

**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) (i.e., the “Federal Act”) and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

**Permit Issued: March 12, 2026**

**Effective Date: As specified herein.**

**MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD**

  
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**AUTHORIZED SIGNATURE**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

**Expires: February 28, 2031**

**Permit No.: 1680-00005**

## **TABLE OF CONTENTS**

SECTION 1. GENERAL CONDITIONS .....	3
SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES .....	14
SECTION 3. EMISSION LIMITATIONS & STANDARDS.....	17
SECTION 4. COMPLIANCE SCHEDULE.....	32
SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS .....	33
SECTION 6. ALTERNATIVE OPERATING SCENARIOS.....	48
SECTION 7. TITLE VI REQUIREMENTS .....	49
<b>APPENDIX A LIST OF ABBREVIATIONS USED IN THIS PERMIT</b>	
<b>APPENDIX B LIST OF REGULATIONS REFERENCED IN THIS PERMIT</b>	
<b>APPENDIX C CAM PLANS</b>	

## SECTION 1. GENERAL CONDITIONS

1.1 The permittee must comply with all conditions of this permit. Any permit non-compliance 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 The 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 following provisions:.

(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 three (3) or more years. Such a reopening shall be completed no later than eighteen (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 emissions 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 a permit shall follow the same procedures as apply to initial permit issuance and shall affect only 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 Department of Environmental Quality (DEQ) at least thirty (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 claimed 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 The 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 fee based on a fee schedule established by the Mississippi Commission on Environmental Quality (i.e., the "Commission"). The fee schedule shall be set each year by order of the Commission in accordance with the procedure outlined in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6.

- (a) A portion of the fee shall be based on the permittee's annual quantity of emissions. The permittee shall elect for "actual emissions" 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.
  - (i) "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.

- (ii) “Allowable emissions” are those emissions limited by this permit as well as those emissions not expressly limited by this permit but otherwise allowed by this permit, as represented in the Title V application.
- (iii) Notwithstanding paragraphs (i) and (ii), a minimum annual fee shall be assessed in accordance with the fee schedule established by the Commission when calculating this portion of the fee.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B(1).)

- (b) A portion of the fee shall be based on the complexity of this permit, as determined by the number of air regulations applicable to the permittee on the date of the fee calculation in accordance with the fee schedule established by the Commission. Only air regulations required to be addressed by this permit may be included in the annual fee schedule.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B(2).)

- (c) By July 1 of each year, the permittee shall submit a completed annual fee reporting form to the DEQ accompanied by all necessary calculations and supporting information to verify actual emissions. If the annual fee reporting form is not filled out completely and accurately or certified in accordance with Regulation 11 Miss. Admin. Code Pt. 2, R. 6.2.E., “allowable emissions” or other information necessary to determine the appropriate annual fee shall be used in the fee calculation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B(3)(c).)

- (d) If the Commission determines that there is not sufficient information available to the permittee to accurately complete and submit the annual fee reporting form by July 1, but such information becomes available and is submitted to the DEQ after July 1, the fee calculation and assessment may be altered according to the annual fee schedule. No fee actually paid to the DEQ shall be refunded due to a change in the fee calculation.

If a fee is recalculated such that the amount assessed for an annual period is reduced and the permittee has already paid all or a portion of the fee, the revised fee

assessment may not be reduced to an amount less than what the permittee has already paid regardless of the results of the recalculation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.B(3)(d).)

- (e) The fee shall be due September 1 of each year. However, the permittee may elect a quarterly payment method of four (4) equal payments with the payments due September 1, December 1, March 1 and June 1. The permittee shall notify the DEQ that the quarterly payment method will be used by September 1.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E(1).)

- (f) If at any time within the year the Commission determines that the information submitted by the permittee is insufficient or incorrect, the DEQ will notify the permittee of the deficiencies and the adjusted fee schedule. Past due fees as a result of the adjusted fee assessment will be due at the time of the next scheduled quarterly payment.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E(1)(b).)

- (g) If an annual fee is not paid within thirty (30) days after the due date, a penalty of ten (10) percent of the amount due shall at once accrue and be added thereto. If the fee is not paid in full (including any interest and penalty within sixty (60) days of the due date), the Permit Board may revoke the permit upon proper notice and hearing as required by law.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.E(1)(a).)

- (h) If the permittee disagrees with the calculation or applicability of an annual 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.D.)

- 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 upon satisfying one of the following conditions:
- (a) Such applicable requirements are included and are specifically identified in the permit; or
  - (b) The Permit Board, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the permittee and the permit includes such determination (or a concise summary thereof).

(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 to register such a plan pursuant to Section 112(r) of the Federal Act.

(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 that is submitted at least six (6) months prior to the date of permit expiration.

If the permittee submits a timely and complete application for permit issuance (including for renewal), the failure to have a Title V permit is not a violation of the applicable 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. 6.2.A(1)(c), R. 6.4.B., and 6.4.C(2).)

1.18 The permittee is authorized to make changes within their facility without requiring a permit revision (Ref.: Section 502(b)(10) of the Federal Act) if the following criteria are met:

- (a) The changes are not modifications under any provision of Title I of the Federal 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 [i.e., at least seven (7) days or such

other time frame as provided in other regulations for emergencies] and the notification includes the following information:

- (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 either the permittee's prepared “Emission Control Action Program(s)” or, in the absence of a prepared Emission Control Action Program, the appropriate requirements and “Emission Reduction Objectives” specified in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 3. – “Regulations for the Prevention of Air Pollution Emergency Episodes” – for the level of emergency declared and the permittee’s source of air contamination.

(Ref.: 11 Miss. Admin. Code Pt. 2, Ch. 3.)

1.20 Except as otherwise provided herein, a modification of the permittee’s facility may require a Permit to Construct in accordance with the provisions specified in Regulation 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 Regulation 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 any 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 Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. and/or Ch. 5.; or
  - (2) The source is approved to use under any permit issued under Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. and/or Ch. 5.;;
- (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 Regulation 11 Miss. Admin. Code Pt. 2, Ch. 2. or Ch. 5.; or
- (f) Any change in ownership of the stationary source.

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

1.21 An administrative permit amendment may be made by the Permit Board authorizing changes in ownership or operational control consistent with the following procedure:

- (a) The Permit Board shall take action within sixty (60) days after receipt of a completed request for a permit transfer, unless a public hearing is scheduled. The Permit Board may incorporate such changes without providing notice to the public or affected State(s) provided that it designates any such permit revision as having been made pursuant to this paragraph.
- (b) A permit transfer shall be approved upon satisfaction of the following:
  - (1) The applicant for transfer approval can demonstrate to the Permit Board it has the financial resources, operational expertise, and environmental compliance history over the last five (5) years to insure compliance with the terms and conditions of the permit to be transferred, except where this conflicts with State Law, and
  - (2) The Permit Board determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the DEQ.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.D(4)(a) and (b).)

