

**STATE OF MISSISSIPPI
AIR POLLUTION CONTROL
TITLE V PERMIT**

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

TVA Caledonia Combined Cycle Plant
255 Lone Oak Road
Steens, Mississippi
Lowndes County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with Title V of the Federal Clean Air Act (42 U.S.C.A. § 7401 - 7671) and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Permit Issued: MAY 15 2015

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires: APR 30 2020

Permit No.: 1680-00053

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APPENDIX A LIST OF ABBREVIATIONS USED IN THIS PERMIT

APPENDIX B ACID RAIN PROGRAM PERMIT

SECTION 1. GENERAL CONDITIONS

- 1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(a).)
- 1.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(b).)
- 1.3 This permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(c).)
- 1.4 (a) This permit shall be reopened and revised under any of the following circumstances:
 - (1) Additional applicable requirements under the Federal Act become applicable to a major Title V source with a remaining permit term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended.
 - (2) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - (3) The Permit Board or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit.
 - (4) The Administrator or the Permit Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
 - (b) Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall only affect those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
 - (c) Reopenings shall not be initiated before a notice of such intent is provided to the Title

V source by the DEQ at least 30 days in advance of the date that the permit is to be reopened, except that the Permit Board may provide a shorter time period in the case of an emergency.

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

- 1.5 The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permittee or, for information to be confidential, the permittee shall furnish such records to DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(e).)
- 1.6 This permit does not convey any property rights of any sort, or any exclusive privilege. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(d).)
- 1.7 The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(5).)
- 1.8 The permittee shall pay to the DEQ an annual permit fee. The amount of fee shall be determined each year based on the provisions of regulated pollutants for fee purposes and the fee schedule specified in the Commission on Environmental Quality's order which shall be issued in accordance with the procedure outlined in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6.)
 - (a) For purposes of fee assessment and collection, the permittee shall elect for actual or allowable emissions to be used in determining the annual quantity of emissions unless the Commission determines by order that the method chosen by the applicant for calculating actual emissions fails to reasonably represent actual emissions. Actual emissions shall be calculated using emission monitoring data or direct emissions measurements for the pollutant(s); mass balance calculations such as the amounts of the pollutant(s) entering and leaving process equipment and where mass balance calculations can be supported by direct measurement of process parameters, such direct measurement data shall be supplied; published emission factors such as those relating release quantities to throughput or equipment type (e.g., air emission factors); or other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgments where such judgments are derived from process and/or emission data which supports the estimates of maximum actual emission. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

- (b) If the Commission determines that there is not sufficient information available on a facility's emissions, the determination of the fee shall be based upon the permitted allowable emissions until such time as an adequate determination of actual emissions is made. Such determination may be made anytime within one year of the submittal of actual emissions data by the permittee. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).) If at any time within the year the Commission determines that the information submitted by the permittee on actual emissions is insufficient or incorrect, the permittee will be notified of the deficiencies and the adjusted fee schedule. Past due fees from the adjusted fee schedule will be paid on the next scheduled quarterly payment time. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D(2).)
 - (c) The fee shall be due September 1 of each year. By July 1 of each year the permittee shall submit an inventory of emissions for the previous year on which the fee is to be assessed. The permittee may elect a quarterly payment method of four (4) equal payments; notification of the election of quarterly payments must be made to the DEQ by the first payment date of September 1. The permittee shall be liable for penalty as prescribed by State Law for failure to pay the fee or quarterly portion thereof by the date due. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D.)
 - (d) If in disagreement with the calculation or applicability of the Title V permit fee, the permittee may petition the Commission in writing for a hearing in accordance with State Law. Any disputed portion of the fee for which a hearing has been requested will not incur any penalty or interest from and after the receipt by the Commission of the hearing petition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.C.)
- 1.9 No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(8).)
- 1.10 Any document required by this permit to be submitted to the DEQ shall contain a certification by a responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.2.E.)
- 1.11 The permittee shall allow the DEQ, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- (a) enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - (b) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - (d) as authorized by the Federal Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(2).)
- 1.12 Except as otherwise specified or limited herein, the permittee shall have necessary sampling ports and ease of accessibility for any new air pollution control equipment, obtained after May 8, 1970, and vented to the atmosphere. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(1).)
- 1.13 Except as otherwise specified or limited herein, the permittee shall provide the necessary sampling ports and ease of accessibility when deemed necessary by the Permit Board for air pollution control equipment that was in existence prior to May 8, 1970. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(2).)
- 1.14 Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance where such applicable requirements are included and are specifically identified in the permit or where the permit contains a determination, or summary thereof, by the Permit Board that requirements specifically identified previously are not applicable to the source. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(1).)
- 1.15 Nothing in this permit shall alter or affect the following:
 - (a) the provisions of Section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section;
 - (b) the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 - (c) the applicable requirements of the acid rain program, consistent with Section 408(a) of the Federal Act.
 - (d) the ability of EPA to obtain information from a source pursuant to Section 114 of the Federal Act. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(2).)
- 1.16 The permittee shall comply with the requirement to register a Risk Management Plan if permittee's facility is required pursuant to Section 112(r) of the Act to register such a plan. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.H.)
- 1.17 Expiration of this permit terminates the permittee's right to operate unless a timely and complete renewal application has been submitted. A timely application is one which is

