available for use and prevent damage to the refractory.
Iron Chloride Storage and Disposal	
AD-101	Water Scrubber that controls HCl fumes generated from solids separation process for recapturing coke and ore fines entrained in the iron chloride solution
AD-102	Water Scrubber that controls HCl fumes from five (5) polypropylene lined concrete vaults used to store iron chloride and from dilute HCl Storage Tank
AD-103	Diatomaceous Earth Storage Silo controlled by a baghouse
Steam Generation	
AF-103	231 MMBTU/hr natural gas- and/or landfill gas-fired Boiler No. 3 equipped with low-NO_x burners and flue gas recirculation (FGR) controlling NOx emissions
AF-143	1,186 hp (884 kW) Power Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) manufactured in 2005
AF-146	Power Cooling Tower (Two Cell, Cross-Flow)
AF-151	170 hp Emergency Fire Water Pump Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) manufactured in 1979
AF-204	295 MMBTU/hr natural gas-fired Boiler No. 4 equipped with low-NO_x burners and flue gas recirculation (FGR) controlling NOx emissions
AF-205	295 MMBTU/hr natural gas-fired Boiler No. 5 equipped with low-NO_x burners and flue gas recirculation (FGR) controlling NOx emissions

Emission Point	Description
$TiCl_4$ Purification Process	
AG-101	Common Stack for the Purification Process, which consists of three lines – the Line 1, Line 2, and Line 3 Purification Units, all controlled by the scrubbing systems. The Common Stack includes the following vent streams: • No. 1 Purification Scrubbing system consisting of a co-current jet, a countercurrent jet, a variable orifice, and a separator • No. 2 Purification Scrubbing system consisting of a co-current jet, a countercurrent jet, a variable orifice, and a separator • Paleface Scrubber controlling emissions from the $SiCl_4$ unloading process and intermittently for maintenance procedures only on Line 3 Purification shutdowns The No. 1 and No. 2 Purification scrubbing system can each control two purification units at any given time.
$TiCl_4$ Oxidation Process	
AH-101	Line 1 $TiCl_4$ Vaporizer Stack equipped with 40 MMBTU/hr, low-NO_x, natural gas-fired burner
AH-102	Line 1 Oxygen Preheater equipped with 20 MMBTU/hr, low-NO_x, natural gas-fired burner
AH-103	Line 1 Additive Storage Bin equipped with venturi scrubber controlling particulate matter
AH-104	Line 1 Additive Feeder equipped with scrubber controlling particulate matter
AH-107	Oxidation Vent Scrubber controlling two slurry tanks for Line 1 and Line 2 $TiCl_4$ Processes and emissions from the Line 1 and Line 2 Scrubs Storage Vent scrubber
AH-201	Line 2 $TiCl_4$ Vaporizer Stack equipped with 40 MMBTU/hr, low-NO_x, natural gas-fired burner
AH-202	Line 2 Oxygen Preheater equipped with 20 MMBTU/hr, low-NO_x, natural gas-fired burner
AH-203	Line 2 Additive Storage Bin equipped with venturi scrubber controlling particulate matter
AH-204	Line 2 Additive Feeder equipped with scrubber controlling particulate matter
AH-206	20,054 gallon High Purity Fuel Oil Storage Tank
AH-207	20,054 gallon High Purity Fuel Oil Storage Tank
Pigment Treatment Process	
AI-176	Two (2) HCl Storage Tanks equipped with scrubber for emission control
AI-177	Finishing Cooling Tower (Three Cell, Cross Flow)
Pigment Drying Process	
AJ-101	Line 1 Product Dryer equipped with 80 MMBTU/hr, low-NO_x, natural gas-fired burner, routed to one of two (2) baghouses installed as inherent parts of the process, followed by a water scrubber and cyclonic gas-liquid separator for emission control
AJ-201	Line 2 Product Dryer equipped with 80 MMBTU/hr, low-NO_x, natural gas-fired burner routed to one of three baghouses installed as inherent parts of the process
Pigment Grinding and Packaging Process	
AK-101	No. 1 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-102	No. 2 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-103	No. 3 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-104	No. 4 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-105	No. 5 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the

Emission Point	Description
	process since it separates TiO_2 from steam)
AK-106	No. 6 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-107	No. 7 Pigment Grinding Feed Bin equipped with a baghouse (considered an inherent part of the process since it separates TiO_2 from steam)
AK-110	Return Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed product)
AK-118	No. 1 Vacuum Pump used to collapse steam. VOC and particulate matter emissions may be vented based on the organic coated pigment grades.
AK-119	No. 2 Vacuum Pump used to collapse steam. VOC and particulate matter emissions may be vented based on the organic coated pigment grades.
AK-120	No. 3 Vacuum Pump used to collapse steam. VOC and particulate matter emissions may be vented based on the organic coated pigment grades.
AK-121	No. 4 Vacuum Pump used to collapse steam. VOC and particulate matter emissions may be vented based on the organic coated pigment grades.
AK-200	Slurry Silo #1 in Power Area with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed product)
AK-210	Slurry Weigh Bin in Power Area with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed product)
AL-101	No. 1 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-102	No. 2 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-103	No. 3 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-104	No. 4 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-105	No. 5 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-106	No. 6 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-107	No. 7 Packer Feed Bin equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-109	Line 1 Silo Bulk Unloading equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed TiO_2 product)
AL-110	Dryer Discharge Bin Vent equipped with a baghouse (considered an inherent part of the process since it captures pneumatically conveyed product)
AL-111	Packaging Building including all packers which vent inside the building
Support Activities	
AM-104	Sandblast Shed Storage Silo
AM-105	Sandblasting Shed
AM-106	Painting Shed
AM-107	In-Field Sandblast Material Storage Silo
AM-111	In-Field Sandblasting

Emission Point	Description
AM-112	In-Field Painting
AM-113	95 hp Hurricane Dome Emergency Generator Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) manufactured in 1979

SECTION 3. EMISSION LIMITATIONS & STANDARDS

A. Facility-Wide Emission Limitations & Standards

3.A.1 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 subject to the exceptions provided in (a) & (b).

(a) 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.

(b) Emissions resulting from soot blowing operations shall be permitted provided such emissions do not exceed 60 percent opacity, and provided further that the aggregate duration of such emissions during any twenty-four (24) hour period does not exceed ten (10) minutes per billion BTU gross heating value of fuel in any one hour.

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

3.A.2 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 Paragraph 3.A.1. This shall not apply to vision obscuration caused by uncombined water droplets.

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

3.A.3 For the entire facility, the permittee shall not cause, permit, or allow the emission of particles or any contaminants in sufficient amounts or of such duration from any process as to be injurious to humans, animals, plants, or property, or to be a public nuisance, or create a condition of air pollution.

(a) The permittee shall not cause or permit the handling, transporting, or storage of any material in a manner which allows or may allow unnecessary amounts of particulate matter to become airborne.

(b) When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance to property other than that from which it originated or to violate any other provision of 11 Miss. Admin. Code Pt. 2, Ch. 1, the Commission may order such corrected in a way that all air and gases or air and gasborne material leaving the building or equipment are controlled or removed prior to discharge to the open air.

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

B. Emission Point Specific Emission Limitations & Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
Facility Wide	11 Miss. Admin. Code Pt. 2, R. 1.3.F(1).	3.B.1	PM (filterable)	$E = 4.1 \times p^{0.67}$
AA-001 (Plantwide Fugitives)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.2	Visible Emissions	Apply moisture to raw material storage piles as needed to minimize dusting
		3.B.3	PM/PM_{10} (filterable)	≤ 2.43 lbs/hr ≤ 10.64 tons/yr
		3.B.4	Cl_2	≤ 0.68 lbs/hr ≤ 3.0 tons/yr
		3.B.5	HCl	≤ 1.14 lbs/hr ≤ 5.0 tons/yr
Coke Unloading and Storage Process				
AA-105 (1016 Dust Abatement Stack)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.6	PM/PM_{10} (filterable + condensable)	≤ 0.4 lbs/hr (3-hr average)
		3.B.7	$PM_{2.5}$ (filterable + condensable)	≤ 0.2 lbs/hr (3-hr average)
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
$TiCl_4$ Intermediate Process				
AB-102	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	Title V Operating Permit issued May 9, 2006, and modified October 12, 2010	3.B.9	Fuel	Natural gas only
	Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit")	3.B.10	PM/PM_{10} (filterable)	≤ 5.79 lbs/hr ≤ 25.36 tons/yr
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
AB-106 AB-206 (Lines 1 and 2 Emergency Generators)	40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6580 and 63.6685(a) and (b), Subpart ZZZZ	3.B.11	HAP	Applicability
	40 CFR 63.6640(f), Subpart ZZZZ	3.B.12		Operating requirements
	40 CFR 63.6605(a) and (b), Subpart ZZZZ	3.B.13		Minimize emissions
	40 CFR 63.6625(f), Subpart ZZZZ 11 Miss. Admin. Code Pt. 2, R. 2.15.C.	3.B.14		Install a non-resettable hour meter

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.15	PM	≤ 0.6 lbs/MMBTU
AB-109 (Startup Scrubber)	State Operating Permit issued October 28, 1980	3.B.16	PM (filterable)	≤ 2.3 lbs/hr
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.17	CO	≤ 20,000 lbs/hr (8-hr average) ≤ 30,000 lbs/hr (1-hr average) ≤ 6,415 tons/yr (These limits are combined emissions from AB-109, AC-101, and AC-201)
		3.B.18	COS	≤ 16,440 lb/day (24-hr rolling average) ≤ 530 tons/yr (These limits are combined emissions from AB-109, AC-101, and AC-201)
AB-202 (Line 2 Ore Dryer)	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.19	PM/PM_{10} (filterable + condensable)	≤ 0.011 gr/dscf (3-hr average, BACT limit) ≤ 2.00 lbs/hr (3-hr average)
		3.B.20	$PM_{2.5}$ (filterable + condensable)	≤ 0.0085 gr/dscf (3-hr average, BACT limit) ≤ 1.55 lbs/hr (3-hr average)
		3.B.21	CO	≤ 13.2 lbs/hr (3-hr average)
		3.B.22	NO_X	≤ 4.40 lbs/hr (3-hr average)
	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.23	Fuel	Natural gas only
	40 CFR 60, Subpart UUU Standards of Performance for Calciners and Dryers in Mineral Industries 40 CFR 60.730, Subpart UUU	3.B.24		Applicability
	40 CFR 60.732(a), Subpart UUU	3.B.25	PM	≤ 0.025 gr/dscf
	40 CFR 60.732(b), Subpart UUU	3.B.26	Opacity	≤ 10%
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
AB-301 (1052 Dust Abatement Stack)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.27	PM/PM_{10} (filterable + condensable)	≤ 1.30 lbs/hr (3-hr average)
		3.B.28	$PM_{2.5}$ (filterable + condensable)	≤ 0.65 lbs/hr (3-hr average)

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
Line 1 and Line 2 Chlorination Reactors with HCl Recovery				
AC-101 AC-106 AC-201 AC-206 (Thermal Oxidizer Burners)	40 CFR 60, Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60.40c(a), Subpart Dc	3.B.29		Applicability
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.30	Fuel	Natural gas only
AC-101 AC-201 (Line 1 and Line 2 Reactors)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.31	PM/PM_{10} (filterable + condensable)	≤ 6.17 lbs/hr (3-hr average, BACT limit)
		3.B.32	$PM_{2.5}$ (filterable + condensable)	≤ 5.00 lbs/hr (3-hr average, BACT limit)
		3.B.33	NO_X	≤ 0.048 lbs/MMBTU (3-hr average, BACT limit) ≤ 2.40 lbs/hr (3-hr average)
		3.B.34	Operation Limit	Must be vented through thermal oxidizer during normal operation
		3.B.35	H_2SO_4	≤ 6.00 lbs/hr (3-hr average)
		3.B.36	Cl_2	≤ 55.00 lbs/hr (3-hr average) ≤ 21.90 tons/yr
		3.B.37	HCl	≤ 5.00 lbs/hr (3-hr average) ≤ 17.13 tons/yr
		3.B.17	CO	≤ 20,000 lbs/hr (8-hr average) ≤ 30,000 lbs/hr (1-hr average) ≤ 6,415 tons/yr (These limits are combined emissions from AB-109, AC-101, and AC-201)
		3.B.18	COS	≤ 16,440 lb/day (24-hr rolling average) ≤ 530 tons/yr (These limits are combined emissions from AB-109, AC-101, and AC-201)
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit") and modified by Title V Operating Permit issued March 8, 2024	3.B.38	SO_2	≤ 125.2 lb/hr (3-hr average) ≤ 152 tons/yr
	11 Miss. Admin. Code Pt. 2, R. 1.4.B(1).	3.B.39		≤ 500 ppm

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
AC-102 (Line 1 Maintenance Vacuum Scrubber)	Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit")	3.B.40	PM/PM_{10} (filterable + condensable)	≤ 2.00 lbs/hr ≤ 8.76 tons/yr
	State Operating Permit issued October 28, 1980	3.B.41	HCl	≤ 5.5 lbs/hr
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
AC-106 AC-206 (Thermal Oxidizer Uptime Stacks)	Title V Operating Permit issued May 9, 2006, and modified October 12, 2010	3.B.42	Operation Limit	Emissions allowed only when respective Chlorination Reactor is down and limited to products of natural gas combustion
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.43	SO_2	≤ 4.8 lbs/MMBTU
AC-202 (Line 2 Maintenance Vacuum Scrubber)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.44	PM/PM_{10} (filterable)	≤ 32.0 lbs/hr ≤ 3.13 tons/yr
		3.B.45	HCl	≤ 17.32 lbs/hr ≤ 1.69 tons/yr
		3.B.46	Cl_2	≤ 0.50 lbs/hr ≤ 0.31 tons/yr
		3.B.47	Hours	≤ 1,250 hours/yr
Steam Generating/Power Area				
AF-103 AF-204 AF-205 (Boilers #3, #4, and #5)	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.43	SO_2	≤ 4.8 lbs/MMBTU
	40 CFR 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60.40b(a), Subpart Db	3.B.48		Applicability
	40 CFR 60.44b(a)(1), 60.44(b)(h), and 60.44b(i), Subpart Db	3.B.49	NO_X	≤ 0.20 lbs/MMBTU (30-day rolling average)
	40 CFR 60.42b(k)(2), Subpart Db	3.B.50	SO_2	Exemption for SO_2 limit
	40 CFR 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63.7485 and 63.7490, Subpart DDDDD	3.B.51	HAP	Applicability

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	40 CFR 63.7500(f), Subpart DDDDD	3.B.52		Comply at all times except during start-up and shutdown
AF-103 (Boiler #3)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.53	Opacity	≤ 20%
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.54	PM/PM_{10} (filterable + condensable)	≤ 9.23 lbs/hr (3-hr average)
		3.B.55	SO_2	≤ 6.24 lbs/hr (3-hr average) ≤ 26.72 tons/yr
	Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("'Sustainable Growth' PSD Construction Permit")	3.B.56	NO_X	≤ 0.09 lbs/MMBTU (30-day rolling average) ≤ 20.79 lbs/hr ≤ 91.06 tons/yr
		3.B.57	CO	≤ 15.02 lbs/hr ≤ 65.77 tons/yr
		3.B.58	VOC	≤ 1.80 lbs/hr ≤ 7.90 tons/yr
		3.B.59	Fuel	Natural gas, landfill gas, or a mixture only
AF-204 AF-205 (Boilers #4 and #5)	Permit to Construct issued January 9, 2015, and modified January 10, 2017 ("Boiler MACT Project")	3.B.60	CO	≤ 0.04 lbs/MMBTU (3-hr average) Good combustion practices
		3.B.61	CO_{2e} (GHG)	≤ 151,302 tons/yr
		3.B.62	Fuel	Natural gas only
AF-143 (Power Emergency Generator)	40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6585, 63.6590(a), and 63.6665, Subpart ZZZZ	3.B.11	HAP	Applicability
	40 CFR 63.6640(f), Subpart ZZZZ	3.B.12		Operating requirements
	40 CFR 63.6605(b), Subpart ZZZZ	3.B.13		Minimize emissions
	40 CFR 63.6625(f), Subpart ZZZZ 11 Miss. Admin. Code Pt. 2, R. 2.15.C.	3.B.14		Install a non-resettable hour meter

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.15	PM	≤ 0.6 lbs/MMBTU
AF-151 (Fire Water Pump)	40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6585, 63.6590(a), and 63.6665, Subpart ZZZZ	3.B.11	HAP	Applicability
	40 CFR 63.6640(f), Subpart ZZZZ	3.B.12		Operating requirements
	40 CFR 63.6605(b), Subpart ZZZZ	3.B.13		Minimize emissions
	40 CFR 63.6625(h), Subpart ZZZZ	3.B.62		Minimize time spent at idle and startup
	40 CFR 63.6625(e), Subpart ZZZZ	3.B.63		Maintenance plan
	40 CFR 63.6625(f), Subpart ZZZZ 11 Miss. Admin. Code Pt. 2, R. 2.15.C.	3.B.14		Install a non-resettable hour meter
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.15	PM	≤ 0.6 lbs/MMBTU
$TiCl_4$ Purification Process				
AG-101	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.65	PM/PM_{10} (filterable + condensable)	≤ 3.49 lbs/hr (3-hr average)
		3.B.66	HCl	≤ 5.00 lbs/hr (3-hr average) ≤ 16.50 tons/yr
		3.B.67	Cl_2	≤ 0.50 lbs/hr (3-hr average)
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
$TiCl_4$ Oxidation Process				
AH-101 AH-102 AH-201 AH-202 (Oxidation Process Heaters)	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.47	SO_2	≤ 4.8 lbs/MMBTU
	40 CFR 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Industrial Boilers and Process Heaters	3.B.51	HAP	Applicability

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	40 CFR 63.7485, Subpart DDDDD			
	40 CFR 63.7500(f), Subpart DDDDD	3.B.52		Comply at all times except during start-up and shutdown
AH-101 AH-201 (Lines 1 & 2 $TiCl_4$ Vaporizers)	Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("'Sustainable Growth' PSD Construction Permit")	3.B.68	PM/PM_{10}	≤ 0.30 lbs/hr ≤ 1.33 tons/yr
		3.B.69	SO_2	≤ 0.02 lbs/hr ≤ 0.11 tons/yr
		3.B.70	CO	≤ 2.40 lbs/hr ≤ 10.51 tons/yr
		3.B.71	VOC	≤ 0.45 lbs/hr ≤ 1.98 tons/yr
		3.B.72	Fuel	Natural gas only
	Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("'Sustainable Growth' PSD Construction Permit") and modified by Title V Operating Permit issued March 8, 2024	3.B.73	NO_X	≤ 1.72 lbs/hr ≤ 7.53 tons/yr
AH-102 AH-202 (Line 1 & 2 O_2 Preheaters)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.74	Fuel	Natural gas only
AH-107 (Oxidation Vent Scrubber)	Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("'Sustainable Growth' PSD Construction Permit")	3.B.75	PM/PM_{10}	≤ 1.28 lbs/hr ≤ 5.61 tons/yr
		3.B.76	HCl	≤ 0.69 lbs/hr ≤ 3.04 tons/yr
		3.B.77	Cl_2	≤ 7.75 lbs/hr ≤ 15.33 tons/yr
	40 CFR 64.2(a), Compliance Assurance Monitoring Requirements	3.B.105		CAM Applicability
AH-202 (Line 2 O2 Preheater)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.78	CO	≤ 1.47 lbs/hr (3-hr average)
		3.B.79	NO_X	≤ 2.40 lbs/hr (3-hr average)
AH-203 (Line 2 Additive Storage Bin)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line	3.B.80	PM/PM_{10}	≤ 0.88 lbs/hr ≤ 0.23 tons/yr
		3.B.81	Operation Limit	≤ 520 hours/yr