- 1.22 This permit is a Federally approved operating permit under Title V of the Federal Act. All terms and conditions in this permit, including any provisions designed to limit the permittee'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 ordinance.

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 an Emergency Air Pollution Episode Alert imposed by the Executive Director of DEQ; 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 fifty (50) yards of an occupied dwelling.
- (c) Burning must not occur within 500 yards of commercial airport property, private airfields, 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 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 five (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 non-compliance, and the corrective actions taken and;
  - (v) That as soon as practicable but no later than twenty-four (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) Start-ups and Shutdowns (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)
    - (1) Start-ups and shutdowns are part of normal source operation. Emission limitations apply during start-ups and shutdowns unless source specific emission limitations or work practice standards for start-ups 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 Regulation 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for start-ups and shutdowns. Source specific emission limitations or work practice standards established for start-ups 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 start-up or shutdown, see the “Upset” requirements above.

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

- 1.25 The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements specified in 40 CFR Part 61, Subpart M (National Emission Standard for Asbestos), 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
<b><i>Fuel Combustion Sources</i></b>	
AB-010	315 HP (2.21 MMBtu/hr) diesel-fired HPC Emergency Fire Pump (model year 1990)
AB-011	127.47 MMBtu/hr natural gas or hydrogen-fired Steam Boiler equipped with low-NO <sub>x</sub> burners and an oxygen trim system (Constructed in 2007 and rebuilt in 2012)
AB-012	87.0 MMBtu/hr natural gas-fired Temporary Steam Boiler
AE-005	613 HP (4.29 MMBtu/hr) diesel-fired Emergency Generator for the C-85 and C-89 Sodium Chlorate Plants (model year 1983)
AI-013	1,214 HP (8.5 MMBtu/hr, 905 kW) diesel-fired Emergency Generator for the C-91 Sodium Chlorate Plants (model year 2010)
AI-014	1,214 HP (8.5 MMBtu/hr, 905 kW) diesel-fired Emergency Generator for the C-91 Sodium Chlorate Plants (model year 2010)
<b><i>C-85 Sodium Chlorate Process</i></b>	
AE-002	The Reaction Gas Scrubber (CL503), which controls chlorine emissions from process tanks and hydrochloric acid emissions from the hydrochloric acid storage tank (TM-106) associated with the C-85 Sodium Chlorate Process.
AE-004	The Cell Gas Scrubber Vent (CL502). Hydrogen, which is a byproduct from the electrolyzer cells, is routed through two scrubbers in series, to control chlorine emissions prior to use in the Steam Boiler and the Hydrogen Peroxide Process. Any hydrogen not used by the Steam Boiler or in the HPC process is discharged through Emission Point AE-004 and/or through the C-89 and C-91 A/B Hydrogen Purification Processes.
<b><i>C-89 Sodium Chlorate Process</i></b>	
AH-002	The C-89 Dryer Scrubber (CLX401) is a venturi scrubber used to control particulate matter emissions from the C-89 Fluidized Bed Dryer serving the C-85 and C-89 process lines.
AH-003	The Reaction Gas Scrubber (CLX503) which is used to control chlorine emissions from the process tanks associated with the C-89 Sodium Chlorate Process.
<b><i>C-91 A/B Sodium Chlorate Process</i></b>	
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 chloring emissions from the process tanks and hydrochloric acid emissions from the hydrochloric acid storage tank (TA-602) associated with the C-91A Sodium Chlorate Process.
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 Processes.
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 the process tanks and hydrochloric acid emissions from the hydrochloric acid storage tank (TB-602) associated with the C-91B Sodium Chlorate Process.

Emission Point	Description
<b><i>C-89 and C-91 A/B Hydrogen Purification Process</i></b>	
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 routed through two scrubbers in series to remove chlorine prior to use in the Steam Boiler and 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 routed to the scrubber to remove chlorine prior to use in the Steam 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 or 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 or 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.
<b><i>Brine Plant</i></b>	
AI-010	The Brine Plant Process Tanks equipped with a scrubber (CL101) for control of hydrochloric acid emissions.
<b><i>Hydrogen Peroxide (HPC) Manufacturing Process</i></b>	
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 in the off gases from the HPC process tanks.
AJ-003	The Center Carbon Adsorption Unit (4401B) which controls VOC emissions in the off gases from the HPC process tanks.
AJ-004	The West Carbon Adsorption Unit (4401C) which controls VOC emissions in the off gases from the HPC process tanks.
AJ-005	The Clean Solvent Storage Tank (T-3611) which is a 19,500-gallon vertical fixed roof tank. The tank vents to one of the three carbon adsorption units, AJ-002, AJ-003, and AJ-004.

Emission Point	Description
AJ-006	The Used Solvent Storage Tank (T-3612), which is a 19,500-gallon vertical fixed roof tank. The tank is vented to one of the 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-011	The Carbon Adsorption Unit 4 (4401D), which controls VOC emissions from the off gases from the HPC process tanks.
AJ-012	The Carbon Adsorption Unit 5 (4401E), which controls VOC emissions from the off gases from the HPC process tanks.
AJ-013	The C-01A building ventilation system consisting of four (4) fans: N, S, E, and EE.
AJ-016	The Working Solution (WS) Storage Tank (T-5413) which is a 75,500-gallon vertical fixed roof tank. The tank is vented to the carbon adsorption units, AJ-011 and AJ-012.
<b>Miscellaneous Air Emission Sources</b>	
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 (Particulate) from the plant site
FE-003	Fugitive Emissions (VOC) from the 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) and (b):

- (a) Start-up operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per start-up in any one hour and not to exceed three (3) start-ups 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 sixty (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.)

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

- (a) The permittee shall not cause or permit the handling, transporting, or storage of any material in a manner which allows or may allow unnecessary amounts of particulate matter to become airborne.
- (b) When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance to property other than that from which it originated or to violate any other provision of Regulation 11 Miss. Admin. Code Pt. 2, Ch. 1, the Commission may order such corrected in a way that all air and gases or air and gas-borne material leaving the building or equipment are controlled or removed prior to discharge to the open air.