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

- 1.18 The permittee is authorized to make changes within their facility without requiring a permit revision (ref: Section 502(b)(10) of the Act) if:
- (a) the changes are not modifications under any provision of Title I of the Act;
 - (b) the changes do not exceed the emissions allowable under this permit;
 - (c) the permittee provides the Administrator and the Department with written notification in advance of the proposed changes (at least seven (7) days, or such other time frame as provided in other regulations for emergencies) and the notification includes:
 - (1) a brief description of the change(s),
 - (2) the date on which the change will occur,
 - (3) any change in emissions, and
 - (4) any permit term or condition that is no longer applicable as a result of the change;
 - (d) the permit shield shall not apply to any Section 502(b)(10) change. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.F(1).)
- 1.19 Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in 11 Miss. Admin. Code Pt. 2, Ch. 3., "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared. (Ref.: 11 Miss. Admin. Code Pt. 2, Ch. 3.)
- 1.20 Except as otherwise provided herein, a modification of the facility may require a Permit to Construct in accordance with the provisions of Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2., "Permit Regulations for the Construction and/or Operation of Air Emissions Equipment", and may require modification of this permit in accordance with Regulations 11 Miss. Admin. Code Pt. 2, Ch. 6., "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act". Modification is defined as "[a]ny physical change in or

change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

- (a) routine maintenance, repair, and replacement;
- (b) use of an alternative fuel or raw material by reason of an order under Sections 2 (a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;
- (c) use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;
- (d) use of an alternative fuel or raw material by a stationary source which:
 - (1) the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166; or
 - (2) the source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166;
- (e) an increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166; or
- (f) any change in ownership of the stationary source."

- 1.21 Any change in ownership or operational control must be approved by the Permit Board. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.D(4).)
- 1.22 This permit is a Federally approved operating permit under Title V of the Federal Clean Air Act as amended in 1990. All terms and conditions, including any designed to limit the source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act as well as the Commission. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.B(1).)
- 1.23 Except as otherwise specified or limited herein, the open burning of residential, commercial, institutional, or industrial solid waste, is prohibited. This prohibition does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, debris from emergency clean-up operations, and

ordnance. Open burning of land-clearing debris must not use starter or auxiliary fuels which cause excessive smoke (rubber tires, plastics, etc.); must not be performed if prohibited by local ordinances; must not cause a traffic hazard; must not take place where there is a High Fire Danger Alert declared by the Mississippi Forestry Commission or Emergency Air Pollution Episode Alert imposed by the Executive Director and must meet the following buffer zones.

- (a) Open burning without a forced-draft air system must not occur within 500 yards of an occupied dwelling.
- (b) Open burning utilizing a forced-draft air system on all fires to improve the combustion rate and reduce smoke may be done within 500 yards of but not within 50 yards of an occupied dwelling.
- (c) Burning must not occur within 500 yards of commercial airport property, private air fields, or marked off-runway aircraft approach corridors unless written approval to conduct burning is secured from the proper airport authority, owner or operator. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.G.)