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	II Expansion Project'")	3.B.82	Opacity	≤ 20%
AH-204 (Line 2 Additive Feeder)		3.B.83	PM/PM_{10}	≤ 0.21 lbs/hr ≤ 0.92 tons/yr
		3.B.82	Opacity	≤ 20%
AH-206 AH-207 (High Purity Fuel Oil Tanks)	40 CFR 63, Subpart EEEE National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution (Non-Gasoline) 40 CFR 63.2334(a), Subpart EEEE	3.B.84		Applicability
Pigment Drying Process				
AJ-101 AJ-201 (Lines 1 & 2 Pigment Dryers)	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.8	PM/PM_{10} (filterable)	$E = 0.8808 \times I^{-0.1667}$
	Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit") and modified by Title V Operating Permit issued March 8, 2024	3.B.85	HAP	No HAP additive without prior approval
		3.B.86	VOC	≤ 524.60 lbs/hr (8-hr average) ≤ 648.16 tons/yr (These limits are combined emissions from AJ-101 and AJ-201)
AJ-101 (Line 1 Pigment Dryer)	Title V Operating Permit issued May 9, 2006, and modified October 12, 2010	3.B.9	Fuel	Natural gas only
	State Operating Permit issued October 28, 1980	3.B.87	PM (filterable)	≤ 28.0 lbs/hr
AJ-201 (Line 2 Pigment Dryer)	40 CFR 60, Subpart UUU Standards of Performance for Calciners and Dryers in Mineral Industries 40 CFR 60.730, Subpart UUU	3.B.24		Applicability
	40 CFR 60.732(a), Subpart UUU	3.B.25	PM	≤ 0.025 gr/dscf
	40 CFR 60.732(b), Subpart UUU	3.B.26	Opacity	≤ 10%
	Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit")	3.B.88	Fuel	Natural gas only
		3.B.89	SO_2	≤ 0.5 lbs/hr ≤ 2.19 tons/yr
		3.B.90	NO_X	≤ 14.40 lbs/hr ≤ 63.07 tons/yr
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.91	PM/PM_{10} (filterable + condensable)	≤ 117.63 lbs/hr (3-hr average)

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit") and modified by Title V Operating Permit issued March 8, 2024	3.B.92	CO	≤ 17.0 lbs/hr (3-hr average)
Pigment Grinding and Packaging Process				
AK-105 AK-106 (Nos. 5 & 6 Pigment Grinding Feed Bin)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.93	PM/PM_{10} (filterable + condensable)	≤ 0.37 lbs/hr (3-hr average)
	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.82	Opacity	≤ 20%
AK-107 (No. 7 Pigment Grinding Feed Bin)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.94	PM/PM_{10} (filterable + condensable)	≤ 0.01 gr/dscf (3-hr average, BACT limit) ≤ 0.37 lbs/hr (3-hr average)
		3.B.95	$PM_{2.5}$ (filterable + condensable)	≤ 0.005 gr/dscf (3-hr average, BACT limit) ≤ 0.18 lbs/hr (3-hr average)
AL-105 AL-106 AL-107 (Nos. 5, 6, and 7 Packer Feed Bins)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.96	PM/PM_{10} (filterable + condensable)	≤ 0.31 lbs/hr (3-hr average)
AL-106 (No. 6 Packer Feed Bin)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.82	Opacity	≤ 20%
AL-109 (Line 1 Silo)	Permit to Construct issued November 2, 2001	3.B.98	PM/PM_{10}	≤ 0.04 gr/dscf ≤ 3.09 lbs/hr ≤ 13.53 tons/yr
AL-110 (Pigment Dryer Discharge Bin Vent)	Permit to Construct issued March 21, 2011, and modified September 26, 2012 ("Export Capacity Construction Permit")	3.B.98	PM/PM_{10}	≤ 0.41 lbs/hr ≤ 0.73 tons/yr

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.82	Opacity	≤ 20%
Support Activities				
AM-105 (Sandblasting Shed)	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	3.B.99	PM	≤ 16.92 lbs/hr ≤ 27.71 tons/yr
		3.B.100	PM_{10}	≤ 4.04 lbs/hr ≤ 5.15 tons/yr
		3.B.101	Operating Limit	9:00 AM to 4:00 PM (CST)
AM-111 (In-field Sandblasting)		3.B.102	PM	≤ 16.92 lbs/hr ≤ 27.71 tons/yr
		3.B.103	PM_{10}	≤ 4.04 lbs/hr ≤ 6.62 tons/yr
		3.B.104	Operating Limit	7:00 AM to 4:00 PM (CST)
AM-113 (Hurricane Dome Emergency Generator)	40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6585, 63.6590(a), and 63.6665, Subpart ZZZZ	3.B.11	HAP	Applicability
	40 CFR 63.6640(f), Subpart ZZZZ	3.B.12		Operating requirements
	40 CFR 63.6605(b), Subpart ZZZZ	3.B.13		Minimize emissions
	40 CFR 63.6625(h), Subpart ZZZZ	3.B.63		Minimize time spent at idle and startup
	40 CFR 63.6625(e), Subpart ZZZZ	3.B.67		Maintenance Plan
	40 CFR 63.6625(f), Subpart ZZZZ 11 Miss. Admin. Code Pt. 2, R. 2.15.C.	3.B.14		Install a non-resettable hour meter
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.15		≤ 0.6 lbs/MMBTU

3.B.1 For the entire facility, the permittee shall not cause, allow, or permit the emission of particulate matter in total quantities in any one hour from any manufacturing process, which includes any stacks, vents, outlets, or combination thereof, to exceed the amount determined by the relationship $E = 4.1 \times p^{0.67}$, where "E" is the emission rate in pounds per hour and "p" is the process weight input rate in tons per hour. Conveyor discharge

of coarse solid matter may be allowed if no nuisance is created by the property boundary where the discharge occurs.

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

3.B.2 For Emission Point AA-001, the permittee shall apply moisture to applicable raw material storage piles and handling/transfer points to minimize the discharge into the atmosphere of any visible emissions.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.3 For Emission Point AA-001, the permittee shall not emit more than 2.43 pounds per hour (lbs/hr) and 10.64 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}) determined for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.4 For Emission Point AA-001, the permittee shall not emit more than 0.68 pounds per hour (lbs/hr) and 3.0 tons per year (tons/yr) of chlorine (Cl_2) determined for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.5 For Emission Point AA-001, the permittee shall not emit more than 1.14 pounds per hour (lbs/hr) and 5.0 tons per year (tons/yr) of hydrochloric acid (HCl) determined for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.6 For Emission Point AA-105, the permittee shall not emit more than 0.4 pounds per hour (lbs/hr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}) based on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.7 For Emission Point AA-105, the permittee shall not emit more than 0.2 pounds per hour (lbs/hr) of particulate matter less than 2.5 microns ($PM_{2.5}$) based on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.8 For Emission Point AB-102, AB-202, AC-101, AC-106, AC-201, AC-206, AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, AH-202, AJ-101, and AJ-201, the permittee shall not exceed the maximum permissible emission rate of ash and/or particulate matter from fossil fuel burning installations of equal to or greater than 10 million BTU per hour heat input but less than 10,000 million BTU per hour heat input as determined by the relationship $E = 0.8808 \times I^{-0.1667}$, where "E" is the emission rate in pounds per million BTU per hour heat input and "I" is the heat input in millions of BTU per hour.

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

3.B.9 For Emission Point AB-102 and AJ-101, the permittee shall only combust natural gas.

(Ref.: Title V Operating Permit issued May 9, 2006, and modified October 12, 2010)

3.B.10 For Emission Point AB-102, the permittee shall not emit more than 5.79 pounds per hour (lbs/hr) and 25.36 tons per year (tons/yr) of particulate matter (PM) and particulate matter

less than 10 microns (PM_{10}) determined for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued November 8, 2005)

3.B.11 For Emission Points AB-106, AB-206, AF-143, AF-151, and AM-113, the permittee is subject to and shall comply with the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ, and the applicable General Provisions, 40 CFR 63, Subpart A as specified in Table 8 to Subpart ZZZZ.

For Emission Points AB-106, AB-206, and AF-143, the permittee is not required to meet the requirements of 40 CFR 63, Subpart ZZZZ, or the General Provisions 40 CFR 63, Subpart A, except for the initial notification requirements of 40 CFR 63.6645(h), Subpart ZZZZ, because they meet the definition a new emergency stationary RICE with a site rating of more than 500 break HP at a major source of HAP emissions.

(Ref.: 40 CFR 63.6580, 63.6585(a) and (b), 63.6590(a)(2)(i) and (b)(1)(i), Subpart ZZZZ)

3.B.12 For Emission Points AB-106, AB-206, AF-143, AF-151, and AM-113, the permittee shall operate the engines according to paragraphs (a) through (c). If the permittee does not operate the engines according to these requirements, the engine will not be considered an emergency engine under 40 CFR 63, Subpart ZZZZ, and must meet the requirements for non-emergency engines.

(a) There is no time limit on the use of emergency stationary RICE in emergency situations.

(b) The permittee may operate the engines for maintenance checks and readiness testing for a maximum of 100 hours per calendar year provided the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or insurance company associated with the engines. The permittee may petition the DEQ for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating the federal, state, or local standards require maintenance testing of the engines beyond 100 hours per calendar year. The Permittee may operate the emergency stationary RICE for any combination of the purposes specified in paragraphs (1) through (3) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations allowed by paragraph (c) of this condition count as part of the 100 hours per calendar year allowed by this paragraph.

(c) Emergency engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (b). The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial agreement with another entity.

(Ref.: 40 CFR 63.6640(f)(1), (2)(i), and (3), Subpart ZZZZ)

3.B.13 For Emission Points AB-106, AB-206, AF-143, AF-151, and AM-113, the permittee shall at all times operate and maintain the source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

(Ref.: 40 CFR 63.6605(a) and (b), Subpart ZZZZ)

3.B.14 For Emission Points AB-106, AB-206, AF-143, AF-151, and AM-113, the permittee shall install a non-resettable hour meter if one is not already installed.

(Ref.: 40 CFR 63.6625(f), Subpart ZZZZ, and 11 Miss. Admin. Code Pt. 2, R. 2.15.C.)

3.B.15 For Emission Points AB-106, AB-206, AF-143, AF-151, and AM-113, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

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

3.B.16 For Emission Point AB-109, the permittee shall not emit more than 2.3 pounds per hour (lbs/hr) of particulate matter.

(Ref.: State Operating Permit issued October 28, 1980)

3.B.17 For Emission Points AB-109, AC-101, and AC-201, the permittee shall not emit collectively more than 20,000 pounds per hour (lbs/hr) on an 8-hour average basis, 30,000 pounds per hour (lbs/hr) on a 1-hour average basis, and 6,415 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of carbon monoxide (CO).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.18 For Emission Points AB-109, AC-101, and AC-201, the permittee shall not emit more than 16,440 pounds per day (24-hour rolling total) and 530 tons per year (tons/yr) of carbonyl sulfide (COS) determined for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.19 For Emission Point AB-202, the permittee shall not emit more than 0.011 grains per dry standard cubic foot (gr/dscf) on a 3-hour average basis and 2.00 pounds per hour (lbs/hr) and on a 3-hour average basis of particulate matter (PM) and particulate matter less than 10 microns (PM10).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.20 For Emission Point AB-202, the permittee shall not emit more than 0.0085 grains per dry standard cubic foot (gf/dscf) on a 3-hour average basis and 1.55 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter less than 2.5 microns ($PM_{2.5}$).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.21 For Emission Point AB-202, the permittee shall not emit more than 13.2 pounds per hour (lbs/hr) on a 3-hour average basis of carbon monoxide (CO).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.22 For Emission Point AB-202, the permittee shall not emit more than 4.40 pounds per hour (lbs/hr) on a 3-hour average basis of nitrous oxides (NO_x).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.23 For Emission Point AB-202, the permittee shall only combust natural gas

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.24 For Emission Points AB-202 and AJ-201, the permittee is subject to and shall comply with the Standards of Performance for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU, and the General Provisions, 40 CFR 60, Subpart A.

(Ref.: 40 CFR 60.730, Subpart UUU)

3.B.25 For Emission Point AB-202 and AJ-201, the permittee shall not permit emissions to be discharged to the atmosphere that contains particulate matter in excess of 0.025 grains per dry standard cubic foot (gr/dscf).

(Ref.: 40 CFR 60.732(a), Subpart UUU)

3.B.26 For Emission Point AB-202 and AJ-201, the permittee shall not permit emissions to be discharge to the atmosphere that exhibits greater than 10% opacity, unless the emissions are discharged from the unit using a wet scrubbing control device.

(Ref.: 40 CFR 60.732(b), Subpart UUU)

3.B.27 For Emission Point AB-301, the permittee shall not emit more than 1.30 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.28 For Emission Point AB-301, the permittee shall not emit more than 0.65 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter less than 2.5 microns ($PM_{2.5}$).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.29 For Emission Points AC-101, AC-106, AC-201, and AC-206, the permittee is subject to and shall comply with the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, and the General Provisions (40 CFR 60, Subpart A).

(Ref.: 40 CFR 60.40c(a), Subpart Dc)

3.B.30 For Emission Points AC-101, AC-106, AC-201, and AC-206, the permittee shall only combust natural gas for the thermal oxidizers.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.31 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 6.17 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.32 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 5.00 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter less than 2.5 microns ($PM_{2.5}$).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.33 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 0.048 pounds per million BTU (lbs/MMBTU) on a 3-hour average basis and 2.40 pounds per hour (lbs/hr) on a 3-hour average basis of nitrogen oxides (NO_x).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012.

3.B.34 For Emission Points AC-101 and AC-201, the permittee shall vent all process gases through the thermal oxidizers during normal operating conditions.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012).

3.B.35 For Emission Point AC-101 and AC-201, the permittee shall not emit more than 6.00

pounds per hour (lbs/hr) on a 3-hour average basis of sulfuric acid mist (H_2SO_4).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.36 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 55.0 pounds per hour (lbs/hr) on a 3-hour average basis and 21.9 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of chlorine (Cl_2).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.37 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 5.00 pounds per hour (lbs/hr) on a 3-hour average basis and 17.13 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of hydrochloric acid (HCl).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.38 For Emission Points AC-101 and AC-201, the permittee shall not emit more than 125.2 pounds per hour (lbs/hr) on a 3-hour average basis and 152 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of sulfur dioxides (SO_2).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012, and modified by Title V Operating Permit issued March 8, 2024)

3.B.39 For Emission Points AC-101 and AC-201, the permittee shall cause or permit the emission of gas containing sulfur oxides (measured as sulfur dioxide) to exceed 500 ppm (volume) from any process equipment.

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

3.B.40 For Emission Point AC-102, the permittee shall not emit more than 2.00 pounds per hour (lbs/hr) and 8.76 tons per year (tons/yr) for each consecutive 12-month rolling basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 8, 2005)

3.B.41 For Emission Point AC-102, the permittee shall not emit more than 5.5 pounds per hour (lbs/hr) of hydrochloric acid (HCl).

(Ref.: State Operating Permit issued October 28, 1980)

3.B.42 For Emission Points AC-106 and AC-206, the permittee shall only vent emissions directly to these stacks when the respective Line 1 or Line 2 Chlorination Reactor is not operating. The emissions will from AC-106 and AC-206 are limited to products of natural gas combustion from the thermal oxidizer burners.

(Ref.: Title V Operating Permit issued May 9, 2006, and modified October 12, 2010)

3.B.43 For Emission Points AC-106, AC-206, AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall limit discharge of sulfur oxides from any fuel burning installations in which the fuel is burned primarily to produce heat or power by indirect heat transfer to 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

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

3.B.44 For Emission Point AC-202, the permittee shall not emit more than 32.0 pounds per hour (lbs/hr) maximum hourly and 3.13 tons per year (tons/yr) for each consecutive 12-month

period on a rolling monthly basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.45 For Emission Point AC-202, the permittee shall not emit more than 17.32 pounds per hour (lbs/hr) and 1.69 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of hydrochloric acid (HCl).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.46 For Emission Point AC-202, the permittee shall not emit more than 0.50 pounds per hour (lbs/hr) and 0.31 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of chlorine (Cl_2).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.47 For Emission Point AC-202, the permittee shall not operate any more than 1,250 hours per year for any consecutive 12-month period.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.48 For Emission Points AF-103, AF-204, and AF-205, the permittee is subject to and shall comply with the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart Db) and the General Provisions (40 CFR 60, Subpart A).

(Ref.: 40 CFR 60.40b(a), Subpart Db)

3.B.49 For Emission Points AF-103, AF-204, and AF-205, the permittee shall not discharge gases containing NO_x (expressed as NO_2) in excess of 0.20 pounds per million BTU (lbs/MMBTU) heat input. This NO_x standard applies at all times including periods of startup, shutdown, or malfunction. Compliance with this emission limit is determined on a 30-day rolling average basis.

(Ref.: 40 CFR 60.44b(a)(1), 60.44b(h), and 60.44b(i), Subpart Db)

3.B.50 For Emission Points AF-103, AF-204, and AF-205, the permittee is exempt from the SO_2 emission limits in 40 CFR 60.42b(k)(1), Subpart Db, due to combustion of gaseous fuels with a potential SO_2 emission rate of 0.32 pounds per million BTU (lbs/MMBTU) heat input or less.

(Ref.: 40 CFR 60.42b(k)(2), Subpart Db)

3.B.51 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee is subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD, and the General Provisions, 40 CFR 63, Subpart A. These units are designed to burn only gas 1 fuels. Emission Points AF-103, AH-101, AH-102, AH-201, and AH-202 are considered existing units, and Emission Points AF-204 and AF-205 are considered new units.

(Ref.: 40 CFR 63.7485 and 63.7490, Subpart DDDDD)

3.B.52 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall comply with the standards of 40 CFR 63, Subpart DDDDD, at all

times, except during periods of startup and shutdown, during which the permittee must comply only with Table 3 of 40 CFR 63, Subpart DDDDD.

(Ref.: 40 CFR 63.7500(f), Subpart DDDDD)

3.B.53 For Emission Point AF-103, the permittee shall not cause, permit, or allow the emission any contaminant of such opacity as to obscure an observer's view to a degree in excess of 20% opacity. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, and 40 CFR 60.43b(f), Subpart Db)

3.B.54 For Emission Point AF-103, the permittee shall not emit more than 9.23 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.55 For Emission Point AF-103, the permittee shall not emit more than 6.24 pounds per hour (lbs/hr) on a 3-hour average basis and 26.72 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of sulfur dioxide (SO_2).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.56 For Emission Point AF-103, the permittee shall not emit more than 0.09 pounds per million BTU (lbs/MMBTU) on a 30-day rolling average of nitrous oxides (NO_x) not to exceed 20.79 pounds per hour (lbs/hr) and 91.06 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis.

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.57 For Emission Point AF-103, the permittee shall not emit more than 15.02 pounds per hour (lbs/hr) and 65.77 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of carbon monoxide (CO).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.58 For Emission Pint AF-103, the permittee shall not emit more than 1.80 pounds per hour (lbs/hr) and 7.90 tons per year (tons/yr) for each consecutive 12-month period on a rolling monthly basis of volatile organic compounds (VOC).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.59 For Emission Point AF-103, the permittee shall only combust natural gas, landfill gas, or a mixture of natural gas and landfill gas.