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

**B. EMISSION POINT SPECIFIC EMISSION LIMITATIONS & STANDARDS**

<b>Emission Point(s)</b>	<b>Applicable Requirement</b>	<b>Condition Number</b>	<b>Pollutant / Parameter</b>	<b>Limit / Standard</b>
AB-010 AE-005 AI-013 AI-014	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.1	PM (filterable)	≤ 0.6 lbs/MMBtu
AB-011 AB-012	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).	3.B.2	PM (filterable)	$E = 0.8808 * I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.3	SO <sub>2</sub>	≤ 4.8 lbs/MMBtu
Facility-wide (Sodium Chlorate Process)	11 Miss. Admin. Code Pt. 2, R. 1.3.F(1).	3.B.4	PM (filterable)	$E = 4.1(p)^{0.67}$
AB-011	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011	3.B.5	NO <sub>x</sub>	≤ 0.07 lbs/MMBtu heat input (3-hr rolling average, not to exceed 8.93 lbs/hr (3-hr rolling average) and 39.1 tpy (12-month rolling total)
		3.B.6	Fuel Restriction	Fuels other than natural gas and/or hydrogen are prohibited
	40 CFR 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60.40b(a), Subpart Db	3.B.7	NO <sub>x</sub> PM SO <sub>2</sub>	General Applicability
	40 CFR 60.44b(a), Subpart Db	3.B.8	NO <sub>x</sub>	≤ 0.20 lbs/MMBtu
AB-012	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011	3.B.9	NO <sub>x</sub>	≤ 14.53 lbs/hr and 31.38 tpy
		3.B.10	Fuel Restriction	Fuel other than natural gas is prohibited
		3.B.11	Operational Limitation	Temporary boilers may not operate or remain onsite for more than 180 consecutive days during any period of 12 consecutive calendar months
	40 CFR 60, Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60.40c, Subpart Dc and 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011	3.B.12	NO <sub>x</sub> PM SO <sub>2</sub>	General Applicability

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter	Limit / Standard
AE-005	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the Title V Operating Permit (TVOP) issued January 24, 2000	3.B.13	Fuel Restriction	Fuels other than No. 2 fuel oil or diesel with a sulfur content $\leq 0.4\%$ by volume is prohibited
AH-002	11 Miss. Admin. Code Pt. 2, R. 2.15.C, as established in the TVOP issued June 27, 2013	3.B.14	PM/PM <sub>10</sub> (filterable)	$\leq 3.23$ lbs/hr and 14.15 tpy
AJ-001	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the federally enforceable Permit to Construct issued September 26, 1995	3.B.15	VOC	$\leq 2.42$ lbs/hr and 10.6 tpy
AJ-011 AJ-012		3.B.16		$\leq 1.3$ lbs/hr and 4.0 tpy (total combined emissions)
AJ-002 AJ-003 AJ-004	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the federally enforceable Permit to Construct issued September 25, 1990	3.B.17	VOC	$\leq 1.3$ lbs/hr and 5.5 tpy (total combined emissions)
AJ-008	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10), as established in the Title V Operating Permit (TVOP) issued June 27, 2013	3.B.18	Operating restriction PM/PM <sub>10</sub> (filterable)	$\leq 750$ operating hours per year
AB-010 AE-005 AI-013 AI-014	40 CFR 63, Subpart ZZZZ  NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)  40 CFR 63.6580, 63.6585(a) and (b), 63.6590(a)(1)(i) and (ii), (a)(2)(i), (b)(1)(i), and (b)(3)(iii), and 63.6605, Subpart ZZZZ	3.B.19	HAP	Applicability
	40 CFR 63.6640(f)(1) through (3), Subpart ZZZZ	3.B.20		Operating requirements
AI-013 AI-014	40 CFR 60, Subpart IIII  Standards of Performance for Stationary Compression Ignition Internal Combustion Engines  40 CFR 60.4200(a)(2)(i) and 60.4206, Subpart IIII	3.B.21	NO <sub>x</sub> + NMHC CO PM (filterable) SO <sub>2</sub>	Applicability
	40 CFR 60.4205(b), 60.4202(a)(2), and 60.4211(a) and (c), Subpart IIII and 40 CFR 1039, Appendix I	3.B.22	NO <sub>x</sub> + NMHC CO PM (filterable)	6.4 g/kW-hr 3.5 g/kW-hr 0.20 g/kW-hr
	40 CFR 60.4205(b) and 60.4202(a)(2), Subpart IIII and 40 CFR 1039.105, Subpart B	3.B.23	Opacity	$\leq 20$ percent during acceleration $\leq 15$ percent during lugging $\leq 50$ percent during the peaks in either mode

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter	Limit / Standard
AI-013 AI-014	40 CFR 60.4207(b), Subpart IIII and 40 CFR 1090.305, Subpart D	3.B.24	SO <sub>2</sub> (Diesel fuel requirements)	Sulfur content of 15 ppm max <b>AND</b> Minimum cetane index of 40 <b>OR</b> maximum aromatic content of 35 volume percent
	40 CFR 60.4211(f)(1)-(3), Subpart IIII	3.B.25	NO <sub>x</sub> + NMHC CO PM (filterable) SO <sub>2</sub>	Operating requirements
AB-011	40 CFR 63, Subpart DDDDD  NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters  40 CFR 63.7480, 63.7485, 63.7490(a)(1) and (d), 63.7491(j), 63.7499(l), 63.7500(a), (a)(1) and (3), (e), and (f), and 63.7505(a), Subpart DDDDD	3.B.26	HAP	Applicability
AH-002 AI-001 AI-006 AI-007	40 CFR Part 64, Compliance Assurance Monitoring (CAM)  40 CFR 64.2(a), CAM	3.B.27	PM/PM <sub>10</sub> (filterable)	CAM Plan requirements in Appendix C
AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012			VOC	

3.B.1 For Emission Points AB-010, AE-005, AI-013, and AE-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. 1.4.A(1).)

- 3.B.4 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 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 coarse 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 (NO<sub>x</sub>) emissions shall be less than or equal to 0.07 lbs/MMBtu heat input (3-hour rolling average) not to exceed 8.93 lbs/hr (3-hour average) and 39.1 tons/year (12-month rolling total).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011).

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

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011)

- 3.B.7 Emission Point AB-011 is subject to and shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and the applicable General Provisions, 40 CFR 60, Subpart A.

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

- 3.B.8 For Emission Point AB-011, emissions of NO<sub>x</sub> shall be limited to less than or equal to 0.20 lbs/MMBtu. The permittee shall comply with this limit by meeting the more stringent limit contained in Condition 3.B.5.

(Ref.: 40 CFR 60.44b(a), Subpart Db)

- 3.B.9 For Emission Point AB-012, the permittee shall limit NO<sub>x</sub> emissions to equal to or less than 14.53 lbs/hour and 31.38 tons per year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011)

- 3.B.10 For Emission Point AB-012, fuels other than natural gas are prohibited.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011)

- 3.B.11 For Emission Point AB-012, temporary boilers shall not operate or remain onsite for more than 180 consecutive days during any period of twelve (12) consecutive calendar months.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011)

- 3.B.12 Emission Point AB-012, for 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 be required to comply with the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and the applicable General Provisions, 40 CFR 60, Subpart A.