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

- (a) Except as otherwise specified herein, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- (b) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (c) following are met.
- (c) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
 - (1) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - (2) the permitted facility was at the time being properly operated;
 - (3) during the period of the emergency the permittee took all reasonable steps to

minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- (4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
 - (d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.G.)
- 1.25 Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, shutdowns and maintenance.
- (a) Upsets (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.KK.)
 - (1) The occurrence of an upset constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards or other requirements of Applicable Rules and Regulations or any applicable permit if the permittee demonstrates through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
 - (i) an upset occurred and that the permittee can identify the cause(s) of the upset;
 - (ii) the source was at the time being properly operated;
 - (iii) during the upset the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit;
 - (iv) the permittee submitted notice of the upset to the DEQ within 5 working days of the time the upset began; and
 - (v) the notice of the upset shall contain a description of the upset, any steps taken to mitigate emissions, and corrective actions taken.
 - (2) In any enforcement proceeding, the permittee 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.
- (b) Startups and Shutdowns (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.HH. & R. 1.2.CC.)
 - (1) Startups and shutdowns are part of normal source operation. Emissions limitations applicable to normal operation apply during startups and shutdowns except as follows:
 - (i) when sudden, unavoidable breakdowns occur during a startup or shutdown, the event may be classified as an upset subject to the requirements above;
 - (ii) when a startup or shutdown is infrequent, the duration of excess emissions is brief in each event, and the design of the source is such that the period of excess emissions cannot be avoided without causing damage to equipment or persons; or
 - (iii) when the emissions standards applicable during a startup or shutdown are defined by other requirements of Applicable Rules and Regulations or any applicable permit.
 - (2) In any enforcement proceeding, the permittee seeking to establish the applicability of any exception during a startup or shutdown has the burden of proof.
 - (3) In the event this startup and shutdown provision conflicts with another applicable requirement, the more stringent requirement shall apply.
- (c) Maintenance.
 - (1) Maintenance should be performed during planned shutdown or repair of process equipment such that excess emissions are avoided. Unavoidable maintenance that results in brief periods of excess emissions and that is necessary to prevent or minimize emergency conditions or equipment malfunctions constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards, or other regulatory requirements if the permittee can demonstrate the following:
 - (i) the permittee can identify the need for the maintenance;

- (ii) the source was at the time being properly operated;
 - (iii) during the maintenance the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit;
 - (iv) the permittee submitted notice of the maintenance to the DEQ within 5 working days of the time the maintenance began or such other times as allowed by DEQ; and
 - (v) the notice shall contain a description of the maintenance, any steps taken to mitigate emissions, and corrective actions taken.
- (2) In any enforcement proceeding, the permittee seeking to establish the applicability of this section has the burden of proof.
- (3) In the event this maintenance provision conflicts with another applicable requirement, the more stringent requirement shall apply. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

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

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

| Emission Point | Description |
|----------------------------|--|
| AA-001 | Nominal 1,700 MMBTU/hr GE Model PG7241FA combustion turbine fueled by natural gas and a 265 MMBTU/hr duct burner, with a heat recovery steam generator (HRSG) unit. The turbine is equipped with dry low NOx burners and the exhaust stream of the combined cycle system is controlled by selective catalytic reduction (SCR) for control of NOx emissions. (Ref. Generating Unit 001) |
| AA-002 | Nominal 1,700 MMBTU/hr GE Model PG7241FA combustion turbine fueled by natural gas and a 265 MMBTU/hr duct burner, with a heat recovery steam generator (HRSG) unit. The turbine is equipped with dry low NOx burners and the exhaust stream of the combined cycle system is controlled by selective catalytic reduction (SCR) for control of NOx emissions. (Ref. Generating Unit 002) |
| AA-003 | Nominal 1,700 MMBTU/hr GE Model PG7241FA combustion turbine fueled by natural gas and a 265 MMBTU/hr duct burner, with a heat recovery steam generator (HRSG) unit. The turbine is equipped with dry low NOx burners and the exhaust stream of the combined cycle system is controlled by selective catalytic reduction (SCR) for control of NOx emissions. (Ref. Generating Unit 003) |
| AA-004 | 20 MMBTU/hr Vapor Power, Inc. Natural Gas-Fired Auxiliary Boiler equipped with low NOx burners. (Ref. Auxiliary Boiler AB-1) |
| AA-005 | 8.4 MMBTU/hr Diesel Powered Backup Emergency Generator for Critical Plant Systems |
| AA-006 | 2.0 MMBTU/hr Diesel Powered Fire Water Pump |
| AA-007 AA-008 AA-009 | Non-Contact Cooling Towers for Generating Units 1 through 3 |