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.60 For Emission Points AF-204 and AF-205, the permittee shall not emit more than 0.04 pounds per million BTU (lbs/MMBTU) of carbon monoxide (CO) on a 3-hour average basis and shall operate using good combustion practices.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017)

3.B.61 For Emission Points AF-204 and AF-205, the permittee shall not emit more than 151,302 tons per year (tons/yr) of carbon dioxide equivalence (CO_{2e}) on a 12-month rolling total.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017)

3.B.62 For Emission Points AF-204 and AF-205, the permittee shall only combust natural gas.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017

3.B.63 For Emission Points AF-151 and AM-113, the permittee shall minimize the engines' time

spent at idle during startup and minimize the engines' startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes..

(Ref.: 40 CFR 63.6625(h), Subpart ZZZZ)

3.B.64 For Emission Points AF-151 and AM-113, the permittee shall operate and maintain the stationary RICE and after-treatment control devices (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(Ref.: 40 CFR 63.6625(e), Subpart ZZZZ)

3.B.65 For Emission Point AG-101, the permittee shall not emit more than 3.49 pounds per hour (lbs/hr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012

3.B.66 For Emission Point AG-101, the permittee shall not emit more than 5.00 pounds per hour (lbs/hr) on a 3-hour average basis and 16.50 tons per year (tons/yr) on a 12-month rolling basis of hydrochloric acid (HCl).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.67 For Emission Point AG-101, the permittee shall not emit more than 0.50 pounds per hour (lbs/hr) of chlorine (Cl_2) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.68 For Emission Points AH-101 and AH-201, the permittee shall not emit more than 0.30 pounds per hour (lbs/hr) and 1.33 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.69 For Emission Points AH-101 and AH-201, the permittee shall not emit more than 0.02 pounds per hour (lbs/hr) and 0.11 tons per year (tons/yr) of sulfur dioxide (SO_2).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.70 For Emission Points AH-101 and AH-201, the permittee shall not emit more than 2.40 pounds per hour (lbs/hr) and 10.51 tons per year (tons/yr) of carbon monoxide (CO).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.71 For Emission Points AH-101 and AH-201, the permittee shall not emit more than 0.45 pounds per hour (lbs/hr) and 1.98 tons per year (tons/yr) of volatile organic compounds (VOC).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.72 For Emission Points AH-101 and AH-201, the permittee shall only combust natural gas.

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008)

3.B.73 For Emission Points AH-101 and AH-201, the permittee shall not emit more than 1.72 pounds per hour (lbs/hr) and 7.53 tons per year (tons/yr) of nitrogen oxides (NO_x).

(Ref.: Permit to Construct issued June 8, 2004, and modified December 16, 2008, and modified by Title V Operating Permit issued March 8, 2024)

3.B.74 For Emission Points AH-102 and AH-202, the permittee shall only combust natural gas.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.75 For Emission Point AH-107, the permittee shall not emit more than 1.28 pounds per hour (lbs/hr) and 5.61 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM10).

(Ref.: Permit to Construct issued June 8, 2004, modified December 16, 2008)

3.B.76 For Emission Point AH-107, the permittee shall not emit more than 0.69 pounds per hour (lbs/hr) and 5.61 tons per year (tons/yr) of hydrochloric acid (HCl).

(Ref.: Permit to Construct issued June 8, 2004, modified December 16, 2008)

3.B.77 For Emission Point AH-107, the permittee shall not emit more than 7.75 pounds per hour (lbs/hr) and 15.33 tons per year (tons/yr) of chlorine (Cl2).

(Ref.: Permit to Construct issued June 8, 2004, modified December 16, 2008)

3.B.78 For Emission Point AH-202, the permittee shall not emit more than 1.47 pounds per hour (lbs/hr) of carbon monoxide (CO) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.79 For Emission Point AH-202, the permittee shall not emit more than 2.40 pounds per hour (lbs/hr) of nitrogen oxides (NOx) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.80 For Emission Point AH-203, the permittee shall not emit more than 0.88 pounds per hour (lbs/hr) and 0.23 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM10).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.81 For Emission Point AH-203, the permittee shall not operate in excess of 520 hours per year.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.82 For Emission Points AH-203, AH-204, AK-105, AK-106, AL-106, and AL-110, the permittee shall not cause, permit, or allow the emission any contaminant of such opacity as to obscure the observer's view to a degree in excess of 20% opacity. This shall not apply to vision obscuration cause by uncombined water droplets.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.83 For Emission Points AH-204, the permittee shall not emit more than 0.21 pounds per hour (lbs/hr) and 0.92 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.84 For Emission Points AH-206 and AH-207, the permittee is subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), 40 CFR 63, Subpart EEEE, and the General Provisions, 40 CFR 63, Subpart A.

(Ref.: 40 CFR 63.2334(a), Subpart EEEE)

3.B.85 For Emission Points AJ-101 and AJ-201, the permittee shall not use any additive containing hazardous air pollutants (HAP) without prior notification and receipt of written approval from the DEQ.

(Ref.: Permit to Construct issued November 8, 2005)

3.B.86 For Emission Points AJ-101 and AJ-201, the permittee shall not emit collectively more than 524.60 pounds per hour (lbs/hr) on an 8-hour average basis and 648.16 tons per year (tons/yr) for each consecutive 12-month period on a rolling basis of volatile organic compounds (VOC). To demonstrate compliance with these limits, any VOC emissions from the Vacuum Pumps (Emission Points AK-118 through AK-121) shall be accounted for when determining the VOC emissions.

(Ref.: Permit to Construct issued November 8, 2005 and modified by Title V Operating Permit issued March 8, 2024)

3.B.87 For Emission Point AJ-101, the permittee shall not emit more than 28 pounds per hour (lbs/hr) of particulate matter.

(Ref.: State Operating Permit issued October 28, 1980)

3.B.88 For Emission Point AJ-201, the permittee shall only combust natural gas.

(Ref.: Permit to Construct issued November 8, 2005)

3.B.89 For Emission Point AJ-201, the permittee shall not emit more than 0.05 pounds per hour (lbs/hr) and 2.19 tons per year (tons/yr) of sulfur dioxide (SO_2).

(Ref.: Permit to Construct issued November 8, 2005)

3.B.90 For Emission Point AJ-201, the permittee shall not emit more than 14.40 pounds per hour (lbs/hr) and 63.07 tons per year (tons/yr) of nitrogen oxides (NO_x).

(Ref.: Permit to Construct issued November 8, 2005)

3.B.91 For Emission Point AJ-201, the permittee shall not emit more than 117.63 pounds per hour (lbs/hr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.92 For Emission Point AJ-201, the permittee shall not emit more than 17.0 pounds per hour (lbs/hr) of carbon monoxide (CO) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012, and modified by Title V Operating Permit issued March 8, 2024)

3.B.93 For Emission Points AK-105 and AK-106, the permittee shall not emit more than 0.37 pounds per hour (lbs/hr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.94 For Emission Point AK-107, the permittee shall not emit more than 0.01 grains per dry standard cubic feet (gr/dscf) on a 3-hour average basis and 0.37 pounds per hour (lbs/hr) on a 3-hr average basis of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.95 For Emission Point AK-107, the permittee shall not emit more than 0.005 grains per dry standard cubic feet (gr/dscf) on a 3-hour average basis and 0.18 pounds per hour (lbs/hr) on a 3-hour average basis of particulate matter less than 2.5 microns.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.96 For Emission Points AL-105, AL-106, and AL-107, the permittee shall not emit more than 0.31 pounds per hour (lbs/hr) of particulate matter (PM) and particulate matter under 10 microns (PM_{10}) on a 3-hour average basis.

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.97 For Emission Point AL-109, the permittee shall not emit more than 0.04 grains per dry standard cubic feet (gr/dscf), 3.09 pounds per hour (lbs/hr), and 13.53 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 2, 2001)

3.B.98 For Emission Point AL-110, the permittee shall not emit more than 0.41pounds per hour (lbs/hr) and 0.73 tons per year (tons/yr) of particulate matter (PM) and particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued March 21, 2011, and modified September 26, 2012)

3.B.99 For Emission Point AM-105, the permittee shall not emit more than 16.92 pounds per hour (lbs/hr) and 27.71 tons per year (tons/yr) of particulate matter (PM).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.100 For Emission Point AM-105, the permittee shall not emit more than 4.04 pounds per hour (lbs/hr) and 5.15 tons per year (tons/yr) of particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.101 For Emission Point AM-105, the permittee is prohibited from sandblasting at any time other than 9:00 AM (CST) to 4:00 PM (CST).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.102 For Emission Point AM-111, the permittee shall not emit more than 16.92 pounds per hour (lbs/hr) and 27.71 tons per year (tons/yr) of particulate matter (PM).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.103 For Emission Point AM-111, the permittee shall not emit more than 4.04 pounds per hour (lbs/hr) and 6.62 tons per year (tons/yr) of particulate matter less than 10 microns (PM_{10}).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.104 For Emission Point AM-111, the permittee is prohibited from sandblasting at any time other than 7:00 AM (CST) to 4:00 PM (CST).

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004)

3.B.105 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-107, the permittee is subject to and shall comply with the applicable provisions of 40 CFR Part 64 – Compliance Assurance Monitoring. Emission Points AC-101 and AC-201 are considered large pollutant-specific emission units with regards to emissions of SO2. The remaining emission points are considered other pollutant-specific emission units.

(Ref.: 40 CFR 64.2(a), CAM Requirements)

C. Insignificant and Trivial Activity Emission Limitations & Standards

Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.C.1	PM	0.6 lbs/MMBTU
11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.C.2	SO_2	4.8 lbs/MMBTU

3.C.1 The maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

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

3.C.2 The maximum discharge of sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

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

D. Work Practice Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
AF-103 AF-204 AF-205	40 CFR 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63.7510(g), 63.7515(d), 63.7540(a)(12), and Table 3, Subpart DDDDD	3.D.1	HAP	Conduct periodic tune-ups every five (5) years
AF-103 AF-204 AF-205 AH-101 AH-102 AH-201 AH-202	40 CFR 63.7540(a)(10) and (a)(12), Subpart DDDDD	3.D.2		Tune-up specifications
	40 CFR 63.7540(a)(13), Subpart DDDDD	3.D.3		Tune-up when unit is not operating on required date
	40 CFR 63.7500(a)(3), Subpart DDDDD	3.D.4		Operate and maintain in manner consistent with safety and good air pollution control practices
AH-101 AH-102 AH-201 AH-202	40 CFR 63.7515(d), 63.7540(a)(10), and Table 3, Subpart DDDDD	3.D.5		Conduct tune-up annually
AF-151 AM-113	40 CFR 63, Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6602, 63.6625(i), and Table 2C, Subpart ZZZZ	3.D.6		Operation and maintenance requirements

3.D.1 For Emission Points AF-103, AF-204, and AF-205, the permittee must conduct tune-ups every five (5) years in accordance with Condition 3.D.2, with each tune-up being performed no more than 61 months after the previous tune-up. The permittee may delay the burner inspection until the next schedule or unscheduled unit shutdown, but the burner must be inspected once every 72 months.

(Ref.: 40 CFR 63.7510(g), 63.7515(d), 63.7540(a)(12), and Table 3, Subpart DDDDD)

3.D.2 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall conduct tune-ups to demonstrate continuous compliance as specified in the following:

(a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (permittee may delay the burner inspection until the next scheduled shutdown);

(b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

(c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled shutdown);

(d) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;

(e) Measure the concentrations in the effluent stream of carbon monoxide in parts per million by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

(f) Maintain on-site and submit, if requested by the DEQ, a report containing the information in paragraphs (1) through (3) of below,

(1) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured as high fire or typical operating load, before and after the tune-up of the unit;

(2) A description of any corrective actions taken as a part of the tune-up; and

(3) The type and amount of fuel used over the 12-months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

(Ref.: 40 CFR 63.7540(a)(10) and (a)(12), Subpart DDDDD)

3.D.3 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee must conduct the tune-up within 30 calendar days of startup if the unit is not operating on the required date for a tune-up.

(Ref.: 40 CFR 63.7540(a)(13), Subpart DDDDD)

3.D.4 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall, at all times, operate and maintain the affected sources, including associated air pollution control and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Agency that 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 source.

(Ref.: 40 CFR 63.7500(a)(3), Subpart DDDDD)

3.D.5 For Emission Points AH-101, AH-102, AH-201, and AH-202, the permittee shall conduct a tune-up annually in accordance with Condition 3.D.2, with each tune-up being performed no more than 13 months after the previous tune-up.

(Ref.: 40 CFR 63.7515(d), 63.7540(a)(10), and Table 3, Subpart DDDDD, Subpart DDDDD)

3.D.6 For Emission Points AF-151 and AM-113, the permittee shall comply with the following requirements for existing compression ignition emergency stationary RICE with site ratings less than 500 HP, except during periods of startup:

(a) Change oil and filter every 500 hours of operation or annually, whichever comes first;

(b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The permittee may choose to utilize an oil analysis program outlined in 40 CFR 63.6625(i), Subpart ZZZZ, in order to extend the oil change requirement.

(Ref.: 40 CFR 63.6602, 63.6625(i), and Table 2C, Subpart ZZZZ)

SECTION 4. COMPLIANCE SCHEDULE

4.1 Unless otherwise specified herein, the permittee shall be in compliance with all requirements contained herein upon issuance of this permit.

4.2 Except as otherwise specified herein, the permittee shall submit to the Permit Board and to the Administrator of EPA Region IV a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, by January 31 for the preceding calendar year. Each compliance certification shall include the following:

(a) the identification of each term or condition of the permit that is the basis of the certification;

(b) the compliance status;

(c) whether compliance was continuous or intermittent;

(d) the method(s) used for determining the compliance status of the source, currently and over the applicable reporting period;

(e) such other facts as may be specified as pertinent in specific conditions elsewhere in this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(5)(a), (c), & (d).)

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

A. General Monitoring, Recordkeeping and Reporting Requirements

5.A.1 The permittee shall install, maintain, and operate equipment and/or institute procedures as necessary to perform the monitoring and recordkeeping specified below.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.2 In addition to the recordkeeping specified below, the permittee shall include with all records of required monitoring information the following:

(a) the date, place as defined in the permit, and time of sampling or measurements;

(b) the date(s) analyses were performed;

(c) the company or entity that performed the analyses;

(d) the analytical techniques or methods used;

(e) the results of such analyses; and

(f) the operating conditions existing at the time of sampling or measurement.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(1).)

5.A.3 Except where a longer duration is specified in an applicable requirement, the permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(2).)

5.A.4 Except as otherwise specified herein, the permittee shall submit reports of any required monitoring by July 31 and January 31 for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with 11 Miss. Admin. Code Pt. 2, R. 6.2.E. For applicable periodic reporting requirements in 40 CFR Parts 60, 61, and 63, the permittee shall comply with the deadlines in this condition for reporting conducted on a semiannual basis. Additionally, any required quarterly reports shall be submitted by the end of the month following each calendar quarter (i.e., April 30th, July 31st, October 31st, and January 31st), and any required annual reports shall be submitted by January 31st following each calendar year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1)., 40 CFR 60.19(c), 61.10(g), and 63.10(a)(5))

5.A.5 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) days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(2).)

5.A.6 Except as otherwise specified herein, the permittee shall perform emissions sampling and analysis in accordance with EPA Test Methods and with any continuous emission monitoring requirements, if applicable. All test methods shall be those versions or their equivalents approved by the DEQ and the EPA.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.7 The permittee shall maintain records of any alterations, additions, or changes in equipment or operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.8 Unless otherwise specified in Section 4, upon permit issuance, the monitoring, testing, recordkeeping, and reporting requirements of Section 5 herein supersede the requirements of any preceding permit to construct and/or operate.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

B. Specific Monitoring and Recordkeeping Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
Facility Wide	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.1	Variance to Stack Testing	The permittee may submit a request for variance of subsequent testing
		5.B.2	Operating Requirement	Monitoring, Recordkeeping, and Reporting
AA-001	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.3	Fugitive Emissions/ Opacity	Monitoring, Recordkeeping, and Reporting

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
AA-101 AA-201 through AA-205 AI-176 AM-104 through AM-107 AM-111	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.4	Visible Emissions/ Opacity	Weekly visible observations which shall include the performance of a Visible Emission Evaluation (VEE) in accordance with EPA Reference Method 9 if abnormal emissions are observed
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.5		
AA-102 AA-103 AA-104 AD-103 AJ-201 AK-105 AK-106 AK-107 AL-105 AL-106 AL-107 AL-109 AL-110	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.6	Pressure Drop	Continuous monitoring of pressure drop
AB-102 AB-202 AH-101 AH-102 AH-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.7	Monthly Fuel Monitoring	Fuel Quantity

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
AH-202 AJ-101 AJ-201				
AC-202	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.8	Flow Rate and Pressure Drop	Continuous Monitoring
AJ-101			Flow Rate	
AB-106 AB-206 AF-143 AF-151 AM-113	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2) and (b)(2).	5.B.9	Hours of Operation	Records of operation
AB-109	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). Title V Operating Permit issued May 9, 2006, and modified August 11, 2009	5.B.10	Hours of Operation and Sulfur Content	Monitoring, Recordkeeping, and Reporting
AA-105 AB-102 AB-202 AB-301 AC-101 AC-201 AG-101 AH-107 AJ-101 AJ-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.11	$PM/PM_{10}/PM_{2.5}$/Opacity	Stack testing in accordance with EPA Reference Methods 1-5, 201/201A, 202 and Method 9
AB-202 AC-101 AC-201 AH-101 AH-201 AH-202 AJ-201			NO_X	Stack testing in accordance with EPA Reference Method 7
AB-202 AC-101 AC-201 AF-103 AF-204 AF-205 AH-101 AH-201 AH-202 AJ-201			CO	Stack testing in accordance with EPA Reference Method 10
AB-202 AJ-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a). 40 CFR 60, Subpart UUU (Standards of Performance for Calciners and Dryers in Mineral Industries) 40 CFR 60.736(b)(1) and (2), Subpart UUU	5.B.12	PM Testing	Stack testing in accordance with EPA Reference Method 1-5 and Method 9
AC-101 AC-106	11 Miss. Admin. Code Pt. 2, R.	5.B.13	Fuel	Monitoring, Recordkeeping, and

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
AC-201 AC-206	6.3.A(3)(a)(2). Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit") 40 CFR 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) 40 CFR 60.48c(g) and (j), Subpart Dc			Reporting
AC-101 AC-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'") Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("Sustainable Growth PSD Construction Permit") Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit")	5.B.14	CO, COS, and SO_2	Operation and monitoring of continuous emission CO and COS monitors and SO_2 Compliance Plan
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	5.B.15	SO_2	Calculate SO_2 production rate and emission rate in lbs/hr
AC-202	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	5.B.16	Hours of Operation and PM	Monitoring, Recordkeeping, and Reporting
AF-151 AM-113	40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) 40 CFR 63.6655(f), Subpart ZZZZ	5.B.17	Hours of Operation	Records of operation
	40 CFR 63.6655(e), Subpart ZZZZ	5.B.18	Maintenance	Recordkeeping
	40 CFR 63.6655(a), Subpart ZZZZ	5.B.19	General	
	40 CFR 63.6660, Subpart ZZZZ	5.B.20	Records Retention	Maintain records for five (5) years