(Ref.: 40 CFR 60.40c, Subpart Dc and 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011)

- 3.B.13 For Emission Point AE-005, the permittee is prohibited from using any fuels other than No. 2 Fuel Oil or Diesel with a sulfur content of less than or equal to 0.4 percent by volume.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the Title V Operating Permit (TVOP) issued January 24, 2000)

- 3.B.14 For Emission Point AH-002, the permittee shall limit emissions of Particulate Matter (PM) and Particulate Matter less than 10 microns (PM<sub>10</sub>) to less than or equal to 3.23 lbs/hr and 14.15 tons per year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.15.C., as established in the TVOP issued June 13, 2013)

- 3.B.15 For Emission Point AJ-001, the permittee shall limit emissions of Volatile Organic

Compounds (VOC) to less than or equal to 2.42 lbs/hour and 10.6 tons per year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued September 26, 1995)

- 3.B.16 For Emission Points AJ-011 and AJ-012, the permittee shall limit emissions of VOC from both carbon adsorption units combined to less than or equal to 1.3 lbs/hour and 4.0 tons per year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued September 26, 1995)

- 3.B.17 For Emission Points AJ-002, AJ-003, and AJ-004, the permittee shall limit emissions of VOC from all three carbon adsorption units combined to less than or equal to 1.3 lbs/hr and 5.5 tons per year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued September 25, 1990)

- 3.B.18 For Emission Point AJ-008, the material generation process shall be limited to operating less than or equal to 750 hours per year, determined on a 12-month rolling total basis. The permittee shall operate and maintain the baghouse at all times when the material regeneration process is in operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the Title V Operating Permit (TVOP) issued June 27, 2013)

- 3.B.19 Emission Points AB-010, AE-005, AI-013, and AI-014 are subject to and shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR 63, Subpart ZZZZ, and the applicable General Provisions, 40 CFR 63, Subpart A, as identified in Table 8 of Subpart ZZZZ.

For purposes of this subpart, Emission Point AB-010 is considered an existing stationary emergency RICE with a site rating of less than or equal to 500 brake horsepower (HP) that is located at a major source of HAP emissions. As such, the engine is subject to the applicable requirements for emergency engines under Subpart ZZZZ.

Emission Point AE-005 is considered an existing stationary emergency RICE with a site rating of more than 500 brake HP that is located at a major source of HAP emissions. Per 40 CFR 63.6590(b)(3)(iii), existing emergency RICE engines with a site rating of more than 500 HP located at a major source of HAP do not have to meet the requirements of Subparts ZZZZ or A. However, the engine must continue to qualify as an emergency engine as noted in Condition 3.B.21.

Emission Points AI-013 and AI-014 are considered new, stationary emergency RICE with a site rating of more than 500 brake HP located at a major source of HAP. Per

63.6590(b)(1)(i), new stationary RICE engines with a site rating of more than 500 brake HP located at a major source of HAP does not have to meet the requirements of Subparts ZZZZ or A. However, the engine must continue to qualify as an emergency engine as noted in Condition 3.B.21.

Engines subject to the requirements of Subpart ZZZZ shall comply with the emission limitations, operating limitations, and any other applicable requirements at all times. The affected source shall be operated and maintained 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 this standard 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 63.6580, 63.6585(a) and (b), 63.6590(a)(1)(i) and (ii), (a)(2)(i), (b)(1)(i), and (b)(3)(iii), and 63.6605, Subpart ZZZZ)

3.B.20 For Emission Points AB-010, AE-005, AI-013, and AI-014, the engines shall be considered emergency stationary RICE under 40 CFR 63, Subpart ZZZZ provided the engines only operate in an emergency, during maintenance and testing, and during non-emergency situations for 50 hours per year as described in (c) below. If the permittee does not operate the engines according to the requirements in (a)-(c) below, the engines will not be considered an emergency engine under Subpart ZZZZ and must meet all applicable requirements for non-emergency engines.

- (a) There is no limit on the use of the engines during an emergency situation.
- (b) The permittee may operate the engines for maintenance checks and readiness testing for a maximum of 100 hours per calendar year provided the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or insurance company associated with the 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 an engine beyond 100 hours per calendar year.
- (c) The emergency engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (b). The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

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

3.B.21 Emission Points AI-013 and AI-014 are subject to and shall comply with the applicable requirements of the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart III, and the applicable General Provisions, 40 CFR 60, Subpart A, as specified in Table 8 of Subpart III.

(Ref.: 40 CFR 60.4200(a)(2)(i) and 60.4206, Subpart III)

3.B.22 For Emission Points AI-013 and AI-014, the permittee shall operate and maintain the engine such that it achieves the emission standards listed below for the life of the engine:

- (a)  $\text{NO}_x + \text{NMHC} \leq 6.4 \text{ g/kW-hr}$
- (b)  $\text{CO} \leq 3.5 \text{ g/kW-hr}$
- (c)  $\text{PM (filterable)} \leq 0.20 \text{ g/kW-hr}$

The permittee shall comply with the emission standards above by purchasing, installing, operating, and maintaining an engine certified to meet the emission standards. The permittee shall operate and maintain the engine in accordance with the manufacturer's emission-related written instructions and can only change the emission-related settings that are permitted by the manufacturer.

(Ref.: 40 CFR 60.4205(b), 60.4202(a)(2), and 60.4211(a) and (c), Subpart III and 40 CFR 1039, Appendix I)

3.B.23 For Emission Points AI-013 and AI-014, the permittee shall limit the opacity from the engines such that it does not exceed the following:

- (a)  $\leq 20$  percent during the acceleration mode;
- (b)  $\leq 15$  percent during the lugging mode; and
- (c)  $\leq 50$  percent during the peaks in either mode.

(Ref.: 40 CFR 60.4205(b) and 60.4202(a)(2), Subpart III and 40 CFR 1039.105, Subpart B)

3.B.24 For Emission Points AI-013 and AI-014, the permittee shall use diesel fuel that has a maximum sulfur content of 15 parts per million (ppm) **AND** either a minimum cetane index of 40 **OR** a maximum aromatic content of 35 volume percent.

(Ref.: 40 CFR 60.4207(b), Subpart III and 40 CFR 1090.305, Subpart D)

3.B.25 Emission Points AI-013 and AI-014 shall be considered emergency stationary RICE under Subpart III provided the engines only operates in an emergency, during maintenance and testing, and during non-emergency situations for 50 hours per year as described in (c) below. If the permittee does not operate the engines in accordance with the requirements in (a)-(c) below, the engines will not be considered emergency engines under Subpart III and they must then meet all applicable requirements for non-emergency engines.

- (a) There is no limit on the use of the engines during an emergency situation.
- (b) The permittee may operate the engines for maintenance checks and readiness testing for a maximum of 100 hours per calendar year provided the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or insurance company associated with the engines. The permittee may petition the 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 emergency engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (b). Except as provided in 40 CFR 60.4211(f)(3)(i), 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 an electric grid or otherwise supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(Ref.: 40 CFR 60.4211(f)(1)-(3), Subpart IIII)

- 3.B.26 Emission Point AB-011 is subject to and shall comply with the applicable requirements of the NESHAP for Major Sources: Industrial, Commercial, and Institutional Boiler and Process Heaters, 40 CFR 63, Subpart DDDDD and the applicable General Provisions, 40 CFR 63, Subpart A, as identified in Table 10 of Subpart DDDDD.