SECTION 3. EMISSION LIMITATIONS & STANDARDS

A. Facility-Wide Emission Limitations & Standards

- 3.A.1 Except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity subject to the exceptions provided in (a) & (b).
- (a) Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period.
 - (b) Emissions resulting from soot blowing operations shall be permitted provided such emissions do not exceed 60 percent opacity, and provided further that the aggregate duration of such emissions during any twenty-four (24) hour period does not exceed ten (10) minutes per billion BTU gross heating value of fuel in any one hour. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)
- 3.A.2 Except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Paragraph 3.A.1. This shall not apply to vision obscuration caused by uncombined water droplets. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

B. Emission Point Specific Emission Limitations & Standards

| Emission Point(s) | Applicable Requirement | Condition Number(s) | Pollutant/Parameter | Limit/Standard |
|----------------------------|--|--|---------------------|---|
| AA-001 AA-002 AA-003 | PSD Construction Permit issued on March 27, 2001 and modified on July 27, 2001, and October 10, 2003. 40 CFR 60, Subpart A, Da and GG | 3.B.1 3.B.2 3.B.3 3.B.4 3.B.5 3.B.6 3.B.7 3.B.8 | PM/PM ₁₀ | 0.011 lb/MMBTU, not to exceed 24.0 lb/hr and 105 tons/year |
| | | | SO ₂ | 12 lb/hr and 52.6 tons/year |
| | | | NO _x | 3.5 ppm @15% oxygen on a dry basis, not to exceed 24.1 lb/hr, based on 3-hr rolling average*, and 105.6 tons/year, based on 12 month rolling average * Excluding periods of startups, shutdowns, |

| Emission Point(s) | Applicable Requirement | Condition Number(s) | Pollutant/Parameter | Limit/Standard |
|----------------------------|--|---------------------|--|--|
| | | | | and tuning sessions. However, the tons/yr limits are inclusive of emissions during startups, shutdowns, and tuning sessions |
| | | | CO | 17.4 ppm @15% oxygen on a dry basis, not to exceed 61 lb/hr, based on 3-hr rolling average*, and 267 tons/year, based on 12 month rolling average * Excluding periods of startups, shutdowns, and tuning sessions. However, the tons/yr limits are inclusive of emissions during startups, shutdowns, and tuning sessions |
| | | | VOC | 19.3 lb/hr and 84.6 tons/yr |
| | | | Opacity | 10% |
| | | | Fuel Restriction | Natural Gas which contains less than 0.8 percent sulfur by weight. |
| | | | Control of NOx Emissions | SCR units shall be used for control of NOx emissions. |
| AA-001 AA-002 AA-003 | Acid Rain Regulations, 40 CFR 72-75, 77 & 78 | 3.B.9 | NOx O ₂ SO ₂ | Per 40 CFR 72-75, 77 & 78 |
| | Clean Air Interstate Rule (CAIR), 40 CFR Part 96 | 3.B.17 | NOx SO ₂ | CAIR Allowances and Requirements |
| AA-004 | 40 CFR 60, Subpart A and Dc PSD Construction Permit issued on April March 27, 2001, and modified on July 27, 2001 and October 10, 2003. | 3.B.10 | Fuel Usage | Fuel usage recordkeeping per 40 CFR 60.48c(g) |
| | | 3.B.11 | Operational & Fuel Restriction | This unit shall not be operated more than 3,000 hours in any 365-day rolling total. This unit shall use only natural gas as fuel. |
| AA-004 | 11 Miss. Admin. Code Pt.2, R.1.3.D(1)(b) | 3.B.18 | PM | $E = 0.8808 * (I)^{-0.1667}$, or as otherwise limited by facility modification restrictions. |
| | 11 Miss. Admin. Code Pt.2, R.1.4.A(1) | 3.B.16 | SO ₂ | 4.8 lbs/MMBTU |

