STATE OF MISSISSIPPI
AIR POLLUTION CONTROL
TITLE V PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Nouryon Pulp and Performance Chemicals LLC
4374 Nashville Ferry Road East
Columbus, Mississippi
Lowndes 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: _____

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

_____

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires:[Date not to exceed 5 years from issuance] **Permit No.: 1680-00005**

Draft/Proposed

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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
Fuel Combustion Sources	
AB-010	315 hp Diesel-fired HPC Emergency Fire Pump (a compression ignition (CI) reciprocating internal combustion engine (RICE)), installed in 1991. Subject to MACT Subpart ZZZZ.
AB-011	127.47 MMBTU/hr Natural Gas/Hydrogen-fired Steam Boiler with Low-NO_x Burners
AB-012	87 MMBTU/hr Natural Gas-fired Temporary Steam Boiler
AE-005	6.2 MMBTU/hr (613 hp) Diesel-fired Emergency Generator for the C-85 and C-89 Sodium Chlorate Plants, installed in 1984.
AI-013	8.5 MMBTU/hr (1,214 hp) Diesel-fired Emergency Generator for the C-85 and C-89 Sodium Chlorate Plants. Manufactured in 2010. Subject to MACT Subpart ZZZZ and NSPS Subpart IIII.
AI-014	8.5 MMBTU/hr (1,214 hp) Diesel-fired Emergency Generator for the C-85 and C-89 Sodium Chlorate Plants. Manufactured in 2010. Subject to MACT Subpart ZZZZ and NSPS Subpart IIII.
The C-85 Sodium Chlorate Process	
AE-002	The Reaction Gas Scrubber (CL503), which controls chlorine emissions from process tanks, hydrochloric acid emissions from the hydrochloric acid storage tank (TM-106) associated with the C-85 Sodium Chlorate Process.
AE-004	Cell Gas Scrubber Vent (CL502). Hydrogen, a byproduct from the electrolyzer cells, is sent through two scrubbers, in series, to control chlorine emissions prior to use in the Boiler and the Hydrogen Peroxide Process. Any hydrogen not used by the Boiler or the HPC process is discharged through Emission Point AE-004 and/or through the C-89 and C- 91 A/B Hydrogen Purification Process.
The C-89 Sodium Chlorate Process	
AH-002	The C89 Dryer Scrubber (CLX401), a venturi scrubber controlling particulate matter emissions from the C89 Fluidized Bed Dryer serving the C85 and C89 process lines.
AH-003	The Reaction Gas Scrubber (CLX503), which controls chlorine emissions from process tanks associated with the C-89 Sodium Chlorate Process
The C-91 A/B Sodium Chlorate Process	
AI-001	The Sodium Chlorate Dryer associated with the C-91A Sodium Chlorate Process equipped with Wet Scrubber (CL401/402/403) for control of particulate matter emissions.
AI-002	The Reaction Gas Scrubber (CLA503), which controls chlorine emissions from process tanks and hydrochloric acid emissions from the hydrochloric acid storage tank (TA-602) associated with the C-91A Sodium Chlorate Process.

Emission Point	Description
AI-006	The Loading and Handling Silo Dust Scrubber (CL404/405/406), which controls particulate matter emissions from the loading and unloading of sodium chlorate storage silos associated with the C-91A and C-91B Sodium Chlorate Process.
AI-007	The Sodium Chlorate Dryer associated with the C-91B Sodium Chlorate Process equipped with a Wet Scrubber (CLB401/402/403) for control of particulate matter emissions.
AI-008	The Reaction Gas Scrubber (CLB503), which controls chlorine emissions from process tanks and hydrochloric acid emissions from the hydrochloric acid storage tank (TB-602) associated with the C-91B Sodium Chlorate Process.
The C-89 and C-91 A/B Hydrogen Purification Process	
AG-001	The Hydrogen Cell Gas Scrubber Vent (CLX502) located at the C-89 Sodium Chlorate Plant. Hydrogen, a byproduct from the electrolyzer cells, is sent through two scrubbers in series to remove chlorine prior to use in the Boiler and the Hydrogen Peroxide production process.
AG-002	The Hydrogen Scrubber Vent (STA502) associated with the C-91A and C-91B Sodium Chlorate Processes. Hydrogen, a byproduct from the electrolyzer cells, is sent to a scrubber to remove chlorine prior to use in the Boiler and the Hydrogen Peroxide production process.
AG-003	The Hydrogen Purification System Stack (3121) located in the C-89 building. Scrubbed, or “clean”, hydrogen not discharged through AG-001 can be discharged from this vent.
AG-004	The Hydrogen Purification System Stack (3118) located in the C-15 building. Scrubbed, or “clean”, hydrogen not discharged through AG-001 can be discharged from this vent.
AG-006	The Hydrogen Purification System Stack (3119) located in the C-91A building. Scrubbed, or “clean”, hydrogen not discharged through AG-002 can be discharged from this vent.
AG-007	The Hydrogen Purification System Stack located in the boiler house. Scrubbed, or “clean”, hydrogen not discharged through AG-001 and AG-002 can be discharged from this vent.
AG-009	The Hydrogen Purification System Stack (3132A) located in the C-15 building. The hydrogen compressor can discharge scrubbed, or “clean”, hydrogen from this vent.
AG-010	The Hydrogen Purification System Stack (3113) located in the C-15 building. Scrubbed, or “clean”, hydrogen not discharged through AG-001 and AG-002 can be discharged from this vent.
AG-011	The Hydrogen Purification System Stack (3132B) located in the C-15 building. The hydrogen compressor can discharge scrubbed, or “clean”, hydrogen from this vent.
AG-012	The Hydrogen Purification System Stack located in the HPC plant. Scrubbed, or “clean”, compressed hydrogen, a raw material for HPC, can discharge from this vent.
AG-013	The Hydrogen Purification System Stack located in the HPC plant. Scrubbed, or “clean”, compressed hydrogen, a raw material for HPC, can discharge from this vent
AG-014	Hydrogen Emergency Relief Vent (STA501/STB501/3120). Emissions are intermittent. The emergency relief vent services the C-91 process.

Emission Point	Description
The Brine Plant	
AI-010	The Brine Plant Process Tanks equipped with a Scrubber (CL101) for control of hydrochloric acid emissions.
The Hydrogen Peroxide (HPC) Manufacturing Process	
AJ-001	The Water Seal Tank (5112). VOC gases not recovered from a condenser are discharged through this tank.
AJ-002	The East Carbon Adsorption Unit (4401A), which controls VOC emissions from the HPC process tanks' offgases.
AJ-003	The Center Carbon Adsorption Unit (4401B), which controls VOC emissions from the HPC process tanks' offgases.
AJ-004	The West Carbon Adsorption Unit (4401C), which controls VOC emissions from the HPC process tanks' offgases.
AJ-005	The Clean Solvent Storage Tank (T-3611), 19,500 gallons, Vertical Fixed Roof The tank is vented to one of three carbon adsorption units, AJ-002, AJ-003, and AJ-004.
AJ-006	The Used Solvent Storage Tank (T-3612), 19,500 gallons, Vertical Fixed Roof The tank is vented to one of three carbon adsorption units, AJ-002, AJ-003, and AJ-004.
AJ-008	The HPC Dust Collection System Baghouse, which controls particulate matter emissions from the periodic changing of regeneration material.
AJ-009	The No. 5101 Hydrogenation Column.
AJ-010	The No. 5102 Hydrogenation Column.
AJ-011	The Carbon Adsorption Unit 4 (4401D), which controls VOC emissions from the HPC process tanks' offgases.
AJ-012	The Carbon Adsorption Unit 5 (4401E), which controls VOC emissions from the HPC process tanks' offgases.
AJ-013	The C01A building ventilation system consisting of four (4) fans: N, S, E, and EE.
AJ-016	The WS Storage Tank (T-5413), 75,500 gallons, Vertical Fixed Roof. The tank is vented to the carbon adsorption units, AJ-011, and AJ-012.
AJ-017	The C01B building ventilation system consisting of two (2) fans: Fan 1 and Fan 2.
AJ-020	The Petroleum Hydrocarbon Working Solution Storage Tank (T-3613) 9,700 gallons, Vertical Fixed Roof.
Miscellaneous Air Emission Sources	

Emission Point	Description
CT-001	The C-91 Cooling Tower
CT-002	The C-89 Cooling Tower
CT-003 CT-004	The HPC Cooling Towers
FE-001	Fugitive Emissions from Rock Salt Pile Unloading, 50.0 ton/hr capacity
FE-002	Fugitive Emissions from plant site

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 Condition 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.)