For purposes of this subpart, AB-011 is considered an existing unit that is in the “units designed to burn gas 1 fuels” subcategory. Emission Point AB-012 is a temporary boiler as defined in 40 CFR 63.7575 and per 40 CFR 63.7491(j), temporary boilers are not subject to the requirements of Subpart DDDDD.

Since the boiler is in the unit designed to burn gas 1 fuels subcategory, the permittee is not subject to the emission limits in Tables 1 and 2 or Tables 11 through 15, but the unit shall comply with the applicable work practice standards in Table 3 of Subpart DDDDD that that are contained in Section 3.D of this permit.

The permittee shall meet the applicable requirements of Subpart DDDDD at all times the affected unit is operating, except during periods of startup and shutdown. The affected unit and any associated air pollution control equipment shall be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the MDED that may include, but is not limited to, monitoring results, review of operation and maintenance procedures,

review of operation and maintenance records, and inspection of the source.

(Ref.: 40 CFR 63.7480, 63.7485, 63.7490(a)(1) and (d), 63.7491(j), 63.7499(l), 63.7500(a), (a)(1) and (3), (e), and (f), and 63.7505(a), Subpart DDDDD)

- 3.B.27 Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012 are subject to and shall comply with all applicable requirements of 40 CFR 64, Compliance Assurance Monitoring (CAM).

(Ref.: 40 CFR 64.2(a), Compliance Assurance Monitoring)

C. INSIGNIFICANT AND TRIVIAL ACTIVITY EMISSION LIMITATIONS & STANDARDS

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

3.C.1 The maximum permissible emission of ash and/or particulate matter (PM) from fossil fuel burning installations of less than ten (10) million BTU (MMBTU) per hour heat input shall not exceed 0.6 pounds per MMBTU 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 MMBTU 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	Pollutant / Parameter	Limit / Standard
AB-010	40 CFR 63.6602, 63.6625(i), and Item 1 and Footnotes 1 and 2 of Table 2c, Subpart ZZZZ	3.D.1	HAP	Maintenance requirements
	40 CFR 63.6625(e)(2) and (h), 63.6640(a), and Table 6, Subpart ZZZZ	3.D.2		Operating requirements
AB-011	40 CFR 63.7500(a)(1), 63.7515(d), 63.7540(a)(10) and (13), Subpart DDDDD	3.D.3	HAP	Tune-up frequency
	40 CFR 63.7540(a)(10)(i)-(vi), Subpart DDDDD	3.D.4		Tune-up requirements

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 within one (1) year plus 30 days of the previous change, whichever comes first or perform an oil analysis in the same frequency in order to extend the oil change requirement in accordance with 40 CFR 63.6625(i).
- (b) Inspect air cleaner every 1,000 hours of operation or within one (1) year plus 30 days of the previous inspection, whichever comes first, and replace as necessary.
- (c) Inspect all hoses and belts every 500 hours of operation or within one (1) year plus 30 days of the previous inspection, whichever comes first and replace as necessary.

If the emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required above, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, state, or local law has abated.

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

3.D.2 For Emission Point AB-010, the permittee shall operate and maintain the engine according to the manufacturer’s emission-related written instructions or develop a 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 practices

for minimizing emissions. The permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

(Ref.: 40 CFR 63.6625(e) and (h), 63.6640(a), and Table 6, Subpart ZZZZ)

- 3.D.3 For Emission Point AB-011, the permittee shall conduct a tune-up on the boiler once every five (5) years in accordance with Condition 3.D.4. Each subsequent tune-up must be completed no more than 61 months after the previous tune-up. If the boiler is not operating on the required date for a tune-up, the permittee shall conduct the required tune-up within 30 calendar days of startup.

(Ref.: 40 CFR 63.7500(a)(1), 63.7515(d), 63.7540(a)(10) and (13), Subpart DDDDD)

- 3.D.4 For Emission Point AB-011, each tune-up shall consist of the following:

- (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<sub>x</sub> 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 onsite 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 63.7540(a)(10)(i)-(vi), 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 terms and conditions contained in this permit (including emission limitations, standards, or work practices) by January 31 of each year for the preceding calendar year. If the permit was reissued or modified during the course of the preceding calendar year, the compliance certification shall address each version of the permit. Each compliance certification shall include the following information:
- (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), and (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 the following information:

- (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 of each calendar year 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 Regulation 11 Miss. Admin. Code Pt. 2, R. 6.2.E.

For applicable periodic reporting requirements in 40 CFR Parts 60, 61, and 63, the permittee shall comply with the deadlines in this condition for reporting conducted on a semiannual basis. Additionally, any required quarterly reports shall be submitted by the end of the month following each calendar quarter period (i.e., April 30, July 31, October

31, and January 31), and any required annual reports shall be submitted by January 31 following each calendar year.

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

(Ref.: 40 CFR 60.19(c), 61.10(g), and 63.10(a)(5))

- 5.A.5 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements (including those attributable to upsets), the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall be made within five (5) working 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 respective versions (or their equivalents) approved by the EPA.

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

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

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

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

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

**B. SPECIFIC MONITORING AND RECORDKEEPING REQUIREMENTS**

<b>Emission Point(s)</b>	<b>Applicable Requirement</b>	<b>Condition Number</b>	<b>Pollutant / Parameter Monitored</b>	<b>Monitoring / Recordkeeping Requirement</b>
AB-011	40 CFR 60.48b(g)(1), (b)(1), (c), (d), (e), and (f), Subpart Db	5.B.1	NO <sub>x</sub>	Monitor emissions using a CEMS
	40 CFR 60.49b(d)(1), Subpart Db	5.B.2		Monitor and maintain fuel usage records
	40 CFR 60.49b(g), Subpart Db	5.B.3		Recordkeeping requirements
	11 Miss. Admin. Code, Pt. 2, R. 6.3.A(3).	5.B.4		Emission monitoring
AB-012	40 CFR 60.48c(g)(2), Subpart Dc	5.B.5	NO <sub>x</sub> PM SO <sub>2</sub>	Applicability determination
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.6	Boiler information Hours of Operation Fuel Usage	Recordkeeping requirements
		5.B.7	NO <sub>x</sub>	Recordkeeping requirement
AE-005	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.8	Fuel Usage	Monitor and maintain fuel usage records
AH-002	11 Miss. Admin. Code Pt. 2, R. 2.15.C., as established in the TVOP issued June 27, 2013, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.9	PM/PM <sub>10</sub> (filterable)	Performance testing requirements
AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.10	VOC	Performance testing requirements
AJ-008	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.11	Operating restriction	Monitor and maintain records of hours of operation
		5.B.12	PM/PM <sub>10</sub> (filterable)	Inspection and maintenance requirements
AB-010 AE-005	40 CFR 63.6625(f) and 63.6655(f)(1), Subpart ZZZZ and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).	5.B.13	HAP	Install non-resettable hour meter and record hours of operation
	40 CFR 63.6655(a)(1), (2), and (5) and (e)(2) and 63.6660, Subpart ZZZZ	5.B.14		General recordkeeping