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
AF-103 AF-204 AF-205	40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) 40 CFR 60.49b(d)(2), Subpart Db	5.B.21	Fuel Restriction	Maintain Fuel Records
	40 CFR 60.48b(b)(1), (c), (d), (e), and (f), Subpart Db	5.B.22	NO_X	Install, calibrate, maintain, and operate a CEMS to measure NO_X
	40 CFR 60.46b(c) and (e), Subpart Db	5.B.23		Calculate 30-day rolling average
	40 CFR 60.49b(g), Subpart Db	5.B.24		Operating data recordkeeping requirements
	40 CFR 60.7(f), Subpart A	5.B.25		NO_X CEMS recordkeeping requirements
	Permit to Construct issued January 9, 2015, and modified January 10, 2017 ("Boiler MACT Project")	5.B.26	CO_2e (GHG)	Calculate CO_2e emissions monthly and on a 12-month rolling basis
AF-103 AF-204 AF-205 AH-101 AH-102 AH-201 AH-202	40 CFR 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters) 40 CFR 63.7555(a), Subpart DDDDD	5.B.27	HAP	Recordkeeping — Notifications, Compliance Demonstrations, and Performance Evaluations
	40 CFR 63.7560, Subpart DDDDD	5.B.28		Recordkeeping — General
AH-204	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.29	PM/Water Level	Monitoring and Recordkeeping
AH-203	PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	5.B.30	Hours of Operation and PM	Monitoring, Recordkeeping, and Reporting
AH-206 AH-207	40 CFR 63, Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)) 40 CFR 63.2343(b)(3), Subpart EEEE	5.B.31	HAP	Recordkeeping
AJ-101 AJ-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'") Permit to Construct issued June 8, 2004, and modified December 16, 2008 ("Sustainable Growth PSD	5.B.32	VOC	Monitoring, Recordkeeping, and Reporting

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Monitoring/Recordkeeping Requirement
	Construction Permit") Permit to Construct issued November 8, 2005 ("TRI Project Construction Permit")			
AM-104 AM-111	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). PSD Permit to Construct issued November 28, 1989, and modified June 8, 2004 ("Retrospective PSD Construction Permit '1989 Line II Construction Project & 1998 Line II Expansion Project'")	5.B.33	PM and PM_{10}/Daily Monitoring	
AA-105 AB-301	40 CFR 64.2(a) and 64.3-64.6, Compliance Assurance Monitoring (CAM) Requirements	5.B.34	Differential Pressure	Continuously measure differential pressure across baghouse and calculate a rolling 3-hour average for comparison to the minimum pressure differential
AB-102 AB-202 AC-101 AC-102 AC-201 AG-101 AH-107			Scrubber Liquor Flow	Continuously measure recirculation liquor flow of scrubber(s) and calculate a rolling 3-hour average for comparison to the minimum flow rate
AC-101 AC-201 AH-107			Scrubber Liquor pH	Continuously measure recirculation liquor pH of scrubber(s) and calculate a rolling 3-hour average for comparison to the minimum liquor pH
AA-105 AB-301 AB-102 AB-202 AC-101 AC-102 AC-201 AG-101 AH-107	40 CFR 64.7(b) and (c), CAM Requirements	5.B.35	Differential Pressure, Scrubber Liquor Flow, and/or Scrubber Liquor pH	Proper maintenance and continued operation of monitoring equipment
	40 CFR 64.7(d), CAM Requirements	5.B.36		Response to excursions
	40 CFR 64.8, CAM Requirements	5.B.37		Quality Improvement Plan (QIP) requirements
	40 CFR 64.9(b), CAM Requirements	5.B.38		General recordkeeping requirements

5.B.1 For those emission points with stack test requirements, upon completion of compliance test requirements within this permit where (1) the results (i.e., the average of all runs) indicate compliance with the emission limitations expressed within this permit and (2) such test results reflect actual emissions of less than or equal to 50% of the permitted limit, the permittee may request a waiver of the subsequent demonstration of compliance test for that pollutant(s) during the permit term (not to exceed 61 months from issuance). The request for a waiver shall include a justification that the emission unit and control device(s) (if applicable) continues to operate in a manner similar to that of when compliance was demonstrated. This request for a waiver shall be submitted no later than 180 days prior to the due date for the subsequent test. A request for a waiver is only valid for the subsequent test, and the next test must be conducted in the next permit window.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.2 For those emission points with control devices, the permittee shall record the date, time,

and duration an emission source is operating while the associated control device is inoperable. If a warning device malfunctions, the permittee shall begin recording readings within five (5) days of the malfunction. Once the warning device(s) is repaired and/or replaced, the permittee shall resume recording the reading on a continuous basis. The time periods when the device was malfunctioning shall be recorded and maintained in log form in accordance with Condition 5.A.3 and shall be made available to DEQ personnel upon request. If there is an emission limit associated with the emission source and control device, the permittee shall note whether the emission limit may have been exceeded as a result. The cause of the control device downtime shall also be recorded. These records shall be maintained in log form in accordance with Condition 5.A.3. The records shall be made available upon request by DEQ personnel.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.3 For Emission Point AA-001, the permittee shall maintain and comply with the approved Plant-Wide Process Fugitive Emissions Monitoring Plan ("the Plan") for monitoring facility operating conditions to demonstrate compliance with the particulate matter (PM), chlorine (Cl_2), and hydrogen chloride (HCl) emission limitations on fugitive emissions. The Plan is attached as Appendix D. The Plan shall include, but is not limited to, the following information:

(a) Identify and list all fugitive emission sources within the plant, especially those sources emitting PM, Cl_2, and HCl.

(b) Identify and describe the specific operating conditions/parameters to be monitored for the sources identified in (a) above.

(c) Identify and/or describe the relationship between the monitored operating conditions/parameters and the monitored pollutants and their emission rates.

(d) If applicable, describe and identify all measurement techniques used and list the sampling locations.

(e) Provide a basis for all calculations performed, the resources of any prevalent data used in the calculations, and/or the methods used to determine the fugitive emission rates, specifically for PM, Cl_2, and HCl.

(f) Provide a procedure and schedule for performing weekly visual observation of the sources of PM identified in (a) above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.4 For the entire facility, the permittee shall assure compliance with the opacity limitations by performing weekly visible observations of emissions from exhaust stacks while the related process is operating. If abnormal visible emissions are detected during an observation period of six (6) consecutive minutes, a visible emission evaluation (VEE) shall be performed using EPA Reference Method 9. If a VEE is performed using EPA Reference Method 9, then the observation period shall consist of a minimum of 18 consecutive minutes. Further, the permittee shall maintain a record and/or a log documenting the date and time of each observation, the nature and cause of any visible emissions, and any corrective action(s) taken to prevent or minimize the emissions. These records and/or log shall be maintained in accordance with Condition 5.A.3.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.5 For the purpose of conducting a visible emission survey, as a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient

lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training must be obtained from the written material found in EPA's "Guidelines for Evaluation of Visible Emissions Certification, Field Procedures, Legal Aspects, and Background Material" and EPA's "Guidelines for Development of a Quality Assurance Program: Volume IX-Visual Determination of Opacity Emissions from Stationary Sources", or the lecture portion of the EPA Reference Method 9 certification course provided on a semiannual basis.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.6 For Emission Points AA-102, AA-103, AA-104, AD-103, AK-105, AK-106, AK-107, AL-105, AL-106, AL-107, AL-109, and AL-110 and AJ-201, where the baghouse is the primary control device, the permittee shall continuously monitor and record the pressure drop readings across each baghouse emission control system. The permittee shall use the alarm or warning device for each baghouse emission control system to document any 3-hour rolling average pressure drop that is not within the target range established from the last demonstration of compliance where applicable and/or based on historical operating conditions for the baghouse. In the event the 3-hour rolling average pressure drop falls out of the target range, the permittee shall take prompt corrective action to return the baghouse back within the target range. Furthermore, if a warning device malfunctions, the permittee shall begin recording daily pressure drop readings within five (5) days of the malfunction. Once the warning device(s) is repaired and/or replaced, the permittee shall resume recording the pressure drop on a continuous basis. The time periods when the device was malfunctioning shall be recorded and maintained in log form in accordance with Condition 5.A.3 and shall be made available to DEQ personnel upon request.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.7 For Emission Points AB-102, AB-202, AH-101, AH-102, AH-201, AH-202, AJ-101, and AJ-201, the permittee shall maintain monthly records of the quantity of natural gas combusted and its heating value (BTU/ft^3). This information shall be maintained in accordance with Condition 5.A.3. For natural gas, the permittee is allowed to use a copy of the Gas Quality Section of the current valid purchase contract, tariff sheet or transportation contract for natural gas for the plant.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.8 For Emission Point AC-202, the permittee shall continuously monitor and record the scrubber flow and pressure differential to assure compliance with the PM and opacity limitations. The permittee shall document the average scrubber pressure differential during the performance of the most recent compliance test for PM emissions where compliance was demonstrated. An excursion will be defined as a 3-hour rolling average where the scrubber pressure differential is not within 90% of this average value.

For Emission Point, AJ-101, the permittee shall continuously monitor and record the scrubber flow to assure compliance with the PM and opacity limitations

For Emission Points AC-202 and AJ-101, the permittee shall document the average scrubber recirculation rate (gpm) during performance of the most recent compliance test for PM emissions where compliance was demonstrated. An excursion will be defined as a 3-hour rolling average where the scrubber recirculation rate is not within 80% of this average value. The permittee shall maintain a log for any excursions from these parametric monitoring ranges or values described in this condition. Whenever an

excursion occurs, the permittee shall take prompt corrective action to get the process operating within the parametric monitoring range or value. These excursions shall be maintained in log form in accordance with Condition 5.A.3 and shall be made available upon request from DEQ personnel. Furthermore, if a warning device malfunctions, the permittee shall begin recording readings within five (5) days of the malfunction. Once the warning device(s) is repaired and/or replaced, the permittee shall resume recording the reading on a continuous basis. The time periods when the device was malfunctioning shall be recorded and maintained in log form in accordance with Condition 5.A.3 and shall be made available to DEQ personnel upon request.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.9 For Emission Point AB-106, AB-206, AF-143, AF-151, and AM-113, the permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the event as an emergency, and how many hours are spent for non-emergency operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2) and (b)(2).)

5.B.10 For Emission Point AB-109, the permittee shall for periods of chlorinator swaps or chlorinator start-up (Chlorination Reactor Light-off Mode) or for periods of chlorinator idling (Chlorination Reactor Process Idle Mode) maintain records of the daily hours of operation and the cumulative total hours of operation for each operational mode. This data shall be maintained in accordance with Condition 5.A.3 and shall be made available upon request by DEQ personnel.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.11 For Emission Points AA-105, AB-102, AB-202, AB-301, AC-101, AC-201, AF-103, AF-204, AF-205, AG-101, AH-101, AH-201, AH-202, and AJ-201, the permittee shall demonstrate compliance with the applicable permit limits by stack testing every five (5) years, not to exceed 61 months from the previous test.

During each stack test, the permittee shall operate the source within 20% of its maximum rated capacity, or at a rate identified in the pretest conference, with the exception of AF-103 which shall operate within 10% of the maximum rated capacity. The following test methods or an EPA-approved alternative shall be used:

Pollutant	EPA Test Method
PM	1 through 5
$PM_{10}/PM_{2.5}$	201/201A and 202
NO_x	7
CO	10
SO_2	6
HCl	26A
Cl_2	26A
H_2SO_4	8
Opacity	9

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.12 For Emission Points AB-202 and AJ-201, the permittee shall demonstrate compliance with the particulate matter emission limitation by conducting a stack test in accordance with EPA Reference Method 5. The sampling time and volume for the Method 5 test run shall be at least two (2) hours and 1.70 dscm. The stack test shall be conducted in accordance with Condition 5.B.11.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a), and 40 CFR 60.736(b)(1) and (2), Subpart UUU)

5.B.13 For Emission Points AC-106 and AC-206 (the Line 1 and Line 2 Chlorinator Reactor Thermal Oxidizer burners), which vent to Emission Points AC-101 or AC-106 and AC-201 or AC-206, respectively, the permittee shall monitor and maintain records of the amount of natural gas combusted in each burner during each day.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2), and 40 CFR 60.48c(g) and (j), Subpart Dc)

5.B.14 For Emission Points AC-101 and AC-201, the permittee shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for continuously monitoring and recording the concentration by volume (dry basis) of carbon monoxide (CO) emissions, the concentration levels of carbonyl sulfide (COS) emissions, and the stack gas velocity and/or volumetric flowrate. These CEMS have been determined to be presumptively acceptable monitoring for purposes of CAM and will be used to determine compliance with the applicable emission limitations expressed in Section 3 herein. These continuous monitoring systems shall meet or shall be consistent with the requirements and specifications under 40 CFR 60, Appendix B, and shall be consistent with the requirements of 40 CFR 60.7 and 60.13 and the quality assurance procedures specified in 40 CFR 60, Appendix F, including quarterly accuracy determinations and daily calibration drift tests for each continuous monitoring system.

Per 40 CFR 60.7(f), the permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring systems performance evaluations; all continuous monitoring system or monitoring devices calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five (5) years following the date of such measurements, maintenance, reports and records.

The continuous monitoring system shall be operated and record data during all periods of the Line 1 and/or Line 2 Hydrogen Chloride (HCl) Recovery Process operation, respectively, including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks and zero span adjustments.

The permittee shall perform a conversion of all CMS collected data into units of applicable standards (e.g. lbs/hr, lbs/day, tpy).

The permittee shall demonstrate compliance with the emission limitations for the following pollutants by stack testing in accordance with the specified methods and submittal of the stack test report(s):

Carbon Monoxide (CO): Continuous Emission Monitoring System pursuant to the emission monitoring requirements in Section 5.B.

Carbonyl Sulfide (COS): Continuous Emission Monitoring System pursuant to the emission monitoring requirements in Section 5.B.

The permittee shall also monitor, calculate, and record the following:

(a) The SO2 emission rate for each hour and the consecutive 12-month SO2 emission total in tons per year.

(b) The CO emission rate for each hour, the daily 8-hour CO emission rate in pounds per hour, and the consecutive 12-month CO emission rate in tons per year.

(c) The daily COS emission rate in pounds per day and the consecutive 12-month COS emission rate in tons per year.

(d) The daily hours of operation and the cumulative total.

(e) Any reports required by 40 CFR 60.7 and 60.13, and 40 CFR 60, Appendix B and F.

(f) Any period (date and time) during which a continuous monitoring system in inoperative.

(g) Each operating day the SO2, CO, or COS emission rates are in excess of the SO2, CO, COS emission limitations referenced in Section 3 of this permit; the magnitude of the excess emissions; the reason for the excess emissions; the total duration of excess emissions; and a description of the corrective action and preventative measures adopted. The permittee shall report within five (5) working days any deviations from the permit requirements, including those attributable to upsets, and the report shall include the cause of such deviations, the magnitude of the excess emissions, the total duration of excess emissions, and any corrective actions and/or preventative measures taken. Corrective actions may include requirements for additional stack testing or more frequent monitoring or trigger implementation of a corrective action plan.

One-hour averages should be computed from four (4) or more data points equally spaced over a 1-hour period. A 1-hour period means any 60-minute period commencing on the hour. Data recording periods of continuous monitoring systems breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed.

An 8-hour average shall be considered valid if at least 75% of the hourly averages for the 8-hour period are available. In the event that only six (6) or seven (7) hourly averages are available, the 8-hour average shall be computed on the basis of the hours available using six (6) or seven (7) as the divisor.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, Permit to Construct issued June 8, 2004, and modified December 16, 2008, Permit to Construct issued November 8, 2005, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.15 For Emission Points AC-101 and AC-201, the permittee shall use the data monitored in accordance with the approved Monitoring Plan attached as Appendix C, in association with the calculated amount of Total Mole flow of Gas at the inlet of the Fume Disposal System (Tail Gas) and sulfur concentration in the (Tail Gas) to calculate a continuous SO_2 production rate and subsequent SO_2 emission rate in pounds per hour, which shall take into account scrubber control efficiency. An exceedance will be defined as any 3-hour rolling average where the predicted SO_2 emission rate is greater than the applicable lbs/hr limitation. Any exceedance will trigger an inspection, corrective action, and a

report of the exceedance. This data, including all exceedances, will be maintained in log form in accordance with Condition 5.A.3 and shall be made available upon request from DEQ personnel.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.16 For Emission Point AC-202, the permittee shall maintain records of the daily hours of operation and the cumulative total hours of operation, the maximum daily hourly particulate matter (PM) emission rate in pounds per hour (lbs/hr), and the consecutive 12-month particulate matter (PM) emission total in tons per year (tons/yr). This data shall be maintained in accordance with Condition 5.A.3 and shall be made available upon request by DEQ personnel.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.17 For Emission Points AF-151 and AM-113, the permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the event as an emergency, and how many hours are spent for non-emergency operation.

(Ref.: 40 CFR 63.6655(f), Subpart ZZZZ)

5.B.18 For Emission Points AF-151 and AM-113, the permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the engine was operated and maintained in accordance to the maintenance plan required by Condition 3.B.64.

(Ref.: 40 CFR 63.6655(e), Subpart ZZZZ)

5.B.19 For Emission Points AF-151 and AM-113, the permittee must keep the records listed below:

(a) A copy of each notification and report submitted to comply with 40 CFR 63, Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv), Subpart A.

(b) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(c) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii), Subpart A.

(d) Records of all required maintenance performance on the air pollution control and monitoring equipment.

(e) Records of actions taken during periods of taken during periods of malfunction to minimize emissions in accordance with Condition 3.B.13, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(Ref.: 40 CFR 63.6655(a), Subpart ZZZZ)

5.B.20 For Emission Points AF-151 and AM-113, the permittee must keep each record in a form suitable and readily available for expeditious review. The permittee must keep each record readily accessible in hard copy or electronic form for five (5) years following the

date of each occurrence, measurement, maintenance, corrective action, report, or record.

(Ref.: 40 CFR 63.6660, Subpart ZZZZ)

5.B.21 For Emission Points AF-103, AF-204 and AF-205, the permittee shall record and maintain records of the amount of fuel combusted per boiler during each calendar month.

For Emission Point AF-103, the permittee shall monitor and maintain records of the type, quantity, and heating value (BTU/ft^3) of each fuel combusted during each month. For landfill gas, the permittee shall perform at least one analysis each calendar year to determine the quality (contents) of the landfill gas. The permittee shall maintain these records daily and in accordance with Condition 5.A.3.

(Ref.: 40 CFR 60.49b(d)(2), Subpart Db)

5.B.22 For Emission Points AF-103, AF-204, and AF-205, the permittee shall install, calibrate, maintain, and operate continuous emission systems (CEMS) for monitoring nitrogen oxides (NO_X) and oxygen (O_2) emissions discharged to the atmosphere, and shall record the output of the system. The CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments. The 1-hour average NO_X monitor shall be used to calculate NOx in pounds per million BTU (lbs/MMBTU) heat input and shall be used to calculate the average emission rates under 40 CFR 60.13(h)(2), Subpart A. The procedures under 40 CFR 63.13, Subpart A, shall be followed for installation, evaluation, and operation of the continuous monitoring systems. The span value of the NO_X analyzer shall be 500 ppm. The system shall be accessed through a Relative Accuracy Test Audit (RATA) conducted annually.