B. Emission Point Specific Emission Limitations & Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
AE-005 AB-010 AI-013 AI-014	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.1	PM (filterable only)	0.6 lbs/MMBTU

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
AB-011 AB-012	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.2	PM (filterable only)	$E = 0.8808*I^{-0.1667}$
AB-011 AB-012	11 Miss. Admin. Code Pt. 2, R. 1.1.A(1).	3.B.3	SO_2	4.8 lbs/MMBTU
Sodium Chlorate Process	11 Miss. Admin. Code Pt. 2, R. 1.3.F(1).	3.B.4	PM (filterable only)	$E = 4.1\ (p)^{0.67}$
AB-011	Federally enforceable Construction permit issued February 13, 2007, and modified January 4, 2011	3.B.5	NO_x	0.07 lb/MMBTU heat input (3-hr rolling average), not to exceed 8.93 lbs/hr (3-hr rolling average) and 39.1 tons/year (12-month rolling total)
		3.B.6	Fuel Restriction	Fuels other than natural gas and/or hydrogen are prohibited
	40 CFR 63, Subpart Db – New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units	3.B.7	NOx/PM/SO_2	Applicability
AB-012	Federally enforceable Construction permit issued February 13, 2007, and modified January 4, 2011	3.B.8	NO_x	14.53 lbs/hr and 31.38 tpy
		3.B.9	Fuel Restriction	Fuel other than natural gas is prohibited
	Federally Enforceable Construction Permit issued February 13, 2007	3.B.10	Operational Limitation	The temporary boiler shall not operate or remain on site for more than 180 consecutive days during any period of 12 consecutive calendar months.
	40 CFR 63, Subpart Dc – New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units	3.B.11	NOx/PM/SO_2	Applicability
AE-005	Operating Permit issued November 12, 1991, and modified January 24, 2000	3.B.12	Fuel Restriction	Fuel other than No. 2 Fuel Oil or Diesel with a sulfur content ≤ 0.4% by volume is prohibited.
AH-002	Pre-construction approval granted February 22, 2010, 11 Miss. Admin. Code Pt. 2, R. 2.15.C., and Title V Operating Permit modified January 4, 2011	3.B.13	PM/PM_{10} (filterable only)	2.63 lb/hr and 11.5 tpy

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
AJ-001	Construction Permit issued September 26, 1995	3.B.14	VOC	2.42 lb/hr and 10.6 tpy
AJ-011 AJ-012		3.B.15	VOC	1.3 lb/hr and 4.0 tpy (Total combined VOC emission limitations from Emission Points AJ-011 and AJ-012)
AJ-002 AJ-003 AJ-004	Construction Permit issued September 25, 1990	3.B.16	VOC	1.3 lb/hr and 5.5 tpy (Total combined VOC emission limitation for all three Emission Points)
AJ-008	Title V Operating Permit issued June 28, 2013	3.B.17	PM/PM_{10} (filterable only)	< 750 hours per year. Operating and maintain baghouse when changing regeneration material.
AJ-009	Construction Permit issued September 26, 1995, and modified July 9, 1996	3.B.18	VOC	0.525 lb/hr and 2.3 tpy
AJ-010		3.B.19	VOC	0.525 lb/hr and 2.3 tpy
AB-010 AI-013 AI-014	40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6585(b) and 63.6590(a)(1) and (2)	3.B.20	HAP	Applicability
AB-010	40 CFR 63.6640(f)(1), (2) and (4), Subpart ZZZZ	3.B.21	HAP	Operation Requirement
AE-005	11 Miss. Admin. Code Pt. 2, R. 6.3.A(1).			
AB-010	40 CFR 63.6625(e)(3), Subpart ZZZZ	3.B.22	HAP	General Requirements
AB-010	40 CFR 63.6625(f), Subpart ZZZZ	3.B.23	Hours of Operation	Install a Non-Resettable Hour Meter
AE-005	11 Miss. Admin. Code Pt. 2, R. 6.3.A(1).			
AI-013 AI-014	40 CFR 60, Subpart IIII – New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines 40 CFR 60.4200(a)(2)(i)	3.B.24	NMHC/CO/ NO_x/PM	Applicability

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
	40 CFR 60.4205(b), Subpart IIII	3.B.25		Comply with 40 CFR 60.4202 for same model year and maximum engine power
	40 CFR 60.4202(a)(2), Subpart IIII and 40 CFR 89.112	3.B.26		NMHC + NOx – 6.4 g/kw-hr CO – 3.5 g/kw-hr PM – 0.2 g/kw-hr
	40 CFR 60.4207(b), Subpart IIII and 40 CFR 80.510(b)	3.B.27	Fuel	Max sulfur content of 15 ppm Minimum cetane index of 40 or a maximum aromatic content of 35 volume percent
	40 CFR 4209(a), Subpart IIII	3.B.28	Hours of Operation	Install a non-resettable hour meter
AB-011	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,	3.B.29	HAP	Applicability
AB-011	40 CFR 63.7500(a)(3), Subpart DDDDD	3.B.30	Good Air Pollution Control Practices	Operate and maintain in a manner consistent with safety and good air pollution control practices for minimizing emissions.
AB-011	40 CFR 63.7500(f) and 63.7505(a), Subpart DDDDD	3.B.31		Standards apply at all times

3.B.1 For Emission Points AB-010, AE-005, AI-013, and AI-014, the maximum permissible particulate matter emissions from 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.2 For emission Points AB-011 and AB-012, the maximum permissible particulate matter emissions from installations equal to or greater than 10 million BTU per hour heat input but less than 10,000 million BTU per hour heat input shall not exceed an emission rate as determined by the relationship

$E = 0.8808*I^{-0.1667}$

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.3 For Emission Points AB-011 and AB-012, 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. 1.1.A(1).)

3.B.4 For the Sodium Chlorate Process, the permittee shall not cause, permit, or allow the emission of particulate matter in total quantities in any one hour from any manufacturing process, which includes any associated stacks, vents, outlets, or combination thereof, to exceed the amount determined by the relationship

$E = 4.1p^{0.67}$

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 course solid matter may be allowed if no nuisance is created beyond the property boundary where the discharge occurs.

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

3.B.5 For Emission Point AB-011, the Nitrogen Oxide (NOx) emissions shall not exceed 0.07 lb/MMBTU heat input (3-hr rolling average), 8.93 lbs/hr (3-hr rolling average), and 39.1 tons/year (12-month rolling total).

(Ref.: Federally Enforceable Construction Permit issued February 13, 2007, and modified January 4, 2011)

3.B.6 For Emission Point AB-011, fuels other than natural gas and/or hydrogen are prohibited.

(Ref.: Federally Enforceable Construction Permit issued February 13, 2007, and modified January 4, 2011)

3.B.7 For Emission Point AB-011, the permittee is subject to and shall comply with the NSPS for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart

Db) and the applicable requirements of the General Provisions (40 CFR 60, Subpart A). The applicable NO_x emission limit is 0.20 lb/MMBTU. This limit will be met by complying with the NO_X emission limit in Condition 3.B.5.

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

3.B.8 For Emission Point AB-012, the NOx emissions shall not exceed 14.54 lbs/hr and 31.38 tons/yr.

(Ref.: Federally Enforceable Construction Permit issued February 13, 2007, and modified January 4, 2011)

3.B.9 For Emission Point AB-012, fuel other than natural gas is prohibited.

(Ref.: Federally Enforceable Construction Permit issued February 13, 2007, and modified January 4, 2011)

3.B.10 For Emission Point AB-012, the temporary boiler shall not operate or remain on site for more than 180 consecutive days during any period of 12 consecutive calendar months.

(Ref.: Federally Enforceable Construction Permit issued February 13, 2007)

3.B.11 For Emission Point AB-012, each temporary boiler with a maximum heat input capacity of 87 MMBtu/hr or less but greater than or equal to 10 MMBtu/hr, the permittee shall determine whether the air emissions equipment is subject to and must comply with the New Source Performance Standards (NSPS), as described in 40 CFR 60, Subpart A – General Provisions, and the specific requirements outlined in 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

(Ref.: 40 CFR 60.40c, Subpart Dc and Construction Permit issued February 13, 2007)

3.B.12 For Emission Point AE-005, the permittee shall only use No. 2 Fuel Oil or Diesel with a sulfur content of $\leq$ 0.4% by volume.