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Monitoring / Recordkeeping Requirement
AI-013 AI-014	40 CFR 60.4209(a) and 60.4214(b), Subpart III	5.B.15	NMHC+NO <sub>x</sub> PM (filterable) CO SO <sub>2</sub>	Install non-resettable hour meter and record hours of operation
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.16		Keep engine certification documentation and fuel sulfur content records
AB-011	40 CFR 63.7555(a)(1) and (2) and 63.7560, Subpart DDDDD	5.B.17	HAP	General recordkeeping requirements
AH-002 AI-001 AI-002 AI-006 AI-007	40 CFR 64.3(a) and (b), 64.6(c), CAM	5.B.18	Sodium Chlorate Concentration	Daily sampling and analysis
AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012		5.B.19	Temperature	Monitor temperature on a daily basis
AH-002 AI-001 AI-006 AI-007 AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012	40 CFR 64.7(b) and (c), CAM	5.B.20	Operation & Maintenance	Operation and maintenance requirements for monitoring system(s)
	40 CFR 64.7(d), CAM	5.B.21	Corrective Action	Corrective Action response to an excursion/exceedance of a CAM indicator
	40 CFR 64.8, CAM	5.B.22	QIP	Upon request by MDEQ, develop a Quality Improvement Plan (QIP)
	40 CFR 64.9(b), CAM	5.B.23	CAM Records	Maintain CAM records as specified

5.B.1 For Emission Point AB-011, the permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring NO<sub>x</sub> and CO (or CO<sub>2</sub>) emissions discharged into 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<sub>x</sub> emission rates measured by the NO<sub>x</sub> CEMS shall be expressed in lb/MMBtu heat input and shall be used to calculate the average emission rates under 40 CFR 60.44b. The 1-hour averages shall be calculated using the data points required under 40 CFR 60.13(h)(2).

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<sub>x</sub> shall be 500 ppm. When NO<sub>x</sub> emissions data is not obtained because of a CEMS breakdown, repair, calibration checks and zero and span adjustments, emissions data will be obtained by

using standby monitoring systems, Method 7 or 7A of Appendix A in 40 CFR 60, or other approved reference methods to provide emissions 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(g)(1), (b)(1), (c), (d), (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 in (a) through (j) below for each steam generating unit operating day.

- (a) Calendar date;
- (b) The average hourly NO<sub>x</sub> emission rates (expressed as NO<sub>2</sub>) (ng/J or lb/MMBtu heat input) measured or predicted;
- (c) The 30-day average NO<sub>x</sub> emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;
- (d) Identification of the steam generating unit operating days when the calculated 30-day average NO<sub>x</sub> emission rates are in excess of the NO<sub>x</sub> emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;
- (e) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;
- (f) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
- (g) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;
- (h) Identification of the times when the pollutant concentration exceeded full span of the CEMS;
- (i) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and
- (j) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Appendix F, Procedure 1 of 40 CFR 60.

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

- 5.B.4 For Emission Point AB-011, the permittee shall use the NO<sub>x</sub> CEMS required in Condition 5.B.1 to demonstrate compliance with the lbs/MMBtu, lbs/hr, and tons per year NO<sub>x</sub> emission limits contained in Condition 3.B.5. The lbs/MMBtu and lbs/hr emissions shall be determined on an hourly basis and shall be used to calculate the 3-hour rolling average emissions of NO<sub>x</sub>. The permittee shall also determine the total NO<sub>x</sub> emissions for each calendar month and use these emission totals to determine the 12-month rolling total emissions in tons per year.

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

- 5.B.5 For Emission Point AB-012, for each temporary boiler used the permittee shall determine applicability of the unit to the 40 CFR 60, Subpart Dc requirements as required in Condition 3.B.12. At a minimum, the permittee shall monitor and keep records of the amount of natural gas combusted each calendar month. If there are no applicable Subpart Dc requirements, then the permittee shall keep records documenting why the boiler is not subject to the Subpart Dc requirements.

(Ref.: 40 CFR 60.48c(g)(2), Subpart Dc)

- 5.B.6 For Emission Point AB-012, the permittee shall maintain the following records:
- (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) Documentation which contains a 40 CFR 60, Subpart Dc applicability determination for each temporary boiler.
  - (d) The hours of operation on a daily basis and a cumulative total.
  - (e) The total amount of natural gas combusted during the time the boiler is onsite.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

- 5.B.7 For Emission Point AB-012, the permittee shall record and maintain records of the maximum hourly NO<sub>x</sub> emission rate as provided by the manufacturer, and the consecutive 12-month rolling total NO<sub>x</sub> emission rate in tons per year. The manufacturer's documentation used to determine the hourly NO<sub>x</sub> emission rate and the calculations documenting the annual NO<sub>x</sub> emission rate shall accompany this data.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)., as established in the federally enforceable Permit to Construct issued February 13, 2007, and modified on January 4, 2011, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

- 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).)

- 5.B.9 For Emission Point AH-002, the permittee shall demonstrate compliance with the PM/PM<sub>10</sub> (filterable) emission limits by performance testing in accordance with EPA Reference Methods 1-5 from 40 CFR 60, Appendix A once every five (5) years not to exceed 61 months from the previous performance test. The permittee shall operate the source at maximum capacity and monitor the sodium chlorate concentrations during each performance test.

The permittee shall demonstrate compliance with the opacity limit (i.e., 40%) by performing a visible emissions evaluation (VEE) in accordance with EPA Reference Method 9 found in 40 CFR 60, Appendix A. The minimum total time of all observations shall be three (3) hours (i.e., thirty (30) 6-minute averages). The VEE shall be conducted concurrently with the PM performance testing required in the paragraph above. However, if visibility or other conditions prevent the opacity observations from being performed concurrently with the performance test, the permittee shall reschedule the opacity observations as soon after the performance testing as possible, but not later than thirty (30) days thereafter. The opacity observation shall be conducted (to the extent possible) under the same operating conditions that existed during the performance test.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.15.C., as established in the TVOP issued June 27, 2013, and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

- 5.B.10 For Emission Points AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, the permittee shall demonstrate compliance with the VOC emission limits by performance testing in accordance with EPA Reference Method 25 found in 40 CFR 60, Appendix A once every five (5) years not to exceed 61 months from the previous stack test. The permittee shall operate the sources at maximum capacity during each performance test.

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

- 5.B.11 For Emission Point AJ-008, the permittee shall monitor and maintain records documenting the hours of operation for the process on a 12-month rolling total. Additionally, the permittee shall keep records identifying any instance (i.e., date and duration) in which the process was in operation and the baghouse was not. Such records shall also include an explanation as to why the baghouse was not operational and what corrective actions were taken to return it to operation.

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

- 5.B.12 For Emission Point AJ-008, the permittee shall operate and maintain the baghouse in accordance with the manufacturer's specifications. The permittee shall perform monthly

inspections and any 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).)

- 5.B.13 For Emission Points AB-010 and AE-005, the permittee shall install a non-resettable hour meter on the engine, if one is not already installed. The permittee shall keep records of the hours of operation of the engine that are recorded through the hour meter. The permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation.