When NO_X emission data are not obtained because of CEMS breakdown, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of Appendix A, Method 7A of Appendix A, or other approved reference methods to provide emission data for a minimum of 75% of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(Ref.: 40 CFR 60.48b(b)(1), (c), (d), (e), and (f), Subpart Db)

5.B.23 For Emission Points AF-103, AF-204, and AF-205, following the performance test, the permittee shall determine compliance with the NO_X on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated for each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(Ref.: 40 CFR 60.46b(c) and (e), Subpart Db)

5.B.24 For Emission Points AF-103, AF-204, and AF-205, the permittee shall maintain records of the following information for each steam generating unit operating day:

(a) Calendar date;

(b) The average hourly NO_X emission rates (expressed as NO_2) (lbs/MMBTU heat input) measured or predicted;

(c) The 30-day average NO_X emission rates (lbs/MMBTU heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(d) Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emission standards, which the reasons for such excess emissions as well as a description of corrective actions taken;

(e) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(f) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(g) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;

(h) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(i) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(j) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1.

(Ref.: 40 CFR 60.49b(g), Subpart Db)

5.B.25 For Emission Points AF-103, AF-204, and AF-205, the permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two (2) years following the date of such measurements, maintenance, reports, in accordance with the provisions of 40 CFR 60.7(f), Subpart A.

(Ref.: 40 CFR 60.7(f), Subpart A)

5.B.26 For Emission Points AF-204 and AF-205, the permittee shall demonstrate compliance with the CO_2e limits established in Section 3 by recording natural gas flow rate to each boiler and natural gas heating value on a monthly basis. The monthly CO_2e emissions shall be determined by multiplying the monthly heat input to each boiler by the appropriate emission factor from Table C-1 of 40 CFR 98, Subpart C. The permittee shall also calculate and record CO_2e emissions on a 12-month rolling basis.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017)

5.B.27 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall keep the following records:

(a) A copy of each notification and report that permittee submitted to comply with 40 CFR 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv), Subpart A.

(b) Records of compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii), Subpart A.

(Ref.: 40 CFR 63.7555(a), Subpart DDDDD)

5.B.28 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall maintain records as outlined in paragraphs (a) through (c) below:

(a) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1), Subpart A.

(b) As specified in 40 CFR 63.21(b)(1), Subpart A, each record must be kept for five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) Each record must be kept on site, or records must be accessible from on site (for example, through a computer network), for at least two (2) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1), Subpart A. Records may be kept off site for the remaining three (3) years.

(Ref.: 40 CFR 63.7560, Subpart DDDDD)

5.B.29 For Emission Point AH-204, the permittee shall monitor and record on a continuous basis the level of water maintained in the vat. The water level shall be maintained at a minimum of 10% to ensure exhaust must pass through the water prior to venting to the atmosphere. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.30 For Emission Point AH-203, the permittee shall document and maintain readily accessible records of the daily hours of additive storage bin loading and the consecutive 12-month total on a rolling month basis.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.31 For Emission Points AH-206 and AH-207, the permittee shall keep documentation, including a record of the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid, that verifies the storage tank is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to 40 CFR 63.10(b)(1), Subpart A, including records stored in electronic form in a separate location.

(Ref.: 40 CFR 63.2343(b)(3), Subpart EEEE)

5.B.32 For Emission Points AJ-101 and AJ-201, the permittee shall maintain sufficient records documenting the following:

(a) Safety Data Sheets for each additive used;

(b) Total of each additive used (gallons);

(c) The VOC and HAP content of each additive used or as applied;

(d) The maximum 8-hour VOC emission rate in pounds per hour (lbs/hr) and the consecutive 12-month VOC emission rate in tons per year (tons/yr);

(e) The date and duration of each additive campaign; and

(f) All supporting information, including but not limited to calculations, data, and a description of the method(s) used to determine the VOC and HAP emission rate.

The permittee may use data supplied by the manufacturer or an analysis of VOC content by EPA Test Method 24, 40 CFR 60, Appendix A.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, Permit to Construct issued June 8, 2004, and modified December 16, 2008, Permit to Construct issued November 8, 2005, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.33 For Emission Points AM-104 and AM-111, the permittee shall maintain records documenting the following:

(a) The type of blasting material used;

(b) The daily amount and the cumulative total of the blasting material used;

(c) A daily operation log detailing the time and cumulative total hours blasting was performed;

(d) The calculated daily hourly particulate matter (PM) and PM_{10} emission rate in units of pounds per hour (lbs/hr) and the 12-month rolling total PM and PM_{10} emission rate in tons per year (tons/yr); and

(e) The supporting calculations, data, and a description of the method(s) used to determine the PM and PM_{10} emission rate.

This information shall be retained on site in accordance with Condition 5.A.3 and shall be made available upon request by DEQ personnel.

(Ref.: Permit to Construct issued November 28, 1989, and modified June 8, 2004, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.34 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-107, the permittee shall comply with the Compliance Assurance Monitoring (CAM) Plans approved by the DEQ and attached in Appendix 3. Specifically, the permittee shall monitor the following parameters continuously (i.e., at least every 15 minutes) and calculate and record the 3-hour average hourly for comparison to the

indicator range/value. An excursion is defined as any departure from the indicator range/value established in the attached CAM Plans.

Emission Point	Pollutant	Indicator
AA-105	$PM/PM_{10}/PM_{2.5}$	Minimum baghouse pressure differential
AB-102	PM/PM_{10}	Minimum scrubber liquor recirculation flow
AB-202	$PM/PM_{10}/PM_{2.5}$	Minimum scrubber liquor recirculation flow
AB-301	$PM/PM_{10}/PM_{2.5}$	Minimum baghouse pressure differential
AC-101 AC-201 (Either 4th Stage or 4th Stage and Outlet Scrubbers if TRI in service)	$PM/PM_{10}/PM_{2.5}$	Minimum scrubber liquor recirculation flow
	SO_2, H_2SO_4, Cl_2	Minimum scrubber liquor recirculation flow and pH
	HCl	Minimum scrubber liquor recirculation flow
AC-102	PM/PM_{10} and HCl	Minimum scrubber liquor recirculation flow
AG-101	PM/PM_{10} and HCl	Minimum scrubber liquor recirculation flow
AH-107	PM/PM_{10} and HCl	Minimum scrubber liquor recirculation flow
	Cl_2	Minimum scrubber liquor pH

(Ref.: 40 CFR 64.3-64.6, CAM Requirements)

5.B.35 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-101, the permittee shall comply with the following requirements for the monitoring required by the approved CAM Plan:

(a) Proper maintenance. At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used, including in data averaging and calculations or in fulfilling a minimum data availability requirement, as applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(Ref.: 40 CFR 64.7(b) and (c), Compliance Assurance Monitoring)

5.B.36 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-101, upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused

startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(Ref.: 40 CFR 64.7(d), CAM Requirements)

5.B.37 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-101, based on the results of a determination made under Condition 5.B.36, the DEQ may require the permittee to develop and implement a Quality Improvement Plan (QIP) in accordance with the specifications in 40 CFR 64.8(b). The permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the DEQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. The DEQ may require the permittee make reasonable changes to the QIP if it fails to address the cause of the control device performance problem or fails to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Clean Air Act.

(Ref.: 40 CFR 64.8, CAM Requirements)

5.B.38 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-101, in accordance with Condition 5.A.3, the permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Condition 5.B.37 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review and does not conflict with other applicable recordkeeping requirements.

(Ref.: 40 CFR 64.9(b), CAM Requirements)

C. Specific Reporting Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Reporting Requirement
Facility Wide	State Operating Permit issued August 25, 1987	5.C.1	Cl_2 and $TiCl_4$	Abnormal releases or spills reporting

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Reporting Requirement
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).	5.C.2	Stack Test Reports	Provide notification 10 days in advance and submit report within 60 days of test
		5.C.3	Malfunction	Control device malfunctions
		5.C.4	VEE	Visible emissions observations
AA-001		5.C.5	Fugitives	Annual reporting
AA-102 AA-103 AA-104 AD-103 AK-105 AK-106 AK-107 AL-105 AL-106 AL-107 AL-109 AL-110 AJ-201		5.C.6	Excursions	Pressure drop
AC-101 AC-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.C.7	CO and COS	Reporting
		5.C.8	SO_2	Semiannual report
AC-202 AJ-101		5.C.9	Excursions	Recirculation rate
AC-202		5.C.10	PM	Emission rate
AF-103	40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) 40 CFR 60.49b, Subpart Db 40 CFR 60.7(c), Subpart A	5.C.11	NO_X	Excess emissions and monitoring systems report
	40 CFR 60.49b(d)(2), Subpart Db	5.C.12	Fuel	Fuel specifications reporting
AF-151 AM-113	40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) 40 CFR 63.6640(b), Subpart ZZZZ	5.C.13	Operation	Deviation reporting
AF-204 AF-205	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(2).	5.C.14	Deviations	Report any permit deviations within five (5) days
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1). Permit to Construct issued January 9, 2015, and modified January 10, 2017 ("Boiler MACT Project")	5.C.15	General	Semiannual reporting
AF-103 AF-204	40 CFR 63, Subpart DDDDD (National Emission Standards	5.C.16	Notifications	Compliance Status

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/ Parameter Monitored	Reporting Requirement
AF-205 AH-101 AH-102 AH-202	for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters) 40 CFR 63.7530(e) and 63.7545(e), Subpart DDDDD			
	40 CFR 63.7550(a) and (b), and Table 9, Subpart DDDDD	5.C.17	Compliance Reports	Schedule
	40 CFR 63.7550(c), Subpart DDDDD	5.C.18		Content
	11 Miss. Admin. Code Pt. 2, R. 6.3.C(1). 40 CFR 63.7550(h)(3), Subpart DDDDD	5.C.19		Submissions
AF-204 AF-205	40 CFR 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) 40 CFR 60.49b(h) and (w), Subpart Db	5.C.20	Excess Emissions and Monitoring Systems	Performance Reports
	40 CFR 60.49b(g), (i), and (w), Subpart Db	5.C.21	Operating Data	Submit reports
AA-105 AB-301 AB-102 AB-202 AC-101 AC-102 AC-201 AG-101 AH-107	40 CFR 64.7(e) and 64.9(a), CAM Requirements	5.C.22	Pressure Differential, Scrubber Liquor Flow, and/or Scrubber Liquor pH	Request to modify CAM Plan to address need for improved monitoring and general reporting requirements
AJ-101 AJ-201	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.C.23	VOC and HAP	Additive specifications report
AM-104 AM-111		5.C.24	PM	Blasting operations report

5.C.1 For the entire facility, the permittee shall report above and beyond the requirements addressed in Conditions 1.24 and 1.25, by telephone, all abnormal releases or spills of chlorine (Cl_2), titanium tetrachloride ($TiCl_4$), or other potentially hazardous materials which cause or may cause off-plant effects, and all process upsets or control equipment malfunctions which cause or may cause off-plant effects. Reporting shall be as follows:

(a) For incidents of less than 30 minutes duration which do not endanger public health, the permittee shall report the details of the incident during normal office hours within 24 hours after return to normal operation.

(b) For incidents of 30 minutes or greater duration which do not endanger public health, the permittee shall report the details as soon as possible after discovery. If the incident occurs during closed office hours, it shall be reported upon commencement of business the following day.

(c) For incidents of any duration which endanger of may endanger public health, the permittee shall report the details of the incident as soon as possible after discovery and shall do so through emergency channels, including contacting the Mississippi Emergency Management Agency (MEMA).

The details required in such reports shall include, but are not limited to, the type, time, date, and duration of air emissions from the incident; the approximate quantity or rate of materials involved; the method of correction and cleanup; the current status of correction and cleanup; and the steps taken to prevent reoccurrence.

All reportable incidents shall be summarized in a written report once per calendar quarter. This report shall be filed in addition to any written incident reports which may be required on a case-by-case basis. For periods during which no reportable incidents occurred, a negative declaration shall be files.

(Ref.: State Operating Permit issued August 25, 1987)

5.C.2 For those emission points which require stack testing, if the permittee plans to use a test method, procedure, or operating condition that differs from the requirements of this permit herein, then a pretest conference at least thirty (30) days prior to the scheduled test date is needed to ensure that all test methods and procedures are acceptable to the DEQ. If the permittee is proposing an alternative test method not previously approved by EPA, a cover letter indicating such must be attached and submitted with the test protocol.

The DEQ shall by notified ten (10) days prior to the scheduled date(s) so that an observer may be afforded the opportunity to witness the test(s). The permittee shall submit the results of the any stack testing within sixty (60) days of the actual test for demonstrating compliance with the emission point specific limits.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.3 For those emission points with control devices, records of the date, time, and duration an emission source is operating while the associated control device is inoperable as required by Condition 5.B.2 shall be submitted in accordance with Condition 5.A.4.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.4 For the entire facility, the permittee shall submit a summarized report of the logged information in Condition 3.B.4 in accordance with Condition 5.A.4 and made available upon request by DEQ.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.5 For Emission Point AA-001, the permittee shall submit with the second semiannual report required by Condition 5.A.4 due January 31st a summary of the information used to demonstrate compliance with the emission limitations for the previous calendar year. All data or information pertaining to Condition 5.B.3 shall be maintained in accordance with Condition 5.A.3 and shall be made available upon request by DEQ personnel.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.6 For Emission Points AA-102, AA-103, AA-104, AD-103, AK-105, AK-106, AK-107, AL-105, AL-106, AL-107, AL-109, and AL-110 and AJ-201, the permittee shall submit a summary report of those times the 3-hour average pressure drop was not within the ranges established, in accordance with Condition 5.A.4.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.7 For Emission Points AC-101 and AC-201, the permittee shall submit a report containing

the information of Condition 5.B.14. This report shall be submitted to DEQ in accordance with Condition 5.A.4 and shall be made available upon request by DEQ personnel. The data used for this report shall be retained in accordance with Condition 5.A.3.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.C.8 For Emission Points AC-101 and AC-201, the permittee shall submit a summary report of the data collection required by Condition 5.B.15 in accordance with Condition 5.A.4

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.C.9 For Emission Points AC-202 and AJ-101, the permittee shall submit a summary report in accordance with Condition 5.A.4 of any excursions recorded as required by Condition 5.B.8.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.C.10 For Emission Point AC-202, the permitee shall submit reports in accordance with Condition 5.A.4 providing the following information:

(a) The maximum daily hours of operation and the consecutive 12-month total;

(b) The calculated maximum daily hourly particulate matter (PM) emission rate in pounds per hour and the consecutive 12-month emission total in tons per year (tons/yr); and

(c) Calculations, data, and a description of the method(s) used to determine the particulate matter (PM) data and emission rate.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.C.11 For Emission Point AF-103, the permittee shall submit an excess emissions and monitoring systems performance report and/a summary report form to the DEQ semiannually, per 40 CFR 60.7(c), Subpart A, and 40 CFR 60.49b(h), Subpart Db. All reports shall be postmarked by the 30th day following the end of each six-month period. In lieu of submitting the written reports, the permittee may submit electronic quarterly reports no later than 30-days after the end of the calendar quarter, per 40 CFR 60.49b(v), Subpart Db. The reports shall contain the information required by 40 CFR 60.49b(g), Subpart Db, in addition to the following information:

(a) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), Subpart A, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions.

(b) The process operating time during the reporting period.

(c) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunctions (if known), the corrective action taken, or the preventative measures adopted.

(d) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs and adjustments.

(e) When no excess emissions have occurred or the continuous monitoring system(s) has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(Ref.: 40 CFR 60.7(c), Subpart A, and 40 CFR 60.49b, Subpart Db)

5.C.12 For Emission Point AF-103, the permittee shall report the monitoring required by Condition 5.B.21 in accordance with Condition 5.A.4.

(Ref.: 40 CFR 60.49b(d)(2), Subpart Db)

5.C.13 For Emission Points AF-151 and AM-113, the permittee must report each instance in which the permittee did not meet each emission limitation or operating limitation in Table 2c of Subpart ZZZZ. These instances are deviations from the emission and operating limitations and must be reported according to the requirements in 40 CFR 63.6650. Also, the permittee must report each instance in which the requirements of the applicable General Provisions of 40 CFR 63, Subpart A, as identified in Table 8 to Subpart ZZZZ, were not met.

(Ref.: 40 CFR 63.6640(b) Subpart ZZZZ)

5.C.14 For Emission Points AF-204 and AF-205, 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 preventative measures taken. Such report shall be made within five (5) days of the time the deviation began.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(2).)

5.C.15 For Emission Points AF-204 and AF-205, the permittee shall submit reports of any required monitoring by July 31st and January 31st for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with 11 Miss. Admin. Code Pt. 2, R. 6.2.E.

(Ref.: Permit to Construct issued January 9, 2015, and modified January 10, 2017, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).)

5.C.16 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall submit a signed statement in the Notification of Compliance Status report that indicates the tune-up of the unit required in Condition 3.D.1 of this permit have been completed. The Notification of Compliance Status shall include the required statements from above and all the information specified in 40 CFR 63.7545(e)(1) through (8), Subpart DDDDD.

(Ref.: 40 CFR 63.7530(e) and 63.7545(e), Subpart DDDDD)

5.C.17 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall submit compliance reports to DEQ every (5) years, postmarked no later than January 31st for the preceding 5-year period. The first submission will be due January 31, 2022.

(Ref.: 40 CFR 63.7550(a) and (b), and Table 9, Subpart DDDDD)

5.C.18 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall prepare compliance reports containing the applicable information outlined in the following paragraphs:

(a) Company and facility name and address.

(b) Process unit information, emission limitations, and operating parameter limitations.

(c) Date of report and beginning and ending date of the reporting period.

(d) The total operating time during the reporting period.

(e) Include the date of the most recent tune-up for each emission point. Include the date of the most recent burner inspection if it was not performed at the required frequency and was delayed until the next schedule or unscheduled unit shutdown.

(f) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(Ref.: 40 CFR 63.7550(c), Subpart DDDDD)

5.C.19 For Emission Points AF-103, AF-204, AF-205, AH-101, AH-102, AH-201, and AH-202, the permittee shall submit compliance reports as outlined below:

(a) Written reports shall be submitted to DEQ at the following address:

Chief, Environmental Compliance and Enforcement Division
Mississippi Department of Environmental Quality
Office of Pollution Control
P.O. Box 2261
Jackson, Mississippi 39255

(b) Electronic reports shall be submitted using CEDRI that is access through EPA's Central Data Exchange at www.epa.gov/cdx.

(Ref.: 40 CFR 63.7550(h)(3), Subpart DDDDD, and 11 Miss. Admin. Code Pt. 2, R. 6.3.C(1).)

5.C.20 For Emission Points AF-204 and AF-205, the permittee shall submit excess emissions and monitoring systems performance reports semiannually consistent with 40 CFR 60.7(c), (d), and (e), Subpart A. Excess emissions are defined as any calculated 30-day rolling average NO_X emission rate, as determined under 40 CFR 60.46b(e), Subpart Db, that exceeds the applicable emission limits in 40 CFR 60.44b. The reporting period is each six (6) month period. All reports shall be postmarked by the 30th day following the end of the reporting period.

(Ref.: 40 CFR 60.49b(h) and (w), Subpart Db)

5.C.21 For Emission Points AF-204 and AF-205, the permittee shall submit reports containing the data recorded in accordance with 40 CFR 60.49b(g), Subpart Db. The reporting period is each six (6) month period. All reports shall be postmarked by the 30th day following the end of the reporting period.