(Ref.: Operating Permit issued November 12, 1991 and modified January 24, 2000)

3.B.13 For Emission Point AH-002, the permittee shall limit the emissions of PM/PM_{10} to 2.63 lb/hr and 11.5 tpy.

(Ref.: Pre-construction approval granted February 22, 2010, and Title V Operating Permit modified January 4, 2011)

3.B.14 For Emission Point AJ-001, the Volatile Organic Compound (VOC) emissions shall not exceed 2.42 lbs/hr and 10.6 tons/year.

(Ref.: Federally Enforceable Construction Permit issued September 26, 1995)

3.B.15 For Emission Points AJ-011 and AJ-012, the VOC emissions shall not exceed 1.3 lbs/hr and 4.0 tons/year (total combined VOC emission limitations from both emission points).

(Ref.: Federally Enforceable Construction Permit issued September 26, 1995)

3.B.16 For Emission Points AJ-002, AJ-003, and AJ-004, the VOC emissions shall not exceed 1.3 lbs/hr and 5.5 tpy (total combined VOC emission limitation from all three emission points).

(Ref.: Federally Enforceable Construction Permit issued September 25, 1990)

3.B.17 For Emission Point AJ-008, the permittee shall not operate for more than 750 hours per year on a 12-month rolling basis. The permittee shall also operate and maintain the baghouse when the regeneration material is changed.

(Ref.: Title V Operating Permit issued June 28, 2013)

3.B.18 For Emission Point AJ-009, the VOC emissions shall not exceed 0.525 lbs/hr and 2.3 tpy.

(Ref.: Federally Enforceable Construction Permit issued September 26, 1995, and modified July 9, 1996)

3.B.19 For Emission Point AJ-010, the VOC emissions shall not exceed 0.525 lbs/hr and 2.3 tpy.

(Ref.: Federally Enforceable Construction Permit issued September 26, 1995, and modified July 9, 1996)

3.B.20 For Emission Points AB-010, AE-005, AI-013, and AI-014, the permittee is subject to and shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) (40 CFR 63, Subpart ZZZZ) and the General Provisions (40 CFR 63, Subpart A).

Emission Points AI-013 and AI-014 are new stationary emergency RICE with a site rating of more than 500 brake hp located at a major source of HAP and constructed after December 19, 2002. (Ref.: 40 CFR 63.6590(a)(2)(i))

Emission Point AE-005 is an existing stationary emergency RICE with a site rating of

more than 500 brake hp located at a major source of HAP and constructed before December 19, 2002, that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii). Therefore, Emission Point AA-005 does not have to meet the requirements of 40 CFR 63, Subpart ZZZZ or Subpart A, including initial notification requirements. (Ref.: 40 CFR 63.6590(b)(3)(iii)

Emission Point AB-010 is an existing stationary emergency RICE with a site rating of less than or equal to 500 brake hp located at a major source of HAP and constructed before June 12, 2006. (Ref.: 40 CFR 63.6590(a)(1)(ii))

(Ref.: 40 CFR 63.6585(b) and 63.6590, Subpart ZZZZ)

3.B.21 For Emission Points AB-010 and AE-005, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year as described in (c) below, is prohibited. If the permittee does not operate the engine according to the requirements in (a)-(c) below, the engine will not be considered an emergency engine under Subpart ZZZZ and shall meet all 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 engine 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 engine. The permittee may petition the MDEQ for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating the federal, state, or local standards require maintenance testing of the engine beyond 100 hours per calendar year.

(c) The permittee may operate the engine 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) of this section. 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 arrangement with another entity.

(Ref.: 40 CFR 63.6640(f)(1), (2) and (3), Subpart ZZZZ for Emission Point AB-010 and

11 Miss. Admin. Code Pt. 2, R. 6.3.A(1). for Emission Point AE-005)

3.B.22 For Emission Point AB-010, the permittee shall operate and maintain the stationary RICE and after-treatment control device (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)(3), Subpart ZZZZ)

3.B.23 For Emission Points AB-010 and AE-005, the permittee shall install a non-resettable hour meter if one is not already installed for determining compliance with 40 CFR 63.6625(f).

(Ref.: 40 CFR 63.6625(f), Subpart ZZZZ for Emission Point AB-010 and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(1). for Emission Point AE-005)

3.B.24 For Emission Points AI-013 and AI-014, the permittee is subject to and shall comply with all applicable requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) and the General Provisions (40 CFR 60, Subpart A).

(Ref.: 40 CFR 60.4200(a)(2)(i), Subpart IIII)

3.B.25 For Emission Points AI-013 and AI-014, the permittee shall comply with the emission standards for new non-road CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power.

(Ref.: 40 CFR 60.4205(b), Subpart IIII)

3.B.26 For Emission Points AI-013 and AI-014, the permittee shall comply with the following:

(a) NMHC + Nox – 6.4 g/kw-hr
(b) CO – 3.5 g/kw-hr
(c) PM – 0.20 g/kw-hr

(Ref.: 40 CFR 60.4202(a)(2), Subpart IIII and 40 CFR 89.112)

3.B.27 For Emission Points AI-013 and AI-014, the permittee shall only use diesel fuel that meets the requirements for non-road diesel fuel below.

(a) A maximum sulfur content of 15 ppm

(b) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent

(Ref.: 40 CFR 60.4207(b), Subpart IIII and 40 CFR 80.510(b))

3.B.28 For Emission Points AI-013 and AI-014, the permittee shall install a non-resettable hour meter prior to startup of the engine.

(Ref.: 40 CFR 60.4209(a), Subpart IIII)

3.B.29 For Emission Points AB-011, 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 applicable General Provisions, 40 CFR 63, Subpart A.

Emission Point AB-012 is a temporary boiler as defined in 40 CFR 63.7575 and per 40 CFR 63.7491(j) and is not subject to 40 CFR 63, Subpart DDDDD.

(Ref.: 40 CFR 63.7485 and 63.7575, Subpart DDDDD)

3.B.30 For Emission Point AB-011, the permittee shall at all times operate and maintain any affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions.

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

3.B.31 For Emission Point AB-011, the permittee shall be in compliance at all times the affected unit is operating except during periods of startup and shutdown in which the requirements in Table 3 of 40 CFR 63, Subpart DDDDD apply.

(Ref.: 40 CFR 63.7500(f), and 63.7505(a), Subpart DDDDD)

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
AB-010	40 CFR 63.6602, 63.6625(i), and Item 1 of Table 2c, Subpart ZZZZ	3.D.1	HAP	Change oil and filter every 500 hours of operation or annually, whichever comes first; ·Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and ·Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
AB-010	49 CFR 63.6605(a) and (b), Subpart ZZZZ	3.D.2		Operate and maintain the engines in a manner consistent with safety and good air pollution control practices for minimizing emissions.
AB-011	40 CFR 63.7500(a)(1), 63.7515(d), 63.7540(a)(10), 63.7575, and Table 3, Subpart DDDDD)	3.D.3	HAP	Annual Tune-up

3.D.1 For Emission Point AB-010, the permittee shall comply with the following requirements:

(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;

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

The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement listed above. The oil analysis must be performed at the same frequency specified above for changing the oil. The analysis program shall contain the information contained in 40 CFR 63.6625(i). The permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(Ref.: 40 CFR 63.6602, 63.6625(i), and Item 1 of Table 2c, Subpart ZZZZ)

3.D.2 For Emission Points AB-010, the permittee shall, at all times, be in compliance with the applicable requirements of Subpart ZZZZ and shall operate and maintain the engine in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the MDEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

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

3.D.3 For Emission Point AB-011, the permittee shall meet the applicable work practice standards in Table 3 of Subpart DDDDD, which include an annual tune-up of the boiler and a one-time energy assessment performed by a qualified energy assessor as defined in 40 CFR 63.7575. The initial tune-up and one-time energy assessment shall be completed prior to January 31, 2016. Subsequent tune-ups shall be conducted no more than 13 months after the previous tune-up.

The permittee shall conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified below. The permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. This frequency does not apply to limited-use boilers and process heaters, as defined in 40 CFR 63.7575, or units with continuous oxygen trim systems that maintain an optimum air to fuel ratio.