(Ref.: 40 CFR 63.6625(f) and 63.6655(f)(1), Subpart ZZZZ and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

- 5.B.14 For Emission Point AB-010, the permittee shall keep the following records:

- (a) A copy of each notification and report submitted to comply with Subpart ZZZZ;
- (b) Records of the occurrence and duration of each malfunction of the engine or hour meter;
- (c) Records of any actions taken during periods of malfunction to minimize emissions, including corrective actions to restore a malfunctioning engine or hour meter to its normal manner of operation; and
- (d) Records of the maintenance conducted on the engine in order to demonstrate the engine was operated and maintained in accordance with the maintenance plan.

All records shall be in a form suitable and ready for expeditious review for a period of five (5) years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. These records may be kept in an electronic or hard copy format.

(Ref.: 40 CFR 63.6655(a)(1), (2), and (5) and (e)(2) and 63.6660, Subpart ZZZZ)

- 5.B.15 For Emission Points AI-013 and AI-014, the permittee shall install a non-resettable hour meter and keep records of the hours of operation recorded through the hour meter. These records shall also document the reason the engine was operating and identify whether the operation was in emergency or non-emergency service.

(Ref.: 40 CFR 60.4209(a) and 60.4214(b), Subpart IIII)

- 5.B.16 For Emission Points AI-013 and AI-014, the permittee shall maintain records onsite that demonstrate the engine is certified to meet the applicable emission standards and records

that demonstrate the diesel fuel being fired in the engine meets the applicable sulfur content requirements.

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

5.B.17 For Emission Point AB-011, the permittee shall keep records of the following:

- (a) A copy of each notification and report submitted to comply with Subpart DDDDD, including all information supporting the Notification of Compliance Status or semiannual compliance report.
- (b) Records of compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

These records shall be in a form suitable and readily available for review for a period of five (5) years following the date of each occurrence, measurement, maintenance corrective action, report, or record. These records must be kept onsite, or must be accessible from onsite, for at least two (2) years after the date of each, and then they may be kept off-site for the remaining three (3) years.

(Ref.: 40 CFR 63.7555(a)(1) and (2) and 63.7560, Subpart DDDDD)

5.B.18 For Emission Points AH-002, AI-001, AI-006, and AI-007, the permittee shall monitor the sodium chlorate concentration on a daily basis in accordance with the CAM Plan found in Appendix C of the permit.

(Ref.: 40 CFR 64.3(a) and (b), 64.6(c), CAM)

5.B.19 For Emission Points AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, the permittee shall monitor the temperature of each carbon adsorption bed continuously in accordance with the CAM Plan found in Appendix C of the permit.

(Ref.: 40 CFR 64.3(a) and (b), 64.6(c), CAM)

5.B.20 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, the permittee shall comply with the following requirements for the monitoring required by the approved CAM Plan:

- (a) *Proper maintenance.* At all times, the permittee shall maintain the monitoring equipment, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (b) *Continued operation.* Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including,

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

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

- 5.B.21 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

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

(Ref.: 40 CFR 64.7(d), Compliance Assurance Monitoring)

- 5.B.22 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, based on the results of a determination made under Condition 5.B.21, MDEQ may require the permittee to develop and implement a Quality Improvement Plan (QIP) containing the elements specified in 40 CFR 64.8(b). The QIP shall be developed and implemented within 180 days of written notification from MDEQ that a QIP is required. MDEQ may require the permittee to make reasonable changes to the QIP if the QIP fails to address the cause of the control device performance problem or fails to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Implementation of a QIP shall not excuse the

permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that applies.

(Ref.: 40 CFR 64.8, Compliance Assurance Monitoring)

- 5.B.23 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, the permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written QIP required pursuant to Condition 5.B.22 and any activities undertaken to implement a QIP, data used to document the adequacy of monitoring, and monitoring maintenance or corrective actions, as applicable. As applicable, records of monitoring data and monitoring performance data should include date and time, who performed the analysis, analytical techniques or methods used, results and operating conditions at the time of the sampling or measurement. These records may be maintained in hard copy form or electronically, provided they are available for expeditious inspection and review.

(Ref.: 40 CFR 64.9(b), Compliance Assurance Monitoring)

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	NO <sub>x</sub>	Semiannual report
AB-012	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.2	Boiler Information Fuel Usage NO <sub>x</sub>	Semiannual report
AE-005	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.3	Fuel Usage	Semiannual report
AH-002 AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.4	PM/PM <sub>10</sub> (filterable)  VOC	Performance test submittal requirements
AJ-008	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.5	Hours of operation  PM/PM <sub>10</sub> (filterable)	Semiannual report
AB-011	40 CFR 63.7550(a), (b)(5), (c)(1) and (5)(i)-(iii), (xiv), and (xvii), (h)(3), and Table 9, Subpart DDDDD	5.C.6	HAP	5-year compliance report
AB-010 AE-005	40 CFR 63.6640(b), 63.6650(f), and Footnote 1 to Table 2c, Subpart ZZZZ and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.7	HAP	Annual report of hours of operation each calendar year and reason for operation
AI-013 AI-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).	5.C.8	NMHC+NO <sub>x</sub> PM (filterable) CO SO <sub>2</sub>	Semiannual report
AH-002 AI-001 AI-006	40 CFR 64.9(a), CAM	5.C.9	CAM Reporting	Semiannual reporting requirements
AI-007 AJ-001 AJ-002 AJ-003 AJ-004 AJ-011 AJ-012	40 CFR 64.7(e), CAM	5.C.10	CAM Modification	Promptly notify MDEQ of failure to achieve limit/standard though no excursion or exceedance was indicated by approved monitoring

5.C.1 For Emission Point AB-011, the permittee shall submit semiannual reports in accordance with Condition 5.A.4 which contains a summary of the information required to be

obtained by the CEMS in Conditions 5.B.1 and 5.B.3.

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

- 5.C.2 For Emission Point AB-012, the permittee shall submit a semiannual report in accordance with Condition 5.A.4 which contains the information required in Condition 5.B.6 (a) through (c), a summary of the fuel usage, hours of operation, and a summary of the NO<sub>x</sub> emissions as specified in Condition 5.B.7 for any temporary boilers used during the reporting period.

(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 semiannual report in accordance with Condition 5.A.4 which summarizes the type, amount, and sulfur content of the fuel that was fired during the reporting period.

(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-011, and AJ-012, the permittee shall submit the following information for all performance tests:

- (a) 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 MDEQ. For subsequent tests, the submittal of the test protocol requirement may be waived provided the protocol will not change and a request confirming such is made to the MDEQ.
- (b) The permittee shall submit a notice to the MDEQ 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).
- (c) In the event the VEE required in Condition 5.B.9 has to be delayed and will not be completed in conjunction with the required performance test, the permittee shall notify the MDEQ of the rescheduled date for the VEE.
- (d) All performance test reports shall be submitted to the MDEQ within sixty (60) days of completion of the performance test(s).