(Ref.: 40 CFR 60.49b(g), (i), and (w), Subpart Db)

5.C.22 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-107, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved CAM Plan did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(Ref.: 40 CFR 64.7(e), CAM Requirements)

5.C.23 For Emission Points AA-105, AB-301, AB-102, AB-202, AC-101, AC-102, AC-201, AG-101 and AH-107, in accordance with Condition 5.A.4, the permittee shall include, at a minimum, the following information, as applicable:

(a) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions and the corrective actions taken;

(b) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(c) A description of the actions taken to implement a QIP during the reporting period as specified in Condition 5.B.37. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(Ref.: 40 CFR 64.9(a), CAM Requirements)

5.C.24 For Emission Points AJ-101 and AJ-201, the permitee shall submit a summarized report providing the information required to be documented in Condition 5.B.32 in accordance with Condition 5.A.4 and shall be made available upon request by DEQ personnel.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.C.25 For Emission Points AM-104 and AM-111, the permittee shall submit a summarized report providing the information required to be documented in Condition 5.B.33 in accordance with Condition 5.A.4.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 If the Landfill Gas supplier is unable to supply landfill gas to the permittee due to their failure to operate or significant quality problems which would not allow the boiler to operate properly, such as high O_2 and water in the LFG, the permittee, upon notification to the state, may be allowed to use only natural gas and comply with a limit of a 30-day rolling average of 0.12 lbs NOx/MMBtu.

SECTION 7. TITLE VI REQUIREMENTS

The following are applicable or potentially applicable requirements originating from Title VI of the Clean Air Act – Stratospheric Ozone Protection. The full text of the referenced regulations may be found on-line at **http://www.ecfr.gov/** under Title 40, or DEQ shall provide a copy upon request from the permittee.

7.1 If the permittee produces, transforms, destroys, imports or exports a controlled substance or imports or exports a controlled product, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart A – Production and Consumption Controls.

7.2 If the permittee performs service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart B – Servicing of Motor Vehicle Air Conditioners.

7.3 The permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart E – The Labeling of Products Using Ozone-Depleting Substances, for the following containers and products:

(a) All containers in which a class I or class II substance is stored or transported;

(b) All products containing a class I substance; and

(c) All products directly manufactured with a process that uses a class I substance, unless otherwise exempted by this subpart or, unless EPA determines for a particular product that there are no substitute products or manufacturing processes for such product that do not rely on the use of a class I substance, that reduce overall risk to human health and the environment, and that are currently or potentially available. If the EPA makes such a determination for a particular product, then the requirements of this subpart are effective for such product no later than January 1, 2015.

7.4 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart F – Recycling and Emissions Reduction:

(a) Servicing, maintaining, or repairing appliances;

(b) Disposing of appliances, including small appliances and motor vehicle air conditioners; or

(c) Refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, as well as persons selling, offering for sale, and/or purchasing class I, class II, or non-exempt substitute refrigerants.

7.5 The permittee shall be allowed to switch from any ozone-depleting substance to any acceptable alternative that is listed in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G – Significant New Alternatives Policy Program. The permittee shall also comply with any use conditions for the acceptable alternative substance.

7.6 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart H – Halon Emissions Reduction:

(a) Any person testing, servicing, maintaining, repairing, or disposing of equipment that contains halons or using such equipment during technician training;

(b) Any person disposing of halons;

(c) Manufacturers of halon blends; or

(d) Organizations that employ technicians who service halon-containing equipment.

APPENDIX A

List of Abbreviations Used In this Permit

11 Miss. Admin. Code Pt. 2, Ch. 1.	Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants
11 Miss. Admin. Code Pt. 2, Ch. 2.	Permit Regulations for the Construction and/or Operation of Air Emissions Equipment
11 Miss. Admin. Code Pt. 2, Ch. 3.	Regulations for the Prevention of Air Pollution Emergency Episodes
11 Miss. Admin. Code Pt. 2, Ch. 4.	Ambient Air Quality Standards
11 Miss. Admin. Code Pt. 2, Ch. 5.	Regulations for the Prevention of Significant Deterioration of Air Quality
11 Miss. Admin. Code Pt. 2, Ch. 6.	Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act
11 Miss. Admin. Code Pt. 2, Ch. 7.	Acid Rain Program Permit Regulations for Purposes of Title IV of the Federal Clean Air Act
BACT	Best Available Control Technology
CEM	Continuous Emission Monitor
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COM	Continuous Opacity Monitor
COMS	Continuous Opacity Monitoring System
DEQ	Mississippi Department of Environmental Quality
EPA	United States Environmental Protection Agency
gr/dscf	Grains Per Dry Standard Cubic Foot
HP	Horsepower
HAP	Hazardous Air Pollutant
lbs/hr	Pounds per Hour
M or K	Thousand
MACT	Maximum Achievable Control Technology
MM	Million
MMBTUH	Million British Thermal Units per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61 or National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR 63
NMVOC	Non-Methane Volatile Organic Compounds
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10 μm in diameter
ppm	Parts per Million
PSD	Prevention of Significant Deterioration, 40 CFR 52
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOC	Volatile Organic Compound

Appendix B

Compliance Assurance Monitoring (CAM) Plan

1. CAM PLANS

Plan #1: PM, PM_{10} and $PM_{2.5}$ Emission Units with Baghouse Controls

Plan #2: Other PM, PM_{10} and $PM_{2.5}$ Emission Units with Scrubber Controls

Plan #3: Other SO_2, H_2SO_4 and Cl_2 Emission Units with Scrubber Controls

Plan #4: Other HCl Emission Units with Scrubber Controls

2. PLAN #1

PM, PM_{10} and $PM_{2.5}$ EMISSION UNITS WITH BAGHOUSE CONTROLS

1. 1016 Dust Abatement Stack – Emission Point AA-105
2. 1052 Dust Abatement Stack – Emission Point AB-301

I. Background/Summary Source Information

A. Emission Units

The following emission units have the potential to emit PM, PM_{10}, and $PM_{2.5}$ with a controlled PTE of < 100 tpy but uncontrolled PTE > 100 tpy for one or more PM fractions (i.e., "other" PSEU and not large PSEU):

- 1016 Dust Abatement Stack – Emission Point AA-105
  Emissions from each of the following processes vent to this stack through the indicated baghouse:
  - 1016 Dust Abatement Baghouse
    - Top Conveyor No. 5
    - Line 1 Wet Ore Bin
    - Line 2 Wet Ore Bin
  - Coke Silo Baghouse
    - Coke Silo
    - Top of Conveyor No. 3
    - Bottom of Conveyor No. 5
    - Conveyor #7
- 1052 Dust Abatement Stack – Emission Point AB-301
  Emissions from each of the following processes vent to this stack through the indicated baghouse:
  - Coke Bin Baghouse
  - Line 1 Dry Ore Bin Baghouse
  - Line 2 Dry Ore Bin Baghouse
  - Line 1 Dust Abatement Baghouse
  - Line 2 Dust Abatement Baghouse
  - Line 2 STIFS Baghouse

B. Applicable Regulations and Emission Limitations

Regulations and emission limitations applicable to these emission points are listed in in Section B – Emissions Information of the Application.

C. Control Technology

The baghouses covered by this plan provide control of filterable particulate matter emissions. The baghouses do not provide any control for condensable emissions.

II. Monitoring Approach

The key elements of the monitoring approach are presented in the following table. The selected baghouse performance indicators are chosen to meet the requirements of 40 CFR Part 64.3(a)(2) and 64.4(a)(2). The chosen performance indicator is filter differential pressure.

The control devices for this emission unit cannot be bypassed; therefore, no bypass monitoring is necessary and none is proposed. The following apply whenever emissions may be vented to the control device.

Table 1 Monitoring Approach for Plan #1

	Indicator No. 1
Indicator 40 CFR 64.3(a)(1)-(2) 40 CFR 64.4(a)(1)	Filter differential pressure
Measurement Approach	Differential Pressure is measured in inches of water dP using a dP transmitter
Monitoring Methods and Location	Continuous measurement with alarm points
Indicator Range	Baghouse Alarms will have a low and a low-low value. The low occurs before the low-low. Operations has the flexibility to change the low based on historic conditions and desired response time, therefore it is not shown. The Low-Low, however, is the deviation point and is listed in Table 2. If the 3-hour average differential pressure falls below the alarm point corresponding to a low excursion value, an evaluation will be made promptly, and actions to bring the process above the low excursion value will be taken. If the 3-hour average differential pressure falls below the low-low alarm value in Table 2 it constitutes a deviation.
Data Collection Frequency	Minimum once every 15 minutes
Recordkeeping	Records of differential pressure readings and any excursions shall be maintained.
QA/QC	The dP pressure transmitter is periodically calibrated according to the manufacturer's specifications.
Averaging Period 40 CFR 64.3(d)	3-hour average

III. Monitoring Approach Justification (§64.4(b))

A. Background/Emission Unit Description

1016 Dust Abatement Stack – Emission Point AA-105.

Emissions from the Line 1 and Line 2 Wet Ore Bins and the top of Conveyor No 5 vent to the 1016 Dust Abatement Baghouse. Emissions from the Coke Silo, Conveyor Belt #7, bottom of Conveyor Belt #5 and #Conveyor Belt 3 vent to the Coke Silo Baghouse. The vents of the Coke Silo Baghouse and the 1016 Dust Abatement Baghouse vent to the stack designated Emission Point AA-105.

1052 Dust Abatement Stack – Emission Point AB-301

Emissions from each of the following processes vent to this stack through the indicated baghouse:

- Coke Storage Bin vents to the Coke Bin Baghouse.
- Line 1 Dry Ore Bin and the top of the Line 1 ore bucket elevator vent to the Line 1 Dry Ore Bin Baghouse.
- Line 2 Dry Ore Bin and the top of the Line 2 ore bucket elevator and the top of the Line 2 Feed Pipe elevator vent to the Line 2 Dry Ore Bin Baghouse
- Line 1 Feed Pipe, Solids Pumps, L1 Ore Shot Bin, L1 Mix Bin, L1 Coke Shot Bin, and the bottom of the Line 1 Ore Bucket elevator vent through the Line 1 Dust Abatement Baghouse.
- Line 2 Solids Pumps, L2 Ore Shot Bin, L2 Mix Bin, L2 Coke Shot Bin, and the bottom of the Line 2 Ore Bucket elevator vent through the Line 2 Dust Abatement Baghouse.
- Line 2 air-slide conveyor and Line 2 Feed Pipe vent to the Line 2 STIFS Baghouse.

B. Rationale for Selection of Performance Indicators

Differential pressure across the baghouse was selected as a performance indicator because a loss of pressure drop may indicate significant holes or tears, or missing bags.

C. Rationale for Selection of Indicator Ranges

The indicator ranges for the baghouses covered by this plan are shown in Table 2. The ranges shown were selected such that baghouse pressure drop could be monitored across the operating range of the process. These ranges were selected based on historical data obtained during normal operation, or were based on manufacturer's design, or were established based on good engineering practice in consideration of the physical characteristics of each baghouse.

Table 2 Indicator Ranges and Excursion Values for Plan #1

Emission Point No.	Indicator No. 1 Differential Pressure Instrument No.	Low-Low Deviation Value, (iwc dP)
AA-105	Coke Silo Baghouse 1012_121PT_TVP	0.1
AA-105	1016 Dust Abatement Baghouse 1052_219PT_TVP	0.1
AB-301	Coke Bin Baghouse 1052_58PT_TVP	0.1
AB-301	Line 1 Dry Ore Bin Baghouse 1052_61PT_TVP	0.1
AB-301	Line 2 Dry Ore Bin Baghouse 1052_963PT_TVP	0.1
AB-301	Line 1 Dust Abatement Baghouse 1052_2978PT_TVP	0.1
AB-301	Line 2 Dust Abatement Baghouse 3052_3003PT_TVP	0.1
AB-301	Line 2 STIFS Baghouse 3052_2655PT_TVP	0.1

* iwc = inches water column

3. PLAN #2

PM, PM_{10} and $PM_{2.5}$ EMISSION UNITS WITH SCRUBBER CONTROLS

1. Line 1 Ore Dryer – Emission Point AB-102
2. Line 2 Ore Dryer – Emission Point AB-202
3. Line 1 HCl Recovery Process Stack – Emission Point AC-101
4. Line 2 HCl Recovery Process Stack – Emission Point AC-201
5. Line 1 Maintenance Vacuum – Emission Point AC-102
6. Purification Scrubbers – Emission Point AG-101
7. Oxidation Scrubber – Emission Point AH-107

SECTION 1.

I. Background/Summary Source Information

A. Emission Units

The following emission units have the potential to emit PM, PM_{10}, and $PM_{2.5}$ with a controlled PTE of < 100 tpy but uncontrolled PTE > 100 tpy (i.e., "other" PSEU and not large PSEU):

- Line 1 Ore Dryer – Emission Point AB-102
- Line 2 Ore Dryer – Emission Point AB-202
- Line 1 HCl Recovery Process Stack – Emission Point AC-101
- Line 2 HCl Recovery Process Stack – Emission Point AC-201
- Line 1 Maintenance Vacuum – Emission Point AC-102
- Purification Scrubbers Process Stack – Emission Point AG-101
- Oxidation Scrubber Process Stack – Emission Point AH-107

B. Applicable Regulations and Emission Limitations

Regulations and emission limitations applicable to these emission points are listed in Section B – Emissions Information of the Application.

C. Control Technology

The majority of particulate emissions from the Ore Dryers and the Line 1 Product Dryer consist of filterable solid particles. The scrubbers on these dryers were not designed to remove any condensable PM, though some removal is expected to a lesser extent.

Particulate matter emissions from the other sources in this plan consist of the reaction products of scrubbing Titanium Tetrachloride (TiCl4) by the reactions:

TiCl4(g) + H2O(g) ➔ TiOCl2(s) + HCl(g) and

TiOCl2(s) + H2O(g) ➔ TiO2(s) + HCl(g)

The first reaction occurs instantaneously and completely when the reactants come into contact. The second reaction occurs more slowly since the mass transfer rate is limited to the surface of the solid particles.

$TiOCl_2$ forms a fine solid whose removal requires good wetting of the gas in a combination of co-current and countercurrent spray jets followed by a cyclonic separator. Any remaining un-reacted $TiCl_4$ is measured by Method 202 as condensable particulate matter. This technology is estimated to reduce particulate matter emissions by more than 95%. The key parameter for good solids removal is recirculation flow.

II. Monitoring Approach

SECTION 1.

The key elements of the monitoring approach are presented in the following table. The selected scrubber performance indicators are chosen to meet the requirements of 40 CFR Part 64.3(a)(2) and 64.4(a)(2).

For the scrubbers, the chosen performance indicator is recirculation liquor flow.

Table 3 Monitoring Approach for Plan #2

	Indicator No. 1
Indicator 40 CFR 64.3(a)(1)-(2) 40 CFR 64.4(a)(1)	Recirculation Liquor Flow
Measurement Approach	Recirculation liquor flow is measured in gallons per minute using a flow transmitter
Monitoring Methods and Location	Continuous measurement with alarm points
Indicator Range	The Scrubber Alarms will have a low and a low-low value. The low occurs before the low-low. Operations has the flexibility to change the low based on historic conditions and desired response time, therefore it is not shown. The Low-Low, however, is the deviation point and is listed in Table 4. If the 3-hour average Recirculation flow falls below the alarm point corresponding to the low excursion value, an evaluation will be made promptly, and actions to bring the process above the low excursion value will be taken. If the 3-hour average recirculation flow falls below the low-low alarm value in Table 4 it constitutes a deviation.
Data Collection Frequency	Minimum once every 15 minutes
Recordkeeping	Records of recirculation liquor flow and excursions shall be maintained.
QA/QC	The recirculation liquor flow transmitter is periodically calibrated according to the manufacturer's specifications.
Averaging Period 40 CFR 64.3(d)	3-hour average

SECTION 1.

III. Monitoring Approach Justification (§64.4(b))

A. Background/Emission Unit Description

Line 1 Ore Dryer – Emission Point AB-102
Line 2 Ore Dryer – Emission Point AB-202

Wet ore is unloaded from railcars or recovered at the landfill. Wet ore is fed into either the Line 1 or Line 2 Wet Ore Bins. The Line 1 Wet Ore Bin feeds the Line 1 Ore Dryer. The Line 2 Wet Ore Bin feeds the Line 2 Ore Dryer**.** Particulate matter in the off-gas of each dryer is removed by a cyclone followed by a wet scrubber.

Line 1 HCl Recovery Process Stack – Emission Point AC-101
Line 2 HCl Recovery Process Stack – Emission Point AC-201

For these emission points there are three modes of operation:

Mode #1: Normal Mode; Thermal Oxidizer is in operation

This is the normal mode of operation. After $TiCl_4$ is separated in the Intermediate Process, the remaining gases contain residual $TiCl_4$, N_2, CO, COS, CO_2, H_2SO_4, SO_2, HCl and Cl_2. HCl is recovered in the HCl Recovery Process by use of a three-stage scrubbing system. The H_2SO_4, SO_2 and Cl_2 are removed by a caustic scrubber called the 4th Stage Scrubber. Process gas from this caustic scrubber flows to the thermal oxidizer where the CO is burned to CO_2, and the COS is burned to CO_2 and SO_2. The resulting SO_2 is then removed by the final caustic scrubber, the Outlet Separator, before the clean process gas is vented to the stack, Emission Points AC-101 and AC201. Particulate matter emissions are the result of the products of the scrubbing of $TiCl_4$ as described in Part I Section C of this plan.

Mode #2: Thermal Oxidizer is bypassed

Thermal Oxidizers require frequent maintenance to keep the tubes in the waste heat boiler from being damaged by high temperature. The waste heat boiler is used to make steam from the heat of combustion provided by the CO and COS content of the process gas. In this mode of operation, the process gas containing CO, COS and traces of HCl, SO_2, H_2SO_4 and Cl_2 is treated in the caustic scrubber and vented to the atmosphere. The plant has a CEMS instrument for CO and COS which limits the duration of this mode.

Mode #3: Emergency Mode
During certain types of process upsets of very short duration, the concentration of Cl_2 is more than this scrubber can handle, so a second caustic scrubber – called the "Emergency" Cl2 Scrubber – is put into operation. The gas is then vented to the atmosphere after removal of the excess Cl_2.

SECTION 1.

Line 1 Maintenance Vacuum System – Emission Point AC-102

Line 1 Maintenance Vacuum system is used to control fumes from the SCD Vent Scrubber and $TiCl_4$ leaks that may occur during maintenance activity. In the SCD Tank, dry iron chloride is dissolved in water and dilute acid from HCl Recovery. Minor HCl and $TiCl_4$ fumes are given off from the dissolution process and vented to the SCD Vent Scrubber, a wet scrubber which quenches the fumes. The residual gas is sent to the Line 1 Maintenance Vacuum Scrubber which pulls a vacuum on a header that also has the SCD vent gas. The clean gas is then vented to the atmosphere.

Purification Process Stack – Emission Point AG-101

Fumes from two out of three purification areas and from $TiCl_4$ storage vent to one of two scrubbers available to remove the particulate matter ($TiOCl_2$) and HCl resulting from the scrubbing (hydrolysis) of $TiCl_4$ described above. The two scrubbers are designated as the Line 1 Purification Scrubber and the Line 2 Purification Scrubber. The three areas are called Line 1 Purification (PU1), Line 2 Purification (PU2) and Line 3 Purification (PU3), with the latter formerly referred to as the Reliability Purification Area. The Paleface Scrubber is also vented to Purification Stack, Emission Point AG-101, and only serves to scrub SiCl4 when it is unloaded. Only one scrubber needs to be in operation serving two lines at one time, but more than one scrubber can be in service. Both scrubbers vent to the same single stack designated Emission Point AG-101.

Oxidation Process Stack – Emission Point AH-101

Pigment made in the Oxidation process contains traces of chlorine. This scrubber removes chlorine from the vents of pigment-slurry equipment.