(a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

(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 unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;

(d) Optimize total emissions of CO. 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 CO 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 MDEQ, a report containing the information below:

(1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

(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 63.7500(a)(1), 63.7515(d), 63.7540(a)(10), 63.7575, and Table 3, Subpart DDDDD)

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.

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

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).)

B. Specific Monitoring and Recordkeeping Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement
AB-011	40 CFR 60.48b(g)(1), (b)(1), (c), (d), (e), and (f), Subpart Db	5.B.1 5.B.2	NOx	Install, calibrate, maintain, and operate a CEMS for NO_x and O_2 (or CO_2)
	40 CFR 60.49b(d)(1), Subpart Db	5.B.2		Fuel Recordkeeping
	40 CFR 60.49b(g), Subpart Db	5.B.3		NO_x Emissions Recordkeeping
	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.4		NO_x Emissions Monitoring

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement
AB-012	40 CFR 60.48c(g), Subpart Dc	5.B.5	NSPS Applicability Determination	Maintain records on a daily basis and each consecutive 12-month period
	Construction Permit Issued February 13, 2007, and Modified January 4, 2011 and 11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.B.6	Fuel Usage	
			Hours of Operation	
		5.B.7	NO_x	Maintain records of maximum hourly emission rate and the 12-month emission rate
AE-005	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.B.8	Fuel Usage	Maintain records documenting fuel usage on a monthly basis
AH-002	Pre-construction approval granted February 22, 2010, 11 Miss. Admin. Code Pt. 2, R. 2.15.C., and Title V Operating Permit modified January 4, 2011	5.B.9	PM/PM_{10} (filterable only)	Stack Testing once every 5 years using EPA Methods 1 - 5
AJ-001 AJ-002 AJ-003 AJ-004 AJ-009 AJ-010 AJ-011 AJ-012	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.B.10	VOC	Stack Testing once every 5 years using EPA Method 25
AJ-008	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.B.11	PM/PM_{10} (filterable only)	Hours of Operation
		5.B.12		Monthly inspections and required maintenance every quarter
AB-010	40 CFR 63.6625(e), (f), and (h), Subpart ZZZZ	5.B.13	Monitoring, operating, and maintenance	Monitoring, operating, and maintenance requirements
	40 CFR 63.6655(e) and (f) and 63.6660 (b) and (c), Subpart ZZZZ	5.B.14		

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement
AI-013 AI-014	40 CFR 60.4206, Subpart IIII	5.B.15	Compliance	Comply for Life of the Engine
	40 CFR 60.4211(a), Subpart IIII	5.B.16		Operate and Maintain according to manufacturer's written instructions
	40 CFR 60.4211(c), Subpart IIII	5.B.17		
	40 CFR 60.4214(b), Subpart IIII	5.B.18		Recordkeeping
AB-011	40 CFR 63.7555(a), Subpart DDDDD	5.B.19	HAP	Recordkeeping
	40 CFR 63.7555(h), Subpart DDDDD	5.B.20	HAP	Recordkeeping of Alternative Fuels
	40 CFR 63.7560, Subpart DDDDD	5.B.21		Recordkeeping
AH-002 AI-001 AI-006 AI-007	40 CFR Part 64	5.B.22	PM/PM_{10}	CAM Plan Requirements in Appendix B
AJ-001 AJ-002 AJ-003 AJ-004 AJ-009 AJ-010 AJ-011 AJ-012	40 CFR Part 64	5.B.22	VOC	CAM Plan Requirements in Appendix B

5.B.1 For Emission Point AB-011, the permittee shall install, calibrate, maintain, and operate CEMS for measuring NO_x and O_2 (or CO_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 is recorded during calibration checks, and zero and span adjustments. The 1-hour average NO_x emission rates measure by the NO_x CEMS shall be expressed in lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b(l). The 1-hour average shall be calculated using the data points required under 40 CFR 60.13(h)(2). (Ref.: 40 CFR 60.48b(g)(1), (b)(1), (c), and (d), Subpart Db)

The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. The span value for NO_x shall be 500 ppm. When NO_x emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 or 7A of 40 CFR 60, Subpart A, or other approved reference methods to provide emission data for a minimum of 75 percent 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(e) and (f), Subpart Db)

5.B.2 For Emission Point AB-011, the permittee shall record and maintain records of the amounts of each fuel combusted during each day.

(Ref.: 40 CFR 60.49b(d)(1), Subpart Db)

5.B.3 For Emission Point AB-011, the permittee shall maintain records of the information required by in (a) through (j) for each steam generating unit operating day.

(a) Calendar date

(b) The average hourly NO_X emission rates (expressed as NO_2) (NG/J or lb/MMBtu) measured or predicted

(c) The 30-day average NO_X Emission rates calculated at the end of each steam generating unit operating day from the measure 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 in Condition 3.B.5, with the reasons for the excess emissions as well as the description of the corrective action taken.

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

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

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

(h) Identification of the times when the pollutant concentration exceeds the full span of CEMS.

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

(j) Results of daily CEMS Drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of Subpart 60.

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

5.B.4 For Emission Point AB-011, the permittee shall use the NO_x CEMS required by NSPS Subpart Db to demonstrate compliance with the lb/hr, lb/MMBtu, and TPY NO_x emission limitations. The lb/hr and lb/MMBtu emissions shall be determined on an hourly basis and shall be used to calculate the 3-hour rolling average emissions of NO_x. The permittee shall also determine the total NO_x emissions for each calendar month and use these emissions to determine the 12-month rolling total emissions in TPY.

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

5.B.5 For Emission Point AB-012, the permittee shall determine the applicability of 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The permittee shall comply with all the applicable requirements of Subpart Dc, including at a minimum the records of the amounts of natural gas combusted each calendar month and sulfur content of the natural gas. If there are no applicable requirements for Subpart Dc then the permittee needs to keep records of why the boiler is not subject.

(Ref.: 40 CFR 60.48c(g), Subpart Dc)

5.B.6 For Emission Point AB-012, the permittee shall record and maintain records of:

(a) The date of installation, the date of startup, and the date the temporary boiler was removed from service,

(b) The design heat input capacity in MMBtu/hr,

(c) An applicability determination for 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,

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

(e) The total amount of natural gas combusted during the time the boiler is on-site.

(Ref.: Construction Permit issued February 13, 2007, and Modified January 4, 2011, and 11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).)

5.B.7 For Emission Point AB-012, the permittee shall record and maintain records of the maximum hourly nitrogen oxides emission rate as provided by the manufacturer, and the consecutive 12-month nitrogen oxide emission rate in tons/year. The manufacturer's documentation used to determine the hourly nitrogen oxide emission rate and the calculations documenting the annual nitrogen oxide emission rate shall accompany this data.

(Ref.: Construction Permit issued February 13, 2007, and Modified January 4, 2011)

5.B.8 For Emission Point AE-005, the permittee shall monitor and maintain monthly records on the type, quantity, and sulfur content (% by weight) of all fuels combusted.

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

5.B.9 For Emission Point AH-002, the permittee shall perform stack testing once every 5 years not to exceed 60 months from the previous stack test in accordance with EPA Reference Methods 1-5, to demonstrate compliance with the permitted emission limitations for particulate matter for the scrubber. For the purpose of compliance demonstration, the permittee shall operate the source at maximum capacity. During the stack tests sodium chlorate concentrations shall be monitored.

For purposes of demonstrating compliance with the opacity limit, the permittee shall conduct an opacity evaluation in accordance with EPA Test Method 9, 40 CFR Part 60, Appendix A. For purposes of determining compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages). This evaluation shall be conducted concurrently with the particulate matter stack testing required for this emission point(s). However, if visibility or other conditions prevent the opacity observations from being performed concurrently with the stack testing, the permittee shall reschedule the opacity observations as soon after the stack testing as possible, but no later than thirty (30) days thereafter, and shall notify DEQ of the rescheduled date. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the stack test.

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

After the first successful submittal of an initial written test protocol in conjunction with the initial compliance test(s), the permittee may request that the resubmittal of a testing protocol be waived for subsequent testing by certifying in writing at least thirty (30) days prior to subsequent testing that all conditions for testing remain unchanged such that the original protocol can and will be followed.