| Emission Point(s) | Applicable Requirement | Condition Number(s) | Pollutant/Parameter | Limit/Standard |
|-------------------|--|----------------------------|---------------------|--|
| AA-005 AA-006 | 40 CFR 63, Subpart ZZZZ | 3.B.12 3.B.13 3.B.14 | HAP | Requirements in 40 CFR 63.6604 in Table 2c |
| AA-005 AA-006 | 11 Miss. Admin. Code Pt.2, R.1.3.D(1)(a) | 3.B.15 | PM | 0.6 lbs/MMBTU |
| | 11 Miss. Admin. Code Pt.2, R.1.4.A(1) | 3.B.16 | SO ₂ | 4.8 lbs/MMBTU |

3.B.1 The permittee is authorized to operate Emission Points AA-001, AA-002, and AA-003 in accordance with the emission limitations specified below for each unit:

EMISSION LIMITATIONS

| | |
|--------------------|---|
| Particulate Matter | 0.011 lb/MMBTU, not to exceed 24 lbs/hr and 105 tons/year, as determined by EPA Reference Methods 1-5, 40 CFR 60, Appendix A. |
| PM ₁₀ | 0.011 lb/MMBTU, not to exceed 24 lbs/hr and 105 tons/year, as determined by EPA Reference Methods 201 or 201A in conjunction with Reference Method 202, 40 CFR 51, Appendix M. |
| Sulfur Dioxide | 12 lbs/ hr and 52.6 tons/year as determined by EPA Reference Method 6, 40 CFR 60, Appendix A. |
| Nitrogen Oxides | 3.5 ppm @ 15% oxygen on a dry basis, not to exceed 24.1 lbs/hr, both limits are based on a 3-hr rolling average*, and 105.6 tons/year as determined by EPA Reference Method 7E and 3A, 40 CFR 60, Appendix A. |
| Carbon Monoxide | 17.4 ppm @ 15% oxygen on a dry basis, not to exceed 61 lbs/hr, both limits are based on a 3-hr rolling average*, and 267 tons/year as determined by EPA Reference Method 10, 40 CFR 60, Appendix A. |
| VOC | 19.3 lb/hr and 84.6 tons/yr, as determined by EPA Test Method 25, 40 CFR 60, Appendix A |

| | |
|---------|---|
| Opacity | 10% as determined by EPA Reference Method 9, 40 CFR 60, Appendix A. |
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* Excluding periods of startups and shutdowns. However, the tons/yr limits are inclusive of emissions during startups and shutdowns.

- 3.B.2 The combustion turbines, a part of Emission Points AA-001, AA-002, and AA-003 are subject to and shall comply with all applicable requirements of the New Source Performance Standards, as described in 40 CFR 60, Subpart A – General Provisions, and Subpart GG – Standards of Performance for Stationary Gas Turbines.
- 3.B.3 For Emission Points AA-001, AA-002, and AA-003, the permittee shall comply with the emission limitations and monitoring requirements specified in this permit, except during periods of startups, shutdowns, and tuning sessions. However, the permittee shall meet the tons/year emission limits to include emissions during periods of startups, shutdowns, and tuning sessions.

A startup event shall not exceed 4.5 hours duration and a shutdown event shall not exceed 1.0 hour duration. The duration of startup is defined as the duration beginning immediately following initial firing of the gas turbine and ending 15 minutes after the turbine reaches Mode 6. Duration of shutdown shall be defined as the period beginning when the combustion turbine leaves operational Mode 6 and ending when the flame is extinguished in the turbine.