Line 1 Product Dryer – Emission Point AJ-101

Treated pigment slurry from the Pigment Treatment process is filtered. The filter cake is fed to the product dryer. The product dryer has a natural gas-fired burner. Particulate matter in the dryer off-gas is removed by baghouses that recover the pigment product. The scrubber is located downstream of the baghouses. Since the PM has been <3% of the PM Filterable limit, it is not necessary to monitor the Scrubber, as the baghouses minimize PM.

B. Rationale for Selection of Performance Indicators

Recirculation flow was selected the key performance indicator because efficient scrubbing of $TiCl_4$ requires intimate contact with water. Sufficient flow is needed to ensure this

contact occurs throughout the gas stream; therefore, a minimum scrubber recirculation flow is measured and maintained.

C. Rationale for Selection of Indicator Ranges

The indicator ranges for the scrubbers covered by this plan are shown in Table 4. The ranges were selected such that these indicators could be monitored across the operating range of the process. Indicator ranges were selected based on historical data obtained during normal operation, or were based on manufacturer's design, or were established based on good engineering practice in consideration of the physical characteristics of each scrubber.

Table 4 Indicator Ranges and Excursion Values for Plan #2

Emission Point No.	Indicator No. 1 Recirculation Liquor Flow Instrument No.	Indicator No. 1 Low-Low Deviation Value (Minimum Flow) gpm
AB-102	Line 1 Ore Dryer Recirculation Flow 1016_150FT_TVP	429.4
AB-202	Line 2 Ore Dryer Recirculation Flow 1016_6151FT_TVP	787.5
AC-101	L1 4th Stage Scrubber Recirculation Flow 1302_93FT_TVP	202.1
AC-101	L1 Outlet Scrubber Recirculation Flow 1302_TFLOW_TVA3	823.8
AC-201	L2 4th Stage Scrubber Recirculation Flow 3302_152FT_TVP	195.5
AC-201	L2 Outlet Scrubber Recirculation Flow 3302_TFLOW_TVA3	891.2
AC-102	L1 Maintenance Vacuum Scrubber Recirculation Flow 1312_55FT_TVP	270.6
AG-101	Line 1 Purification Scrubber Recirculation Flow 1310_112FT_TVP	176.2
AG-101	Line 2 Purification Scrubber Recirculation Flow 3310_81FT_TVP	201.9
AH-107	Oxidation Scrubber Recirculation Flow 1300_120FC_TVP	53.4

4. PLAN #3

SO_2, H_2SO_4 and Cl_2 EMISSION UNITS WITH SCRUBBER CONTROLS

1. Line 1 HCl Recovery Process Stack – Emission Point AC-101
2. Line 2 HCl Recovery Process Stack – Emission Point AC-201
3. Oxidation Vent Scrubber – Emission Point AH-107

I. Background/Summary Source Information

A. Emission Units

Line 1 HCl Recovery Process Stack – Emission Point AC-101
Line 2 HCl Recovery Process Stack – Emission Point AC-201

Both emission units potentially emit SO_2, H_2SO_4, and Cl_2.

Oxidation Vent Scrubber – Emission Point AH-107

The Oxidation Vent Scrubber potentially emits Cl_2.

B. Applicable Regulations and Emission Limitations

Regulations and emission limitations applicable to these emission points are listed in Section B – Emissions Information of the Application.

Plan #3 covers the control of SO_2, H_2SO_4, and Cl_2, but not HCl. The control of HCl is covered by Plan #4, following.

C. Control Technology

SO_2, H_2SO_4, and Residual Cl_2 emissions result from the chlorination reactor. A caustic Scrubber, the 4th Stage Scrubber, is used to control these pollutants. In normal operation, the discharge of the 4th Stage is sent to the Thermal Oxidizer. Additional SO_2 and H_2SO_4 emissions are generated by the thermal oxidizer when it is in operation. When the thermal oxidizer is bypassed, the gases from the 4th Stage Scrubber are discharged to the HCl Recovery Stack.

II. Monitoring Approach

The key elements of the monitoring approach are presented in the following table. The selected scrubber performance indicators are chosen to meet the requirements of 40 CFR Part 64.3(a)(2) and 64.4(a)(2). The chosen performance indicators are: recirculation flow and recirculation liquor pH. The following apply whenever emissions may be vented to the control device:

Table 5 Monitoring Approach for Plan #3

	Indicator No. 1	Indicator No. 2
Indicator 40 CFR 64.3(a)(1)-(2) 40 CFR 64.4(a)(1)	Recirculation Liquor Flow	Recirculation Liquor pH
Measurement Approach	Recirculation liquor flow is measured in gallons per minute using a flow transmitter	Recirculation liquor pH is measured using an on-line transmitter. Each Scrubber has duplicate pH probes and one is selected to control the process. The selected pH probe is used to calculate the 3-hour average.
Monitoring Methods and Location	Continuous measurement with alarm points	Continuous measurement with alarm points
Indicator Range	The Scrubber Alarms will have a low and a low-low value. The low occurs before the low-low. Operations has the flexibility to change the low based on historic conditions and desired response time. The Low-Low, however, is the deviation point and is listed in Table 6. If the 3-hour average Recirculation flow falls below the alarm point corresponding to the low excursion value, an evaluation will be made promptly, and actions to bring the process above the low excursion value will be taken. If the 3-hour average recirculation flow falls below the low-low alarm value in Table 6 it constitutes a deviation.	The Scrubber Alarms will have a low and a low-low value. The low occurs before the low-low. Operations has the flexibility to change the low based on historic conditions and desired response time. The Low-Low, however, is the deviation point and is listed in Table 6. If the 3-hour average pH falls below the alarm point corresponding to the low excursion value, an evaluation will be made promptly, and actions to bring the process above the low excursion value will be taken. If the 3-hour average pH falls below the low-low alarm value in Table 6 it constitutes a deviation.
Data Collection Frequency	Minimum once every 15 minutes	Minimum once every 15 minutes
Recordkeeping	Records of recirculation flow readings and any excursions shall be maintained.	Records of recirculation pH readings and any excursions shall be maintained.
QA/QC	The flow transmitter is periodically calibrated according to the manufacturer's specifications.	The pH measurement equipment is periodically calibrated.
Averaging Period 40 CFR 64.3(d)	3-hour average	3-hour average

III. Monitoring Approach Justification (§64.4(b))

A. Background/Emission Unit Description

Line 1 HCl Recovery Process Stack – Emission Point AC-101
Line 2 HCl Recovery Process Stack – Emission Point AC-201

For these emission points there are three modes of operation:

Mode #1: Normal Mode; Thermal Oxidizer is in operation
After $TiCl_4$ is separated in the Intermediate Process, the remaining gases contain N2, $TiCl_4$, CO, COS, CO_2, H_2SO_4, SO_2, HCl and Cl_2. HCl is recovered in the HCl Recovery Process where a three-stage scrubbing system removes the HCl. The H_2SO_4, SO_2 and Cl_2 are removed by a caustic scrubber, the 4th Stage Scrubber. Process gas from this caustic scrubber flows to the thermal oxidizer where the CO is burned to CO_2, and the COS is burned to CO_2 and SO_2. The resulting SO_2 is then removed by the final caustic scrubber, the Outlet Separator, before the clean process gas is vented to the stack, AC-101 and AC201. Particulate matter emissions are the result of the products of the scrubbing of $TiCl_4$ as described in Part I Section C of this plan.

Mode #2: Thermal Oxidizer is bypassed
Thermal Oxidizers require frequent maintenance to keep the tubes in the waste heat boiler from being damaged by high temperature. The waste heat boiler is used to make steam from the heat of combustion provided by the CO and COS content of the process gas. In this mode of operation, the process gas containing CO, COS and traces of HCl, SO_2, H_2SO_4 and Cl_2 is treated in the caustic scrubber and vented to the atmosphere. The plant has a CEMS instrument for CO and COS which limits the duration of this mode.

Mode #3: Emergency Mode
During certain types of process upsets of very short duration, the concentration of Cl_2 is more than this scrubber can handle, so a second caustic scrubber – called the "Emergency" Cl_2 Scrubber – is put into operation. The gas is then vented to the atmosphere after removal of the excess Cl_2.

Per our current operating permit, SO2 is calculated based on the pH in the last scrubber observed by the gas. Under Normal conditions the Outlet Separator will be the *last or final scrubber* and therefore the pH in the outlet separator is used to determine scrubbing efficiency in the SO_2 emission calculation. Should the Thermal Oxidizer have to be bypassed, the *last scrubber observed by the gas* will be the 4th Stage Scrubber and the scrubbing efficiency is determined at that point. This is how SO_2 is calculated in the current permit.

Oxidation Vent Scrubber – Emission Point AH-107

Pigment made in the Oxidation process contains traces of chlorine. This scrubber removes chlorine from the vents of pigment-slurry equipment.

B. Rationale for Selection of Performance Indicators

Recirculation Liquor flow was selected as a performance indicator because of the need to have sufficient liquid contact with the SO_2, H_2SO_4 and Cl_2 to effect a high degree of removal. Low recirculation flow results in insufficient liquid-gas contact for effective pollutant removal.

Recirculation Liquor pH was selected as a performance indicator because the pH directly determines the SO_2 and H_2SO_4 emission-reduction efficiency of the scrubber.

C. Rationale for Selection of Indicator Ranges

The indicator ranges for the scrubbers covered by this plan are shown in Table 6. The ranges were selected such that these indicators could be monitored across the operating range of the process. There are duplicate pH probes on all scrubbers and the selected pH probe used to control the process is used to calculate the operating average.

Table 6 Indicator Ranges and Excursion Values for Plan #3

Emission Point No.	Indicator No. 1 Recirculation Liquor Flow Instrument No.	Indicator No. 1 Low-Low Deviation Value (Minimum Flow) gpm	Indicator No. 2 Recirculation Liquor pH Instrument No.	Indicator No. 2 Low-Low Deviation Value (Minimum liquor pH)
AC-101	L1 4th Stage Scrubber Flow 1302_93FT_TVP	202.1	L1 4th Stage pH 1302_94XC_TVP	6.0
AC-101	L1 Outlet Scrubber Flow 1302_TFLOW_TVA3	823.8	L1 Outlet Separator pH 1302_755XC_TVA3	6.0
AC-201	L2 4th Stage Scrubber Flow 3302_152FT_TVP	195.5	L2 4th Stage Scrubber pH 3302_156XC_TVP	6.0
AC-201	L2 Outlet Scrubber Flow 1302_TFLOW_TVA3	891.2	L2 Outlet Separator pH 3302_755XC_TVA3	6.0
AH-107	Oxidation Scrubber Flow 1300_120FC_TVP	80	Oxidation Scrubber pH 1300_134XT_TVP	7.52

5. PLAN #4

HCl EMISSION UNITS WITH SCRUBBER CONTROLS

1. Line 1 HCl Recovery Process Stack – Emission Point AC-101
2. Line 2 HCl Recovery Process Stack – Emission Point AC-201
3. Line 1 Maintenance Vacuum – Emission Point AC-102
4. Purification Process Stack – Emission Point AG-101
5. Oxidation Vent Scrubber – Emission Point AH-107

I. Background/Summary Source Information

A. Emission Units

The following emission units have the potential to emit HCl:

- Line 1 HCl Recovery Process Stack – Emission Point AC-101
- Line 2 HCl Recovery Process Stack – Emission Point AC-201
- Line 1 Maintenance Vacuum – Emission Point AC-102
- Purification Process Stack – Emission Point AG-101
- Oxidation Vent Scrubber – Emission Point AH-107

B. Applicable Regulations and Emission Limitations

Regulations and emission limitations applicable to these emission points are listed in Section B – Emissions Information of the Application.

C. Control Technology

HCl is generated in the process of scrubbing Titanium Tetrachloride (TiCl4) by the reactions:

$TiCl4(g) + H2O(g) \rightarrow TiOCl2(s) + HCl(g)$ and

$TiOCl2(s) + H2O(g) \rightarrow TiO2(s) + HCl(g)$

The first reaction occurs instantaneously and completely when the reactants come into contact. The second reaction occurs more slowly since the mass transfer rate is limited to the surface of the solid particles.

II. Monitoring Approach

The key elements of the monitoring approach are presented in the following table. The selected scrubber performance indicators are chosen to meet the requirements of 40 CFR Part 64.3(a)(2) and 64.4(a)(2). The chosen performance indicators are: recirculation flow rate and scrubber condition.

Table 7 Monitoring Approach for Plan #4

	Indicator No. 1
Indicator 40 CFR 64.3(a)(1)-(2) 40 CFR 64.4(a)(1)	Recirculation Liquor Flow
Measurement Approach	Recirculation liquor flow is measured in gallons per minute using a flow transmitter
Monitoring Methods and Location	Continuous measurement with alarm points
Indicator Range	The Scrubber Alarms will have a low and a low-low value. The low occurs before the low-low. Operations has the flexibility to change the low based on historic conditions and desired response time. The Low-Low, however, is the deviation point and is listed in Table 8. If the 3-hour average Recirculation flow falls below the alarm point corresponding to the low excursion value, an evaluation will be made promptly, and actions to bring the process above the low excursion value will be taken. If the 3-hour average recirculation flow falls below the low-low alarm value in Table 8 it constitutes a deviation.
Data Collection Frequency	Minimum once every 15 minutes
Recordkeeping	Records of recirculation liquor flow readings, and the excursions, shall be maintained.
QA/QC	The flow transmitter will be periodically calibrated according to the manufacturer's specifications.
Averaging Period 40 CFR 64.3(d)	3-hour average

II. Monitoring Approach Justification (§64.4(b))

A. Background/Emission Unit Description

Line 1 HCl Recovery Process Stack – Emission Point AC-101
Line 2 HCl Recovery Process Stack – Emission Point AC-201

HCl is generated in the chlorination reactor from reaction of the hydrogen and water moisture in petroleum coke, and the remaining moisture in the titanium dioxide ore. HCl is removed with caustic scrubbers, but minute traces may remain in the clean process gas vented to the atmosphere.

Line 1 Maintenance Vacuum System – Emission Point AC-102

Line 1 Maintenance Vacuum system is used to control fumes from the SCD Vent Scrubber and $TiCl_4$ leaks that may occur during maintenance activity. In the SCD Tank, dry iron chloride is dissolved in water and dilute acid from HCl Recovery. Minor HCl and $TiCl_4$ fumes are given off from the dissolution process and vented to the SCD Vent Scrubber, a wet scrubber which quenches the fumes. The residual gas is sent to the Line 1 Maintenance Vacuum Scrubber which pulls a vacuum on a header that also has the SCD vent gas. The clean gas is then vented to the atmosphere.

Purification Process Stack – Emission Point AG-101

Fumes from two out of three purification areas and from $TiCl_4$ storage vent to one of two scrubbers available to remove the particulate matter ($TiOCl_2$) and HCl resulting from the scrubbing (hydrolysis) of $TiCl_4$ described above. The two scrubbers are designated as the Line 1 Purification Scrubber and the Line 2 Purification Scrubber. The three areas are called Line 1 Purification (PU1), Line 2 Purification (PU2) and Line 3 Purification (PU3), with the latter formerly referred to as the Reliability Purification Area. The Paleface Scrubber is also vented to the on-line Purification Scrubber and only serves to scrub SiCl4 when it is unloaded. Only one scrubber needs to be in operation serving two lines at one time, but more than one scrubber can be in service. Both scrubbers vent to the same single stack designated Emission Point AG-101.

Oxidation Process Stack – Emission Point AH-101

Pigment made in the Oxidation process contains traces of HCl. This scrubber removes HCl from the vents of pigment-slurry equipment with a caustic solution.

B. Rationale for Selection of Performance Indicator

Recirculation flow was selected the key performance indicator because efficient scrubbing of HCl requires intimate contact with water. Sufficient flow is needed to ensure this contact occurs throughout the gas stream.

C. Rationale for Selection of Indicator Ranges

The indicator ranges for the scrubbers covered by this plan are shown in Table 8. The ranges were selected such that this indicator could be monitored across the operating range of the process. Indicator ranges were selected based on historical data obtained during normal operation, or were based on manufacturer's design, or were established based on good engineering practice in consideration of the physical characteristics of each scrubber.

Table 8 Indicator Ranges and Excursion Values for Plan #4

Emission Point No.	Indicator No. 1 Recirculation Liquor Flow Instrument No.	Indicator No. 1 Minimum Liquor Flow, gpm
AC-101	4th Stage Scrubber 1302_93FT_TVP	202.1
AC-101	Outlet Scrubber 1302_TFLOW_TVA3	838.8
AC-201	4th Stage Scrubber 3302_152FT_TVP	195.5
AC-201	Outlet Scrubber 3302_TFLOW_TVA3	891.2
AC-102	Line 1 Maintenance Vacuum Scrubber 1312_55FT_TVP	270.6
AG-101	Line 1 Purification Scrubber 1310_112FT_TVP	176.2
AG-101	Line 2 Purification Scrubber 3310_81FT_TVP	201.9
AH-107	Oxidation Scrubber 1300_120FC_TVP	80

APPENDIX C

Sulfur Dioxide Monitoring Plan (Emission Points AC-101 and AC-201)

I. Background

A. Emissions Unit

Description: Line I HCl Recovery Stack – Emission Point AC-101
Line II HCl Recovery Stack – Emission Point AC-201

Facility: Chemours DeLisle Plant, Pass Christian, MS.
Facility # 1020-00115.

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Emission Limits per 11-22-17 Significant Modification
SO_2 Line I: 125.2 lb/hr and 152 TPY
SO_2 Line II: 125.2 lb/hr and 152 TPY

Monitoring Requirement:
SO_2 emission rate in lb/hr and TPY

C. Control Technology:

Wet Gas Scrubbers to remove SO_2 from Chlorination Reactor Vent Gases.

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table 1. The selected performance indicator is the calculated lb/hr SO_2 emission rate.

The calculations are based on a sulfur balance around each HCl Recovery Process. The inlet to the HCL Recovery Process is called the Tail Gas. This is the tail end of the condensing train where practically all TiCl4 gas is removed. An FTIR analyzer, similar to the CEMS used on the stack, measures the concentration of Sulfur Dioxide (SO_2) and Carbonyl Sulfide (COS) in the tail gas. Known flows are used to calculate the total tail gas molar flow. Therefore, the incoming moles of sulfur to the HCl Recovery Process are determined from the total molar flow at the tail gas and the concentrations of SO2 and COS in the tail gas. The SO_2 produced is fed to a wet gas caustic scrubber where the SO_2 is removed. The remaining gas, with COS and residual SO2 is fed to the Tail Gas burner where the COS is converted into SO2. The newly created SO2 and residual SO2 is scrubbed in the second wet caustic scrubber. Each Wet Gas Scrubber recirculating liquid pH is used to determine the efficiency of scrubbing from Figure 1. Finally, this efficiency value is applied to the SO_2 production rate to calculate the stack emissions rate for SO_2.