(Ref.: Pre-construction approval granted February 22, 2010, 11 Miss. Admin. Code Pt. 2, R. 2.15.C., and Title V Operating Permit modified January 4, 2011)

5.B.10 For Emission Points AJ-001, AJ-002, AJ-003, AJ-004, AJ-009, AJ-010, AJ-011, and AJ-012, the permittee shall perform stack testing once every 5 years not to exceed 60 months from the previous stack test in accordance with EPA Reference Method 25 to demonstrate compliance with the permitted emissions limitations for volatile organic compounds. For the purpose of compliance demonstration, the permittee shall operate the source at maximum capacity.

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

After the first successful submittal of an initial written test protocol in conjunction with the initial compliance test(s), the permittee may request that the resubmittal of the testing protocol be waived for subsequent testing by certifying in writing at least thirty (30) days prior to subsequent testing that all conditions for testing remain unchanged such that the original protocol can and will be followed.

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

5.B.11 For Emission Point AJ-008, the permittee shall monitor and record the hours of operation of the baghouse on a 12 month rolling total.

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

5.B.12 For Emission Point AJ-008, the permittee shall operate and maintain the baghouse according to manufacturer's specifications. The permittee shall perform monthly inspections and required maintenance each calendar quarter or more often if necessary to maintain proper operation of the baghouse. The permittee shall maintain, on hand at all times, sufficient equipment necessary to repair and/or overhaul the baghouse.

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

5.B.13 For Emission Point AB-010, during periods of startup, the permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

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

5.B.14 For Emission Points AB-010, the permittee shall maintain the following records and keep each readily accessible in hard copy or electronic form for at least five years after the date of each occurrence, maintenance, corrective action, or report:

(a) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv);

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

(c) The records of all required maintenance performed on the air pollution control and monitoring equipment;

(d) The hours of operation of the engine 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 non-emergency operations; and

(e) All maintenance records that demonstrated the engine was operated and maintained in accordance with the maintenance plan.

(Ref.: 40 CFR 63.6655(a), (e) and (f) and 63.6660(b) and (c), Subpart ZZZZ)

5.B.15 For Emission Points AI-013 and AI-014, the permittee shall operate and maintain the stationary compression ignition internal combustion engine (CI ICE) so that it meets the emission standards in Condition 3.B.26 for the entire life of the engine.

(Ref.: 40 CFR 60.4206, Subpart IIII)

5.B.16 For Emission Points AI-013 and AI-014, the permittee shall comply with the following:

(a) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(b) Change only those emission-related settings that are permitted by the manufacturer; and

(c) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply.

(Ref.: 40 CFR 60.4211(a), Subpart IIII)

5.B.17 For Emission Points AI-013 and AI-014, the engine shall be installed and configured according to the manufacturer's emission-related specifications.

(Ref.: 40 CFR 60.4211(c), Subpart IIII)

5.B.18 For Emission Points AI-013 and AI-014, the permittee is not required to submit an initial notification. the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.

(Ref.: 40 CFR 60.4214(b), Subpart IIII)

5.B.19 For Emission Point AB-011, the permittee shall keep the following records:

(a) A copy of each notification and report that was 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 was submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

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

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

5.B.20 For Emission Point AB-011, if the permittee uses an alternative fuel other than natural gas or refinery gas, the permittee shall keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.

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

5.B.21 For Emission Point AB-011, the permittee shall comply with the following:

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

(b) Each record shall be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) Records shall be keep on site, or accessible from on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The records can be kept off site for the remaining 3 years.

(Ref.: 40 CFR 63.7560, Subpart DDDDD)

5.B.22 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-009, AJ-010, AJ-011, and AJ-012, the permittee is subject to and shall comply with the Compliance Assurance Monitoring (CAM) requirements of 40 CFR Part 64. The permittee shall comply with the specific requirements outlined in the CAM Plan found in Appendix B of this permit. The permittee shall also comply with all other applicable requirements of 40 CFR Part 64 including, but not limited to, the monitoring, recordkeeping, and reporting requirements of 40 CFR 64.7, 64.8, and 64.9.

(Ref.: 40 CFR Part 64)

C. Specific Reporting Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Reporting Requirement
AB-011	40 CFR 60.49b(i), Subpart Db	5.C.1	NOx	Semi-annual Reporting
AB-012	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.2	NOx	Fuel Usage and Hours of Operations
AE-005	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.3	Fuel	Fuel Usage
AH-002 AJ-001 AJ-002 AJ-003 AJ-004 AJ-009 AJ-010 AJ-011 AJ-012	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.4	Stack Testing	Submit stack test results within 60 days of conducting stack test
AJ-008	11 Miss Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.5	PM/PM_{10} (filterable only)	Hours of Operation
AB-011	40 CFR 63.7545(a), Subpart DDDDD	5.C.6	HAP	Notifications
	40 CFR 63.7545(f), Subpart DDDDD	5.C.7		Notification of Alternative Fuel
	40 CFR 63.7545(h), Subpart DDDDD	5.C.8		Notification of Fuel Switch or Physical Change to Boiler
	40 CFR 63.7550(a) and Table 9, Subpart DDDDD	5.C.9		Reporting
	40 CFR 63.7550(b) and Table 9, Subpart DDDDD	5.C.10		Submissions Schedule
	40 CFR 63.7550(h), Subpart DDDDD	5.C.11		Electronic Reports

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Reporting Requirement
AH-002 AI-001 AI-006 AI-007 AJ-001 AJ-002 AJ-003 AJ-004 AJ-009 AJ-010 AJ-011 AJ-012	40 CFR 64.9(a)	5.C.12	PM/PM_{10} VOC	CAM Reporting

5.C.1 For Emission Point AB-011, the permittee shall submit semiannual reports containing the information required to be recorded in Condition 5.B.3 in accordance with Condition 5.A.4.

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

5.C.2 For Emission Point AB-012, the permittee shall submit a semiannual report of the fuel usage in Condition 5.B.6 and the hours of operation in Condition 5.B.7 in accordance with Condition 5.A.4.

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

5.C.3 For Emission Point AE-005, the permittee shall submit a report of the fuel usage and the information required by Condition 5.B.8 in accordance with Condition 5.A.4.

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

5.C.4 For Emission Points AH-002, AJ-001, AJ-002, AJ-003, AJ-004, AJ-009, AJ-010, AJ-011, and AJ-012, the permittee shall submit a report of any stack test results within sixty (60) days of conducting a respective stack test.

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

5.C.5 For Emission Point AJ-008, the permittee shall record the hours of operation on a 12-month rolling total. This report shall be submitted in accordance with Condition 5.A.4.

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

5.C.6 For Emission Point AB-011, the permittee shall submit all applicable notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that apply by the dates specified.

(Ref.: 40 CFR 63.7545(a), Subpart DDDDD)

5.C.7 For Emission Point AB-011, if the permittee uses another fuel besides natural gas or hydrogen gas, the permittee shall submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. The notification shall include the information specified in 40 CFR 63.7545(f)(1) through (5).

(Ref.: 40 CFR 63.7545(f), Subpart DDDDD)

5.C.8 For Emission Point AB-011, if the permittee switched fuels or made a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, the permittee shall provide notice of the date upon which you switched fuels or made the physical change within 30 days of the switch/change. The notification must identify the information specified in 40 CFR 63.7545(h)(1) through (3).

(Ref.: 40 CFR 63.7545(h), Subpart DDDDD)

5.C.9 For Emission Point AB-011, the permittee shall submit each report in Table 9 of Subpart DDDDD that applies.

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

5.C.10 For Emission Point AB-011, the permittee shall submit an annual compliance report postmarked or submitted by January 31st for the previous 12 months that ended on December 31st of the previous year that contains the following information.

(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 dates of the reporting period.

(d) Date of the most recent tune-up and the date of the most recent burner inspection if it was not done with the tune-up and was delayed until the next scheduled or unscheduled unit shut down.

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

(Ref.: 40 CFR 63.7550(b) and (c)(5)(i)-(iii), (xiv), and (xvii), Subpart DDDDD)

5.C.11 For Emission Point AB-011, permittee must submit compliance reports as outlined below.

(a) Written Reports shall be submitted to MDEQ 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 39225

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

(Ref.: 40 CFR 63.7550(h)(3), Subpart DDDDD)

5.C.12 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-009, AJ-010, AJ-011, and AJ-012, the permittee shall submit reports in accordance with Condition 5.A.4 of the following information

(a) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, 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 §64.8. 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.

(Ref.: 40 CFR 64.9(a))

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 None permitted.