Tuning sessions will normally occur because of required seasonal tuning, after a combustor change-out, after a major repair or maintenance to a combustor, or other similar maintenance circumstance. Tuning sessions are completed periodically to optimize combustion or emission reductions from the turbine. Tuning events must be performed in accordance with the manufacture's recommendations. During the tuning event, all reasonable steps to minimize levels of emissions that exceed the limits of this permit shall be taken. The permittee shall submit notice of tuning events to the DEQ within 5 working days of the time the tuning event began. (Ref. Title V Permit issued July 25, 2005 modified on July 22, 2008 and month, date, year)

- 3.B.4 For Emission Points AA-001, AA-002, and AA-003, the permittee shall operate equipment in a manner consistent with good air pollution control practices to minimize emissions during startups, shutdowns, and tuning sessions including:
- (a) Operation in accordance with the manufacturer's written instructions or other written instructions developed and maintained by the permittee, which shall include at a minimum the following measures:

- (i) Review of operating parameters of the unit during startups or shutdowns as necessary to make adjustments to reduce or eliminate excess emissions;
 - (ii) Operation of the SCR system as soon as, and as long as, the unit operating conditions are amenable to its effective use.
 - (b) Maintenance of the SCR systems in accordance with written procedures developed and maintained by the permittee, which procedures shall be reviewed at least annually. (Ref. Title V Permit issued July 25, 2005 modified July 22, 2008, and month date year)
- 3.B.5 For Emission Points AA-001, AA-002, and AA-003, the permittee shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. The permittee shall not use any other fuel other than natural gas. (PSD Construction Permit issued March 27, 2001, and modified on July 27, 2001, and October 10, 2003; and 40 CFR 60, Subpart GG)
- 3.B.6 For the duct burners associated with Emission Points AA-001, AA-002, and AA-003, the permittee shall not exceed opacity of 10%. The combustion turbine generators associated with Emission Points AA-001, AA-002, and AA-003, are subject to the opacity standard in Condition 3.A.1. (PSD Construction Permit issued March 27, 2001, and modified on July 27, 2001, and October 10, 2003)
- 3.B.7 For Emission Points AA-001, AA-002, and AA-003, the permittee shall operate with NOx emissions controlled by selective catalytic reduction (SCR) units. (PSD Construction Permit issued March 27, 2001, and modified on July 27, 2001, and October 10, 2003)
- 3.B.8 The duct burners, associated with Emission Points AA-001, AA-002, and AA-003 are subject to and shall comply with all applicable requirements of the New Source Performance Standards, as described in 40 CFR 60, Subpart A – General Provisions, and Subpart Da – Standards of Performance for Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978.
- 3.B.9 Emission Points AA-001, AA-002, and AA-003 are subject to and shall comply with all applicable requirements of the Acid Rain Program regulations of 40 CFR 72-75, 77 & 78.
- 3.B.10 Emission Point AA-004 is subject to and shall comply with all applicable requirements of the New Source Performance Standards, as described in 40 CFR 60, Subpart A – General Provisions, and Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
- 3.B.11 Emission Point AA-004 is limited to 3,000 hours of operation per year measured on a 365-day rolling total. The permittee shall not use any other fuel other than natural gas. (PSD

Construction Permit issued March 27, 2001, and modified on July 27, 2001, and October 10, 2003)

- 3.B.12 Emission Points AA-005 and AA-006 are subject to the National Emission Standards for Hazardous Air Pollutants from Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ. Except during periods of startups, the permittee shall comply with the following requirements: 1) Change oil and filter every 500 hours of operation or annually, whichever comes first or use oil change analysis program to extend oil change frequencies per 40 CFR 63.6625(i); 2) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; 3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The permittee shall install a non-resettable hour meter prior to startup of the engine. The permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. (Ref. 40 CFR 63.6603(a))

- 3.B.13 Emission Points AA-005 and AA-006 may use the engines for up to 100 hours per calendar year for any combination of the following purposes: 1) Maintenance checks and readiness testing; 2) Emergency demand response when an Energy Emergency Alert Level 2 has been declared by the Reliability Coordinator, 3) Periods where the voltage or frequency deviates by 5 percent or more below standard.