Table 1: Performance Indicators

Description	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator	Calculated lbs/hr SO_2 emission rate.	Wet Gas Scrubbers liquid pH	Wet Gas Scrubbers liquid recirculating flow.
Measurement Approach	SO_2 emissions are continuously calculated from SO_2 production rate and scrubber efficiency based on pH measurement.	Each scrubber liquid pH is measured using two pH sensors. Each contains a sensing electrode, a wetted, non-flowing ceramic disc as the primary reference junction and a temperature measurement for automated temperature compensation.	The recirculating liquid flow rate for Each Scrubber is measured using a magnetic flow meter.
II. Indicator Range	An excursion is defined as 3-hour average predicted SO_2 emissions greater than 115.2 lb/hr for AC-101 and greater than 110.2 lb/hr for AC-201. Excursions trigger an inspection, corrective action, and a reporting requirement.	A deviation is defined as 3-hour average pH below the minimum value established during the compliance stack test. Deviations trigger an inspection, corrective action, and a reporting requirement.	A deviation is defined as 3-hour average recirculating flow below the minimum value established during the compliance stack test. Deviations trigger an inspection, corrective action, and a reporting requirement.
QIP Threshold	N/A		N/A

Description	Indicator No. 1	Indicator No. 4	Indicator No. 5
I. Indicator	Calculated lbs/hr SO_2 emission rate.	Wet Gas Scrubber liquid pH	Wet Gas Scrubber liquid recirculating flow.
III. Performance Criteria			
Monitoring Frequency	SO_2 emission rate is calculated continuously.	The scrubber liquid pH is measured continuously.	The recirculating flow rate to the scrubber is measured continuously.
Data Collection Procedures	The DCS continuously scans the calculated 3-hour average SO_2 emission rate, and the DAS records any significant change in the calculated value. The minimum recording frequency is once an hour.	The DCS continuously scans the wet gas scrubber pH, and the DAS records any significant change in the measured value. The minimum recording frequency is once every 15 minutes for the instrument, once every hour for the average.	The DCS continuously scans the recirculating flow rate, and the DAS records any significant change in the measured value. The minimum recording frequency is once every 15 minutes for the instrument, once every hour for the average.
Averaging period	A 3-hour averaging period will be used. The DCS scans the continuous SO_2 emissions calculation every 60 seconds and averages the last 180 results into a 3-hour average.	A 3-hour averaging period will be used. The DCS scans the continuous flow measurement every 60 seconds and averages the last 180 results into a 3-hour average.	A 3-hour averaging period will be used. The DCS scans the continuous flow measurement every 60 seconds and averages the last 180 results into a 3-hour average.

DCS = Distributed Control System, DAS = Data Acquisition System

III. Monitoring Approach Justification

A. Background

The pollution control devices used to remove SO_2 from the Line I and Line II chlorinator vent gas streams are wet scrubbers. Table 1 shows the following:

- the selected performance indicator (lbs/hr SO_2 emissions rate),
- other related performance indicators (COS emission rate, SO2 production rate, scrubbing liquid pH and scrubbing liquid recirculation rate),
- measurement approach,
- performance criteria,
- data collection procedures, and
- averaging period.

The chlorination reactors vent gases flow out of two separate HCl Recovery Processes and then into the corresponding wet gas scrubbers that will be monitored in accordance with this plan. The reactor vent gases flow to jets where they are contacted with the recirculating liquid. Then the scrubbed gas and recirculating fluid flow into a non-reversing separator to separate entrained liquid from the vapor prior to atmospheric exhaust. Fresh 19% sodium hydroxide (NaOH/caustic) solution in water is added to the scrubber recirculating line to automatically adjust the pH of the scrubbing liquid. The scrubber blowdown is processed in the waste-water treatment system.

B. Rationale for Selection of Performance Indicators

The performance indicator used to demonstrate compliance with SO_2 emission limitations is an SO_2 lbs/hr emission rate calculated from continuous process measurements. This indicator is directly comparable to the emission limitations. The accuracy of this calculated SO_2 emission rate has been validated using the result of stack tests performed at normal operating conditions on 9/24/02 and 11/12/02 stack tests. This validation is shown in Table 2. The stack test on 9/24/02 measured an SO_2 emission rate of 0.33 lbs/hr (average of 3 one-hour runs), and the process calculation for this time period yields an emission rate of 0.54 lbs/hr. Similarly, the stack test on 11/12/02 measured an SO_2 emission rate of 0.69 lbs/hr, and the process calculation estimates 0.51 lbs/hr. The difference of 0.2 lbs/hr is less than 0.2% of the permit limit for AC-201 (110.2 lbs/hr).

The overall sulfur reaction in the reactor is shown below. Coke burning is the only source of sulfur.

$$\text{Sulfur in Coke} + O_2 \rightarrow COS + SO_2$$

The mass balance equation is:

$$\text{Total } SO_2 \text{ production} = \text{Total Sulfur burned} - \text{COS emissions}$$

The equation for calculating the lbs/hr SO_2 emissions rate is:

SO_2 emissions = Total SO_2 production * (1- SO_2 Scrubbing Efficiency from Figure 1)

Effective scrubbing systems require two key operating criteria: 1) contacting between the gas that is being cleaned and the scrubber liquid, and 2) that the compound being removed be highly soluble in the scrubber liquid. The HCl Recovery Process Wet Gas Scrubbers are designed to facilitate gas liquid contacting, and SO_2 is highly soluble in water, the scrubbing liquid. To maintain the high scrubbing efficiency, the scrubbed compound (SO_2) must be converted to a different form (Na_2SO_3) once it is absorbed into the scrubber solution or the solution will become saturated with that compound. The gases absorbed in the Wet Gas Scrubbers are reacted with NaOH. The pH of the scrubber liquid is used as indicator of the reactant (i.e., NaOH) concentration in the scrubber liquid.

The chemical reactions in the Wet Gas Scrubber process are as follows:

1. $HCl + NaOH = NaCl + H_2O$
2. $SO_2 + 2\ NaOH = Na_2SO_3 + H_2O$
3. $Cl_2 + 2\ NaOH = NaOCl + NaCl + H2O$
4. $SO2 + Cl_2 + 2H_2O = H2SO_4 + 2\ HCl$

The first three reactions required that the pH of the scrubbing liquid be maintained above a minimum set point to insure effective scrubbing. The last reaction can proceed at relatively low pH as long as sufficient SO_2 and Cl_2 are present in solution.

A minimum liquid flow rate must be maintained to ensure effective scrubber liquid contacting with the SO_2 in the reactor vent gases. To assure this a minimum flow can be defined that will maintain the liquid to gas (L/G) ratio above a set point to ensure sufficient mass transfer from the gas phase to the liquid phase (i.e., contacting). The minimum scrubber liquid flow rate is established based on the maximum gas flow needed to ensure that the minimum L/G ratio is maintained under all operating conditions.

C. Rationale for Selection of Indicator Ranges

Table 2 is a summary of all available stack test measurements of SO_2 emissions rate for the Line I and Line II HCl Recovery Wet Gas Scrubbers. All stack tests were performed in accordance with EPA standard reference methods. For the 9/24/02 and 11/12/02 stack tests, the table also shows the pH and flow rate of the recirculating liquid during the time the stack tests were performed.

The SO_2 emission rates show that SO_2 emission limitations were met under normal operating conditions of pH and recirculating flow rate. For comparison purposes, the calculated SO_2 emission rate is provided below the table. Note that the calculated rate matches the SO_2 emissions rate measured by both 2002 stack tests very closely.

Table 2: Stack Test SO_2 Emissions Data

Line 1 & 2 HCl Recovery System Stack Test Data Summary								
Date	8/1/83	5/21/86	4/5/90	4/23/90	2/18/92	2/20/92	9/24/02	11/12/02

Start Time			8:35	14:56	10:15	11:47	8:02	10:41
End Time			13:09	19:16	14:27	15:32	11:44	15:02
Stack ID	AC-101	AC-101	AC-101	AC-101	AC-101	AC-201	AC-101	AC-201
SO2,lbs/hr	8.27	143.7(Note1)	5.08	3.41	0.2	0.24	**0.33**	**0.69**
SO2, ppm	-	440 (Note1)	18	12	<1	<1	1	2.7
Recirculating liquid pH (average)	(Note2)	(Note2)	(Note2)	(Note2)	(Note2)	(Note2)	8.50	8.58
Minimum							8.34	8.34
Maximum							8.63	9.21
Recirculating liquid flow, gpm (average)	(Note2)	(Note2)	(Note2)	(Note2)	(Note2)	(Note2)	432.12	379.52
Minimum							428.81	378.31
Maximum							435.62	380.35

Note 1: SO_2 limit was 500 ppm at this time.
Note 2: Data on pH and recirculating flow are not available, but flow rate has slightly increased throughout this period, and pH target was increased by 0.5 units in 10/2000.

The calculated SO_2 emissions rate for the 9/24/02 stack test period is 0.54 lb/hr.
The calculated SO_2 emissions rate for the 11/12/02 stack test period is 0.51 lb/hr.

The compliance margin for SO_2 is expected to be quite large. As can be seen from the example emission calculations shown below, pH as low as 5 results in SO_2 emission rates well below the emission limitations regardless of the SO_2 production rate fed to the scrubber.

Computer programs have been developed to model the chemical reactions that occur in the HCl Recovery Wet Gas Scrubber. Figure 1 shows theoretical absorption efficiency vs pH for the SO_2. This figure was generated using the Equilibrium Composition of Electrolyte Solutions (ECES) program and data from Dupont DeLisle operating equipment. Based on this chart, removal efficiencies for SO_2 are used to complete the predictive emissions calculations of vented SO_2. Example calculations of SO_2 emission rate are shown below.

Table 3

SO_2 Emissions Rate as a Function of SO_2 Production Rate and Scrubbing Liquid pH

SO_2 Production lb/hr	pH Level	Scrubbing Efficiency	SO_2 Emissions Rate lb/hr

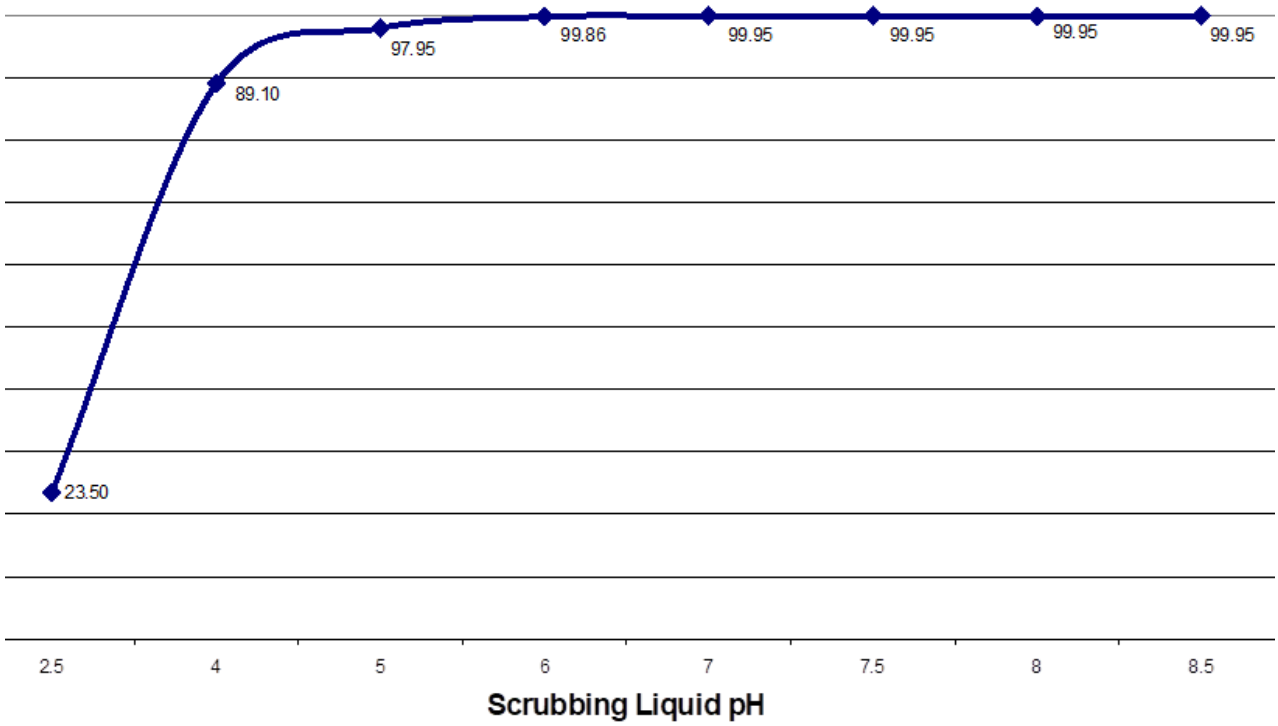
600	2.5 pH	24%	456
600	4 pH	89%	66
600	5 pH	98%	12
600	8.5 pH	99.95%	0.3
1000	2.5 pH	24%	760
1000	4 pH	89%	110
1000	5 pH	98%	20
1000	8.5 pH	99.95%	0.5
1300	2.5 pH	24%	988
1300	4 pH	89%	143
1300	5 pH	98%	26
1300	8.5 pH	99.95%	0.65

Normal SO_2 production rate fed to the Wet Gas Scrubber is about 1100 lb/hr at maximum production rates. A 1 (one) lb/hr decrease in COS emissions usually results in a corresponding 0.94 lb/hr SO_2 production increase. If COS emissions are low at 50 lb/hr, the maximum SO_2 production can reach about 1300 lb/hr. If COS emissions are high at 800 lb/hr, SO2 production drops to about 597 lb/hr.

A performance stack test for SO_2, particulates and other pollutants is required on AC-101 and AC-201 no later than 180 days after June 8, 2004. These stack tests will be utilized to further validate the SO_2 predictive emissions model, and to determine the minimum 3-hour average scrubber liquid recirculating flow rate.

Figure 1
Wet Gas Scrubber SO2 Removal Efficiency vs. Scrubbing Liquid pH

(Based on Actual Operating Data and Equilibrium Composition of Electrolyte Solutions Computer Program)


23.50
89.10
97.95
99.86
99.95
99.95
99.95
99.95
2.5
4
5
6
7
7.5
8
8.5
Scrubbing Liquid pH

APPENDIX D

Pigment Plant Line 1 and Line 2 Fugitive Emission Monitoring Plan

Chemours Fugitive Monitoring Plan for Chlorine, Hydrogen Chloride, and Particulate Matter

Plant-Wide Process Fugitive Emissions – Emission Point AA-001

The Chemours Company FC, LLC
AI 1832
ID No. 10120-00115
January 2018

I. Fugitive Emission Monitoring Plan

A. Overview

1. The site proposes to continue monitoring fugitive emissions according to the current method of compliance except for performing the HCL and CL2 monitoring and PM/PM10 Emissions estimate once a year instead once every six month period. A detailed description of how the plant demonstrates compliance is provided below. In short, we currently perform weekly visual opacity checks across the plant which are reported in our Semiannual Report in the section labeled Condition 5.B.9/5.B.35. Semi-annually, we measure and record HCl and Cl_2 from specific locations which we have identified to have the greatest potential for leakage of these gases. Furthermore, we estimate the emissions for PM/PM_{10} from the Ore Piles in Reaction and from the Recovered Ore Piles in the Landfill. The PM/PM_{10} emissions from the Coal Storage Pile, Coal Handling Operations, Transportation of Coal in Covered Trucks, and Coal Ash will no longer be submitted as the Coal Boilers have been permanently shut down.

B. Definition of Fugitive Emissions

1. Fugitive emissions are leaks from equipment but do not include
   a) emissions routed through a stack, vent, tank vent
   b) emissions contained inside a building
   c) emissions from significant leaks associated with incidents that can be defined as process upsets, malfunctions, or emergencies.

C. Chemours Leak Policy

1. Our policy is to have a leak-free operation. We have specific guidelines and procedures which specify that “production units will not be operated with leaks of any kind which pose a threat to personnel or the environment.” If a leak should occur, it is promptly assessed and repaired.

D. Background

1. History
   a) The current Fugitive Emission Monitoring Plan has been in place since 2005. It was developed as a result of the Retrospective PSD Permit to Construct issued by MDEQ on 6/8/04 which required the development of a monitoring plan for Plant-wide Fugitive Emissions designated as Emission Point AA-001.
2. Fugitive Emission Permit Limits
   a) The plant has Fugitive Emission limits for HCl, Cl2, and PM. They are as follows:

	lbs/hr	Tons/year
PM/PM_{10} Filterable	2.43	10.64
Cl_2	0.68	3.00
HCl	1.14	5.00

3. Demonstration of Compliance
   a) The plant demonstrates compliance according to Condition 5.B.34 and 5.B.35 as described in the current Title V permit.
      (1) Condition 5.B.35 of the current permit states that we will monitor compliance with the opacity limitation by performing weekly visual observations. Each area on the plant utilizes a form for the field operator to record the fugitive emissions as they make their rounds. Weekly those entries are recorded and reported in the semiannual report.
         (a) Procedure and Schedule for Performing Weekly Visual Observations
      (i) The weekly visual observations for process fugitive emissions will be performed by operators working their individual area each Thursday morning. If it is forgotten or missed, a reminder system is built into the reporting and record-keeping system to remind the next day shift to perform the visual observation. This warning is repeated each day until the reading is taken or the next Thursday rolls around. Once the next Thursday rolls around, a missed visual observation reading will be reported as a permit deviation for that week. We have never missed reporting a weekly observation.
      (ii) The procedure for the visual observation is to look for leaks. If any visible emissions are observed to then perform a 6-minute observation following the of Method 22 procedure using the proper technique from Method 9 – proper positioning, sun to the back, steam condensate not counted, etc., documenting the source and location but not documenting other wind direction, temperature, etc. If any visible emissions are noted, corrective actions are taken to minimize or eliminate the emissions. Records for each leak are maintained as per the permit requirements.
      (2) Condition 5.B.34 addresses monitoring HCl and Cl2 fugitive emissions. This is accomplished by taking physical measurements semiannually with a Drager-Gas-Detection Tube. The Drager-Tube measurement system consists of a Drager-Tube and a Drager-Pump. Each Drager-Tube contains a sensitive reagent system that produces a reading when the technical characteristic of the gas detector pump matches the reaction kinetics of the reagent system in the tube. A test system, which reacts by changing color when it comes into contact with a certain gas or vapor, is located on a solid carrier material within a enclosed gas tube, i.e.,

the Drager-Tube. This portable meter allows the site to evaluate the concentration at various specific locations directly after measurement. These measurements are entered into the Safer Model and estimates for HCl and Cl2 are calculated and reported in the semiannual report.

(a) Cl_2 Monitoring Plan

(i) The Chlorine concentration in air in each process where chlorine gas is used will be surveyed with Draeger™ tubes or a portable analyzer at least once during the semiannual reporting period. At the DeLisle Plant, chlorine gas is used in the following processes: 1) Chlorine Unloading and Storage, 2) Line 1 TiCl4 Intermediate, 3) Line 2 TiCl4 Intermediate, 4) Oxidation, and 5) Steam Generation.

(ii) SAFER® air dispersion modeling software will be used to determine the chlorine emissions rate corresponding to the measured air concentration in each operating area using the meteorological conditions for the day the survey was taken. The total chlorine leak rate will be calculated by adding the leak rates from each of the processes above, and compared with the plantwide emission limitation in the semiannual compliance report. A deviation will result in corrective action.

(iii) The specific locations that Cl_2 is measured is:

Power Drinking Water Cl2 Cylinder
Finishing Raw Tanks
S Side of Line 1 Flue Pond (at level of pond)
N Side of Line 2 Flue Pond (at level of pond)
SW Corner of Line 2 Fume Disposal Bldg
Cl2 Storage between Bullets and Vaporizer
South of Bullets across Magnolia Ave
Line 1 Maintenance Scrubber Grd Floor
Just S of Line 2 Ore Dryer Burner
Middle Cl2 Unloading

(b) Cl_2 Perimeter Probes

(i) There are 25 Cl_2 Probes along the perimeter and throughout the plant to assist in monitoring of a Cl_2 leak. The instrument range is from 0 – 10PPM and they are designed to provide additional continuous monitoring for safety.

(ii)

#1 Cl2 Probe Cl2 Unloading	1030_113XG
#2 Cl2 Probe CL2 Unloading	1030_114XG