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

Nouryon Pulp and Performance Chemicals LLC

Air Title V Operating Permit No. 1680-00005

Compliance Assurance Monitoring Plan

EMISSION POINT: AH-002

COMPLIANCE ASSURANCE MONITORING
VENTURI SCRUBBER FOR PM CONTROL

I. Background

A. Emission Point

Description: C89 Sodium Chlorate Dryer Exhaust Scrubber
Identification: AH-002
Facility: C89 Sodium Chlorate Production Process
Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 11 Miss. Admin. Code Pt. 2, R. 1.3. F(1)
Emission Limits:
Particulate Matter (PM): 2.63 lb/hr, 11.5 TPY
Monitoring Requirements: Sodium chlorate concentration in the scrubbing liquid

C. Control Technology

Venturi scrubber

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AH-002-1. The indicators of performance are the concentration of sodium chlorate in the scrubbing liquid.

TABLE AH-002-1. MONITORING APPROACH

	Indicator No. 1
I. Indicator	Concentration of sodium chlorate in the scrubbing liquid
Measurement Approach	Laboratory analysis
II. Indicator Range	An excursion is defined as a laboratory result greater than 700 g/L sodium chlorate concentration in the scrubbing liquid
III. Performance Criteria A. Data Representativeness	The sample is taken from the scrubber circulation
B. Verification of Operational Status	Not applicable
C. QA/QC Practice and Criteria	Laboratory training and procedures
D. Monitoring Frequency and Data Collection Procedures	Daily sampling and analysis

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is PM/PM10 from the C89 Sodium Chlorate Dryer. Particulate matter in the exhaust of the dryer is controlled by a venturi scrubber. The monitoring approach includes daily analysis of the scrubber liquid.

II. Rationale for Selection of Performance Indicators

Sodium chlorate has a high solubility in water. The application of the venturi scrubber continuously circulates the scrubber liquid to the top of the venturi while the dryer exhaust enters concurrently at the top venturi. As the water contacts the sodium chlorate particulate in the dryer exhaust, the water dissolves the particulate matter entrained in the exhaust stream. The mixture of exhaust and liquid then enter a vertical tower, at which point the water disengages from the exhaust and falls into the reservoir at the bottom of the tower. As long as the sodium chlorate concentration in the scrubbing liquid remains below the specified limit, then the liquid is capable of removing sodium chlorate particulate from the dryer exhaust. Fresh water is continuously added to the scrubbing liquid reservoir, which consequently displaces an equivalent volume of scrubbing liquid, to weaken the concentration of sodium chlorate in the scrubbing liquid. The displaced scrubbing liquid is recovered into the C89 Sodium Chlorate Production Process.

III. Rationale for Selection of Indicator Ranges

Baseline information on the relationship between concentration of sodium chlorate in the scrubbing liquid and emissions was necessary to establish the indicators and ranges. A series of evaluation runs were performed over different concentrations of scrubber liquid to approximate the relationship between sodium chlorate concentration in the scrubbing liquid and PM emission rate.

Emission evaluations were performed to show compliance with the construction limits, and establish a basis for indicator ranges that correspond to compliance with the PM/PM10 emissions limit. A set of three evaluation runs was performed on the scrubber at different concentrations of sodium chlorate in the scrubbing liquid. Emissions sampling was based on EPA methods 1, 2, 3, 4 and 17. A large margin of compliance was demonstrated. Therefore, the nominal compliance concentration of sodium chlorate in the scrubbing liquid for this scrubber is 700 g/L.

EMISSION POINT: AI-001 AND AI-007

COMPLIANCE ASSURANCE MONITORING
THREE STAGE SPRAY TOWER WET SCRUBBER FOR PM CONTROL

I. Background

A. Emission Points

Description:	C91A and C91B Dryer Scrubbers
Identification:	AI-001and AI-007
Facility:	C91 Sodium Chlorate Production Process Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation:	11 Miss. Admin. Code Pt. 2, R. 1.3. F(1)
Emission Limits:	
Particulate Matter (PM):	0.8 lb/hr, 3.5 TPY
Monitoring Requirements:	Sodium chlorate concentration in the scrubbing liquid

C. Control Technology

Three stage spray tower

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AI-001-1. The indicators of performance are the concentration of sodium chlorate in the scrubbing liquid.

TABLE AI-001-1. MONITORING APPROACH

	Indicator No. 1
I. Indicator	Concentration of sodium chlorate in the scrubbing liquid
Measurement Approach	Laboratory analysis
II. Indicator Range	An excursion is defined as a laboratory result greater than 600 g/L sodium chlorate concentration in the scrubbing liquid
III. Performance Criteria A. Data Representativeness	The sample is taken from the scrubber circulation of the first stage of the scrubber
B. Verification of Operational Status	Not applicable
C. QA/QC Practice and Criteria	Laboratory training and procedures
D. Monitoring Frequency and Data Collection Procedures	Daily sampling and analysis

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is PM/PM10 from the C91 Sodium Chlorate Production Dryer Scrubbers. Particulate matter in the exhaust of the dryer is controlled by a three stage spray tower scrubber. The monitoring approach includes daily analysis of the scrubber liquid. The two scrubbers, AI-001 and AI-007, are identical in design and operation.

II. Rationale for Selection of Performance Indicators

Sodium chlorate has a high solubility in water. The application of the three stage spray tower scrubber continuously circulates the scrubber liquid to the top of each scrubber stage while the exhausts of the dryers and associated equipment enter the top of each stage. The liquid circulation is sprayed concurrently with the dryer ventilation flow upstream of a static mixer element. The ventilation flow passes through a mist eliminator as it leaves each stage of the scrubber. Fresh water is added to the last stage of the scrubber, which in turn displaces liquid to the second stage of the scrubber. The displaced liquid entering the second stage, in turn, displaces liquid to the first stage of the scrubber. The liquid displaced from the first stage of the scrubber is returned to the C91 Sodium Chlorate process. With this arrangement of liquid flow, the last stage of the scrubber has the lowest concentration of sodium chlorate in the scrubbing liquid. As long as the sodium chlorate concentration in the scrubbing liquid remains below the specified limit, then the liquid is capable of removing sodium chlorate particulate.

III. Rationale for Selection of Indicator Ranges

Baseline information on the relationship between concentration of sodium chlorate in the scrubbing liquid and emissions was necessary to establish the indicators and ranges. A series of evaluation runs was performed over several different concentrations of scrubber liquid to approximate the relationship between sodium chlorate concentration of the scrubbing liquid and PM emission rate. Emission evaluations were performed to establish a basis for indicator ranges that correspond to compliance with the PM/PM10 emissions limit.

EMISSION POINT: AI-006

COMPLIANCE ASSURANCE MONITORING
THREE STAGE SPRAY TOWER SCRUBBER FOR PM CONTROL

I. Background

A. Emission Point

Description: C91 Sodium Chlorate Product Loading Scrubber
Identification: AI-006
Facility: C91 Sodium Chlorate Product Loading
Nouryon Pulp and Performance Chemicals LLC
Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 11 Miss. Admin. Code Pt. 2, R. 1.3. F(1)
Emission Limits:
Particulate Matter (PM): 1.5 lb/hr, 6.57 TPY
Monitoring Requirements: Sodium chlorate concentration in the scrubbing liquid

C. Control Technology

Three stage spray tower

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AI-006-1. The indicator of performance is the concentration of sodium chlorate in the scrubbing liquid.

TABLE AI-006-1. MONITORING APPROACH

	Indicator No. 1
I. Indicator	Concentration of sodium chlorate in the scrubbing liquid
Measurement Approach	Laboratory analysis
II. Indicator Range	An excursion is defined as a laboratory result greater than 600 g/L sodium chlorate concentration in the scrubbing liquid
III. Performance Criteria A. Data Representativeness	The sample is taken from the scrubber circulation of the first stage of the scrubber
B. Verification of Operational Status	Not applicable
C. QA/QC Practice and Criteria	Laboratory training and procedures
D. Monitoring Frequency and Data Collection Procedures	Daily sampling and analysis

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is PM/PM10 from the C91 Sodium Chlorate Product Loading Facility. Particulate matter in the exhaust of the product loading system is controlled by a three stage spray tower scrubber. The monitoring approach includes daily analysis of the scrubber liquid.