There is no time limit on the use of the engines in emergency situations. The engines may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response. (Ref. 40 CFR 63.6640)

- 3.B.14 For Emission Points AA-005 and AA-006, beginning January 1, 2015, for engines meeting the below three (3) criteria, the permittee shall use ultra-low sulfur diesel fuel as defined in 40 CFR 80.510(b) (if the engine uses diesel fuel; existing diesel fuel obtained prior to January 1, 2015, may be used until depleted): 1) Larger than 100 HP with a displacement less than 30 liters per cylinder, and either; 2) Operated or contractually obligated to be available greater than 15 hours per year (up to the maximum of 100 hours per year) for emergency demand response or voltage/frequency deviation, or; 3) Operated for local reliability (up to the maximum of 50 hours per year). (Ref. 40 CFR 63.6640)

- 3.B.15 For Emission Points AA-005 and AA-006, the maximum permissible emission of ash and/or particulate matter shall not exceed 0.6 pounds per million BTU per hour heat input. (Ref.: 11 Miss. Admin. Code Pt.2, R.1.3.D(1)(a))

- 3.B.16 For Emission Points AA-005 through AA-006, the maximum discharge of sulfur oxides
- 12322 PER20090001

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.17 For Emission Points AA-001, AA-002, and AA-003, the permittee is subject to the requirements of the Clean Air Interstate Rule (CAIR) as set forth in 40 CFR Part 96, including the CAIR NO_x Annual Trading Program, the CAIR SO₂ Annual Trading Program, and the CAIR NO_x Ozone Season Trading Program.

EPA issued CAIR on May 12, 2005, and in 2008, the US Court of Appeals for the DC Circuit remanded CAIR to the Agency, leaving existing CAIR programs in place while directing EPA to replace them with a new rule consistent with the Clean Air Act. The Cross-State Air Pollution Rule (CSAPR) was then proposed on July 6, 2010, and finalized on July 6, 2011. The CSAPR was to reduce interstate transport of fine particulate matter and ozone by reducing power plant emissions. Sources covered by the CSAPR annual SO₂ and NO_x programs were to comply by using their allowances to cover 2012 annual emissions in March 2013, and sources covered by the NO_x ozone season program were to comply on November 30, 2012, by surrendering allowances sufficient to cover their ozone season NO_x emissions.

For Emission Points AA-001, AA-002, and AA-003, the permittee was subject to the requirements of CSAPR as set forth in 40 CFR Part 97; however, the United States Court of Appeals for the D.C. Circuit vacated CSAPR on August 21, 2012. Subsequently, on further appeal, the U.S. Supreme Court reversed the decision of the D.C. Circuit and remanded the rule back to the Court for further proceedings. While this remand will delay implementation of the CSAPR, it will also leave the CAIR in place while the Court completes its proceedings on the remand. All the requirements in CAIR, the CAIR Federal Implementation Plans (FIPs) and EPA-approved CAIR State Implementation Plans (SIPs), are federally enforceable and all sources that are covered by the three (3) CAIR trading programs - the ozone-season NO_x trading program, the annual NO_x trading program, and the annual SO₂ trading program - must continue to comply with the requirements of those programs. On this basis, Emission Points AA-001 and AA-002(a) are subject to CAIR as set forth in 40 CFR 96, which are set forth to control and monitor NO_x, SO₂, and NO_x Ozone Season emissions.

- 3.B.18 For Emission Point AA-004, except as otherwise specified or limited herein, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations 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))

C. Insignificant and Trivial Activity Emission Limitations & Standards

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

- 3.C.1 The maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).)
- 3.C.2 The maximum discharge of sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per million BTU heat input. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

SECTION 4. COMPLIANCE SCHEDULE

- 4.1 Unless otherwise specified herein, the permittee shall be in compliance with all requirements contained herein upon issuance of this permit.
- 4.2 Except as otherwise specified herein, the permittee shall submit to the Permit Board and to the Administrator of EPA Region IV a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, by January 31 for the preceding calendar year. Each compliance certification shall include the following:
- (a) the identification of each term or condition of the permit that is the basis of the certification;
 - (b) the compliance status;
 - (c) whether compliance was continuous or intermittent;
 - (d) the method(s) used for determining the compliance status of the source, currently and over the applicable reporting period;
 - (e) such other facts as may be specified as pertinent in specific conditions elsewhere in this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(5)(a), (c), & (d).)