(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 submit a semiannual report in accordance with Condition 5.A.4 which summarizes the 12-month rolling totals of hours of operation for each month in the reporting period.

(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 a 5-year compliance report by January 31<sup>st</sup> of the year which follows the date the required tune-up was completed. The compliance report shall contain 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 end dates of the reporting period;
- (d) The date of the most recent tune-up and the date of the most recent burner inspection if it was not done on the date of the tune-up; and
- (e) A statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

The 5-year compliance report shall also be submitted electronically to the EPA via the CEDRI and in accordance with 63.7550(h)(3).

(Ref.: 40 CFR 63.7550(a), (b)(5), (c)(1) and (5)(i)-(iii), (xiv), and (xvii), (h)(3), and Table 9, Subpart DDDDD)

5.C.7 For Emission Points AB-010 and AE-005, the permittee shall submit semiannual reports in accordance with Condition 5.A.4 summarizing the hours of operation of the engine in the calendar year. This report shall also include what hours were for emergency use and what constituted the emergency and what hours were for non-emergency use.

For Emission Point AB-010, this report shall also include all deviations from any emission or operating limitation of Subpart ZZZZ. Such deviations shall include any failure to perform the work practice on the required schedule. In the event a work practice is delayed because the engine is operating during an emergency or if performing the work practice on the required work schedule posed an unacceptable risk under federal, state, or local law, the permittee shall include in the report the reason for the delay.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1). and 40 CFR 63.6640(b), 63.6650(f), and Footnote 1 to Table 2c, Subpart ZZZZ)

5.C.8 For Emission Points AI-013 and AI-014, the permittee shall submit semiannual reports in accordance with Condition 5.A.4 summarizing the hours of operation of the engine in the calendar year. This report should also include what hours were for emergency use and what constituted the emergency and what hours were for non-emergency use.

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

5.C.9 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, the permittee shall submit semiannual reports in accordance with Condition 5.A.4 containing the following information, as applicable:

- (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 Condition 5.B.22. 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), Compliance Assurance Monitoring)

5.C.10 For Emission Points AH-002, AI-001, AI-006, AI-007, AJ-001, AJ-002, AJ-003, AJ-004, AJ-011, and AJ-012, if the permittee identifies a failure to achieve compliance with the emission limitation or standard for which the approved CAM monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or monitoring additional parameters.

(Ref.: 40 CFR 64.7(e), Compliance Assurance Monitoring)

**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 MDEQ 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 containing class I, class II or non-exempt substitute refrigerants;
  - (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

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
EPA	Environmental Protection Agency
gr./dscf	Grains Per Dry Standard Cubic Foot
HP	Horsepower
HAP	Hazardous Air Pollutant
lb./hr	Pounds per Hour
M or K	Thousand
MACT	Maximum Achievable Control Technology
MDEQ	Mississippi Department of Environmental Quality
MM	Million
MMBTU/H	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 Part 61; or National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR Part 63
NM VOC	Non-Methane Volatile Organic Compounds
NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR Part 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 µm in diameter
PM <sub>2.5</sub>	Particulate Matter less than 2.5 µm in diameter
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOHAP	Volatile Organic Hazardous Air Pollutant
VOC	Volatile Organic Compound

## **APPENDIX B**

### **List of Regulations Referenced In this Permit**

11 Miss. Admin. Code, Part 2, Ch. 1. – Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants (Amended May 24, 2018)

11 Miss. Admin. Code, Part 2, Ch. 2. – Permit Regulations for the Construction and/or Operation of Air Emissions Equipment (Amended July 28, 2005)

11 Miss. Admin. Code, Part 2, Ch. 5. - Regulations for the Prevention of Significant Deterioration of Air Quality (Amended April 28, 2016)

11 Miss. Admin. Code, Part 2, Ch. 6. – Air Emission Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act (Amended February 24, 2022)

40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

40 CFR 63, Subpart DDDDD, NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines

40 CFR 64, Compliance Assurance Monitoring

40 CFR 82, Protection of Stratospheric Ozone

## **APPENDIX C**

### **Compliance Assurance Monitoring (CAM) Plan**

**Nouryon Pulp and Performance Chemicals, LLC  
Air Title V Operating Permit No. 1680-00005**

**Compliance Assurance Monitoring Plan**

**November 2023**

## TABLE OF CONTENTS: CAM PLANS

EMISSION POINT:	AH-002 .....	3
EMISSION POINT:	AI-001 AND AI-007 .....	5
EMISSION POINT:	AI-006 .....	7
EMISSION POINT:	AJ-001 .....	9
EMISSION POINT:	AJ-002 THROUGH AJ-004.....	12
EMISSION POINT:	AJ-011 AND AJ-012 .....	15

**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): 3.23 lb/hr, 14.15 TPY  
 Monitoring Requirements: Sodium chlorate concentration in the scrubbing liquid and stack testing

**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 and stack test results.

TABLE AH-002-1. MONITORING APPROACH

	Indicator No. 1	Indicator No. 2
I. Indicator	Concentration of sodium chlorate in the scrubbing liquid	Stack test results
Measurement Approach	Laboratory analysis	Exhaust sampling and analysis
II. Indicator Range	An excursion is defined as a laboratory result greater than 700 g/L sodium chlorate concentration in the scrubbing liquid	An excursion is defined as a stack test result greater than 3.23 lb/hr
III. Performance Criteria		
A. Data Representativeness	The sample is taken from the scrubber circulation	Stack testing is performed at the scrubber exhaust at full capacity of the facility
B. Verification of Operational Status	Not applicable	Not applicable
C. QA/QC Practice and Criteria	Laboratory training and procedures	DEQ approved testing protocol
D. Monitoring Frequency and Data Collection Procedures	Daily sampling and analysis	One stack test during the permit period. Data collection per the approved protocol

**Nouryon Pulp and Performance Chemicals, LLC**  
**Columbus, Mississippi**

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 stack testing of the scrubber exhaust and 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-001 and 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):  $E = 4.1p^{0.67}$   
 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	The sample is taken from the scrubber circulation of the first stage of the scrubber
A. Data Representativeness	
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

**Nouryon Pulp and Performance Chemicals, LLC**  
**Columbus, Mississippi**

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): E = 4.1p0.67  
 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	The sample is taken from the scrubber circulation of the first stage of the scrubber
A. Data Representativeness	
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

**Nouryon Pulp and Performance Chemicals, LLC**  
**Columbus, Mississippi**

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 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 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 condenser performance in removing 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; stack testing.

**C. Control Technology**

Carbon Adsorption

**Nouryon Pulp and Performance Chemicals, LLC**  
**Columbus, Mississippi**

**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 deviation 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-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 and AJ-012, 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; stack testing.

**C. Control Technology**

Carbon Adsorption

**Nouryon Pulp and Performance Chemicals, LLC  
Columbus, Mississippi**

**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.