II. Rationale for Selection of Performance Indicators

Sodium chlorate has a high solubility in water. The application of the three stage spray tower scrubber continuously circulates the scrubber liquid to the top of each scrubber stage while the loading ventilation enters the top of each stage. The liquid circulation is sprayed concurrently with the loading ventilation flow upstream of a static mixer element. The ventilation flow passes through a mist eliminator as it leaves each stage of the scrubber. Fresh water is added to the last stage of the scrubber, which in turn displaces liquid in this stage to the second stage of the scrubber. The displaced liquid entering the second stage, in turn, displaces liquid to the first stage of the scrubber. The liquid displaced from the first stage of the scrubber is returned to the C85/89 Sodium Chlorate process. With this arrangement of liquid flow, the last stage of the scrubber has the lowest concentration of sodium chlorate in the scrubbing liquid. As long as the sodium chlorate concentration in the scrubbing liquid remains below the specified limit, then the liquid is capable of removing sodium chlorate particulate.

III. Rationale for Selection of Indicator Ranges

Baseline information on the relationship between concentration of sodium chlorate in the scrubbing liquid and emissions was necessary to establish the indicators and ranges. A series of evaluation runs was performed over several different concentrations of scrubber liquid to approximate the relationship between sodium chlorate concentration in the scrubbing liquid and PM emission rate. Emission evaluations were performed to establish a basis for indicator ranges that correspond to compliance with the PM/PM10 emissions limit.

EMISSION POINT: AJ-001

COMPLIANCE ASSURANCE MONITORING
CONDENSER FOR VOC CONTROL

I. Background

A. Emission Point

Description:	The Waterseal Tank 5112
Identification:	AJ-001
Facility:	Hydrogen Peroxide Production Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

	Regulation: Construction Permit Issued September 26, 1995.
Emission Limits:	
VOC:	2.42 lb/hr, 10.6 TPY Monitoring Requirements: Monitor the temperature in the condenser on a daily basis. Stack test once per permit term.

C. Control Technology

Condenser

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AJ-001-1. The VOC reduction is monitored by process temperature after the condenser and by stack testing.

TABLE AJ-001-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Temperature of the gas after the condenser	Stack test results
Measurement Approach	Routine monitoring of on-line instrumentation	Exhaust sampling and analysis
II. Indicator Range	An excursion level limit is defined as a temperature greater than 30°C during normal operations	An excursion is defined as a stack test result greater 2.42 lb/hr, 10.6 TPY
III. Performance Criteria A. Data Representativeness	The thermocouple is located in close proximity to the discharge point of the condenser	Stack testing is performed at the stack at full capacity of the facility
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Process training and procedures	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	Record the temperature daily after the condenser	Stack test once per permit term. Data collection per the approved protocol

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is VOC from the water seal tank 5112 in the hydrogen peroxide production process. VOC in the excess hydrogen and purge nitrogen gas stream from the degassing vessel 5111 is passed through a condenser to remove VOC from the gas stream. The gas stream is then sent to a water seal before venting to the atmosphere. The water seal is utilized to prevent the influx of oxygen into the hydrogen rich atmosphere of the 51 system.

II. Rationale for Selection of Performance Indicators

The working solution VOC components are readily condensed using circulating cooling water or chilled water. The process gas temperature is monitored after the condenser heat exchanger in order to assure that the cooling media maintains adequate flow. Temperature is a good indication of the amount of VOC in the vapor phase.

III. Rationale for Selection of Indicator Ranges

The temperature after the condenser heat exchanger is utilized as the compliance assurance monitoring process since it represents the temperature of the gas after cooling. The normal operating temperature of the gas phase prior to the condenser is in excess of 60°C during normal operations. The chilled water is used to cool the gas phase to 25°C or less. This results in the condensation of the VOC constituents that gravity drain back into the process for direct reuse. Any entrained droplets from the condensed phase are collected in the downstream safety water seal. The temperature of the safety water seal is not controlled and should approximate ambient conditions.

The VOC from the process gas stream are tested utilizing EPA Method 25 once per permit term. Method 25 is used due to the presence of hydrogen gas which can create hazardous conditions for test personnel.

EMISSION POINTS: AJ-002, AJ-003, AND AJ-004

COMPLIANCE ASSURANCE MONITORING ACTIVATED CARBON BED FOR VOC REDUCTION:

I. Background

A. Emission Point

Description and Identification:	East Carbon Adsorption Unit, AJ-002
	Center Carbon Adsorption (Unit 4401B), AJ-003
	West Carbon Adsorption Unit 4401C AJ-004
Facility:	Hydrogen Peroxide Plant Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: Construction Permit Issued September 25, 1990.
Emission Limits:
VOC: 1.3 lb/hr, 5.5 TPY Total for Emission points AJ-002, AJ-003 and AJ-004

Monitoring Requirements: For Emission Points AJ-002, AJ-003, AJ-004, the permittee shall continuously monitor the temperature of each carbon adsorption bed to determine if the bed has reached saturation condition. The permittee shall also monitor and record the maximum temperature increase of each carbon adsorption bed for each adsorption cycle.

C. Control Technology

Carbon Adsorption

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AJ-002 through AJ-004 - 1. The indicators of performance are the monitoring of the temperature and stack test results.

TABLE AJ-002 through AJ-004 - 1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Temperature increase after the carbon adsorption bed is cooled	Stack test results
Measurement Approach	On-line temperature indication of the bed temperature after the regeneration and cooling cycle is completed	Exhaust sampling and analysis
II. Indicator Range	An excursion is defined as a temperature increase of 10 °C after the bed has cooled from regeneration.	An excursion is defined as a stack test result greater than 1.3 lb/hr total for the three beds
III. Performance Criteria A. Data Representativeness	The temperature indicator is in the top portion of the activated carbon bed and is installed in a thermowell that permits the temperature probe to be calibrated, repaired or replaced during operations	Stack testing is performed at the end of an adsorption cycle
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Process training and written procedures.	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	The minimum and maximum temperature increase after cooling is recorded daily for the carbon adsorption bed when it is in adsorption phase.	Stack test once per permit term.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is VOC from the hydrogen peroxide production process. VOC in the exhaust of the product excess oxidation air and vessel sweep gas is controlled by three activated carbon vessels. The monitoring approach includes monitoring the temperature profiles of each adsorption cycle.

The three vessels are operated in parallel. Two vessels are online at all times. A third vessel can be online or in the regeneration and stabilization process.

The activated carbon beds are steam regenerated with the VOC components collected and reused in the process.

II. Rationale for Selection of Performance Indicators

The process utilizes activated carbon beds for the adsorption of residual VOC components in the excess oxidation air and process vessel sweep gases. The activated carbon readily adsorbs the VOC from the process gasses and significantly reduces VOC emissions from the process. The process of adsorption of the VOC components causes an increase in the temperature of the carbon. This temperature increase is used as an indicator that the process is operating as designed.

III. Rationale for Selection of Indicator Ranges

The heat of adsorption is an indication that the activated carbon beds are adsorbing VOC components. A significant increase in the temperature after cooling would show that the carbon is adsorbing more than the typical amount during the adsorption cycle. The facility typically regenerates the beds on a 20-26 hour cycle. The past testing at other facilities indicates that the vessels can be used in adsorption mode in excess of 48 hours without exceeding the emission limits. A temperature increase of 5 C is the process control limits. Exceeding a 5 °C increase during operations would trigger an operations internal reporting requirement to management. An exceedance of the 10 °C increase during operations after cooling would indicate a higher than normal adsorption of hydrocarbon or the loss of upstream cooling. Both conditions would require investigation and possible process shutdown until the cause is identified and corrected. Exceeding the 10°C increase would result in a Title V exception reporting event.

During production operations the influent is cooled with circulating cooling water or chilled water to condense hydrocarbons before the carbon adsorption beds. This step is not needed to meet the emissions limitations. During the shutdown of the process the activated carbon bed temperature will normally increase to ambient condition which would not be an exceedance of the process monitoring parameters.

EMISSION POINT: AJ-009

COMPLIANCE ASSURANCE MONITORING
CONDENSER FOR VOC CONTROL

I. Background

A. Emission Point

Description:	The 5101 Hydrogenation Column
Identification:	AJ-009
Facility:	Hydrogen Peroxide Production Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

	Regulation: Construction Permit Issued September 26, 1995 and modified July 9, 1996.
Emission Limits:	
VOC:	0.525 lb/hr, 2.3 TPY
	Monitoring Requirements: For Emission Points AJ-009 and AJ-010, the permittee shall monitor the gas flow rate from each hydrogenation column on a daily basis when discharging to the atmosphere.

C. Control Technology

Condenser and flow control

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AJ-009-1. The VOC reduction is monitored by flow and valve position and by stack testing.

TABLE AJ-009-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator Measurement Approach	Control valve position	Stack test results
	Record valve position and flow when venting	Exhaust sampling and analysis
II. Indicator Range	An action level limit is defined as a flow greater than 25 Nm^3/hr and a valve opening greater than 25% when working solution is circulating in the reactor	An excursion is defined as a stack test result greater 0.525 lb/hr, 2.3 TPY
III. Performance Criteria A. Data Representativeness	The valve opening and flow measurement track together at operating conditions	Stack testing is performed after the flow control valve
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Process training and procedures	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	Record the gas flow rate daily when discharging	Stack test once per permit term. Data collection per the approved protocol

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is VOC from the vent line from the 5101 reactor in the hydrogen peroxide production process. VOC in the excess hydrogen and buildup of residual nitrogen gas stream from reactor is periodically purged from the vessel to reduce the pressure during operations. Nitrogen is injected in the stack after the flow meter to prevent the introduction of oxygen into the process. These emission points were utilized frequently during the initial start-up of the process but are seldom required due to design improvement in the hydrogen supply system

II. Rationale for Selection of Performance Indicators

The venting of the gas phase from the reactor will allow for the reduction of the pressure in vessel. The vent line has a heat exchanger that is used to condense out VOC and moisture from the gas stream that is saturated at operating temperature.

III. Rationale for Selection of Indicator Ranges

The valve opening is utilized as the control method for maintaining compliance with the permit requirements during operations. The flow measurement and valve position is utilized as an indicator for compliance purposes.

The VOC from the process gas stream are tested utilizing EPA Method 25 once per permit term. Method 25 is used due to the presence of hydrogen gas which can create hazardous conditions for test personnel.

EMISSION POINT: AJ-010

COMPLIANCE ASSURANCE MONITORING
CONDENSER FOR VOC CONTROL

I. Background

A. Emission Point

Description:	The 5102 Hydrogenation Column
Identification:	AJ-010
Facility:	Hydrogen Peroxide Production Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

	Regulation: Construction Permit Issued September 26, 1995 and modified July 9, 1996.
Emission Limits:	
VOC:	0.525 lb/hr, 2.3 TPY
	Monitoring Requirements: For Emission Points AJ-009 and AJ-010, the permittee shall monitor the gas flow rate from each hydrogenation column on a daily basis when discharging to the atmosphere.

C. Control Technology

Condenser and flow control

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AJ-010-1. The VOC reduction is monitored by flow and valve position and by stack testing.

TABLE AJ-010-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Control valve position	Stack test results
Measurement Approach	Record valve position and flow when venting	Exhaust sampling and analysis
II. Indicator Range	An action level limit is defined as a flow greater than 25 Nm^3/hr and a valve opening greater than 16% when working solution is circulating in the reactor	An excursion is defined as a stack test result greater 0.525 lb/hr, 2.3 TPY
III. Performance Criteria A. Data Representativeness	The valve opening and flow measurement track together at operating conditions	Stack testing is performed after the flow control valve
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Process training and procedures	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	Record the gas flow rate daily when discharging	Stack test once per permit term. Data collection per the approved protocol

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is VOC from the vent line from the 5102 reactor in the hydrogen peroxide production process. VOC in the excess hydrogen and buildup of residual nitrogen gas stream from reactor is periodically purged from the vessel to reduce the pressure during operations. Nitrogen is injected in the stack after the flow meter to prevent the introduction of oxygen into the process. These emission points were utilized frequently during the initial start-up of the process but are seldom required due to design improvement in the hydrogen supply system

II. Rationale for Selection of Performance Indicators

The venting of the gas phase from the reactor will allow for the reduction of the pressure in vessel. The vent line has a heat exchanger that is used to condense out VOC and moisture from the gas stream that is saturated at operating temperature.

III. Rationale for Selection of Indicator Ranges

The valve opening is utilized as the control method for maintaining compliance with the permit requirements during operations. The flow measurement and valve position is utilized as an indicator for compliance purposes.

The VOC from the process gas stream are tested utilizing EPA Method 25 once per permit term. Method 25 is used due to the presence of hydrogen gas which can create hazardous conditions for test personnel.

EMISSION POINT: AJ-011 AND AJ-012

COMPLIANCE ASSURANCE MONITORING
ACTIVATED CARBON BED FOR VOC REDUCTION

I. Background

A. Emission Point

Description and Identification:	Carbon Adsorption (Unit 4401D) AJ-011
	Carbon Adsorption (Unit 4401E) AJ-012
Facility:	Hydrogen Peroxide Plant Nouryon Pulp and Performance Chemicals LLC Columbus, Mississippi

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: Construction Permit Issued September 26, 1995.

Emission Limits:
VOC 1.3 lb/hr, 5.7 TPY (Total limitation for both Emission Points AJ-011 and AJ-012)

Monitoring Requirements: For Emission Points AJ-011, the permittee shall continuously monitor the temperature of each carbon adsorption bed to determine if the bed has reached saturation condition. The permittee shall also monitor and record the maximum temperature increase of each carbon adsorption bed for each adsorption cycle.

C. Control Technology

Carbon Adsorption

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table AJ-011 and AJ-012-1. The indicators of performance are the monitoring of the temperature and stack test results.

TABLE AJ-011-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Temperature increase after the carbon adsorption bed is cooled	Stack test results
Measurement Approach	On-line temperature indication of the bed temperature after the regeneration and cooling cycle is completed	Exhaust sampling and analysis
II. Indicator Range	An excursion is defined as a temperature increase of 10 °C after the bed has cooled from regeneration.	An excursion is defined as a stack test result greater than 1.3 lb/hr total for the three beds
III.Performance Criteria A. Data Representativeness	The temperature indicator is in the top portion of the activated carbon bed and is installed in a thermowell that permits the temperature probe to be calibrated, repaired or replaced during operations	Stack testing is performed at the end of an adsorption cycle
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Process training and written procedures.	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	The minimum and maximum temperature increase after cooling is recorded daily for the carbon adsorption bed when it is in adsorption phase.	Stack test once per permit term.

MONITORING APPROACH JUSTIFICATION

I. Background

The pollutant specific emissions unit (PSEU) is VOC from the hydrogen peroxide production process. VOC in the exhaust of the product excess oxidation air and vessel sweep gas is controlled by two activated carbon vessels. The monitoring approach includes monitoring the temperature profiles of each adsorption cycle.

The two vessels are operated in parallel. One vessel is online at all times. A second vessel can be online or in the regeneration and stabilization process.

The activated carbon beds are steam regenerated with the VOC components collected and reused in the process.

II. Rationale for Selection of Performance Indicators

The process utilizes activated carbon beds for the adsorption of residual VOC components in the excess oxidation air and process vessel sweep gases. The activated carbon readily adsorbs the VOC from the process gasses and significantly reduces VOC emissions from the process. The process of adsorption of the VOC components causes an increase in the temperature of the carbon. This temperature increase is used as an indicator that the process is operating as designed.

III. Rationale for Selection of Indicator Ranges

The heat of adsorption is an indication that the activated carbon beds are adsorbing VOC components. A significant increase in the temperature after cooling would show that the carbon is adsorbing more than the typical amount during the adsorption cycle. The facility typically regenerates the beds on a 20-26 hour cycle. The past testing at other facilities indicates that the vessels can be used in adsorption mode in excess of 48 hours without exceeding the emission limits. A temperature increase of 5 C is the process control limits. Exceeding a 5 °C increase during operations would trigger an operations internal reporting requirement to management. An exceedance of the 10 °C increase during operations after cooling would indicate a higher than normal adsorption of hydrocarbon or the loss of upstream cooling. Both conditions would require investigation and possible process shutdown until the cause is identified and corrected. Exceeding the 10°C increase would result in a Title V exception reporting event.

During production operations the influent is cooled with circulating cooling water or chilled water to condense hydrocarbons before the carbon adsorption beds. This step is not needed to meet the emissions limitations. During the shutdown of the process the activated carbon bed temperature will normally increase to ambient condition which would not be an exceedance of the process monitoring parameters.