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

A. General Monitoring, Recordkeeping and Reporting Requirements

- 5.A.1 The permittee shall install, maintain, and operate equipment and/or institute procedures as necessary to perform the monitoring and recordkeeping specified below.
- 5.A.2 In addition to the recordkeeping specified below, the permittee shall include with all records of required monitoring information the following:
- (a) the date, place as defined in the permit, and time of sampling or measurements;
 - (b) the date(s) analyses were performed;
 - (c) the company or entity that performed the analyses;
 - (d) the analytical techniques or methods used;
 - (e) the results of such analyses; and
 - (f) the operating conditions existing at the time of sampling or measurement. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(1).)
- 5.A.3 Except where a longer duration is specified in an applicable requirement, the permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(2).)
- 5.A.4 Except as otherwise specified herein, the permittee shall submit reports of any required monitoring by July 31 and January 31 for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with 11 Miss. Admin. Code Pt. 2, R. 6.2.E. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1).)
- 5.A.5 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) days of the time the deviation began. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(2).)

- 5.A.6 Except as otherwise specified herein, the permittee shall perform emissions sampling and analysis in accordance with EPA Test Methods and with any continuous emission monitoring requirements, if applicable. All test methods shall be those versions or their equivalents approved by the DEQ and the EPA.
- 5.A.7 The permittee shall maintain records of any alterations, additions, or changes in equipment or operation.

B. Specific Monitoring and Recordkeeping Requirements

| Emission Point(s) | Applicable Requirement | Condition Number | Pollutant/Parameter Monitored | Monitoring/Recordkeeping Requirement |
|-------------------|------------------------|------------------|-------------------------------|--------------------------------------|
| | | | | |
| | | | | |
| | | | | |

- 5.B.1 For Emission Points AA-001, AA-002, and AA-003, the permittee shall demonstrate compliance with nitrogen oxides, and carbon monoxide emission limitations using CEMS. Demonstrating compliance with NO_x and CO (ppm, lb/hr, tpy) limits using CEMs data in lieu of EPA Reference Methods is an acceptable practice provided that the permittee meets the guidelines established in EPA's general guidance on "Alternative Testing and Monitoring Procedures for Combustion Turbines Regulated under New Source Performance Standards". This includes use of reference method test data collected during the Relative Accuracy Test Audits (RATA) required under 40 CFR 75.
- 5.B.2 For Emission Points AA-001, AA-002, and AA-003, the permittee shall install, calibrate, maintain and operate continuous monitoring systems for NO_x (as specified in 40 CFR 60.334, Appendix B and 40 CFR 75), The monitoring systems must comply with all applicable requirements specified in 60.334, 60.13, and Appendix B of 40 CFR 60 and 40 CFR 75. In addition, the permittee must comply with the reporting and recordkeeping requirements specified in 40 CFR 60.7 and 40 CFR 75.
- 5.B.3 For Emission Points AA-001, AA-002, and AA-003, the permittee shall install, calibrate, maintain and operate continuous monitoring systems for CO (as specified in 40 CFR 60, Appendix B and Appendix F). The permittee shall follow the specifications of 40 CFR Appendix B, Performance Specification 4A for the installation, calibration, maintenance and operation of the CO CEMS. The permittee may install a dual-range analyzer with the high-range setting equal to 1000 ppm at a minimum. The CGA, RA Audits shall be conducted according to 40 CFR 60, Appendix B and F. However, the frequency of the audit shall be as specified in 40 CFR 75, Appendix B, Section 2.2. The RATA required under 40 CFR 60,

Appendix F, shall be at the frequency specified in 40 CFR 75, Appendix B, Section 2.3.1 and is as follows:

A calendar quarter that does not qualify as QA operating quarter shall be excluded in determining the deadline for the next RATA. No more than eight successive calendar quarters shall elapse after the quarter in which a RATA was last performed without a subsequent RATA having been conducted. If the RATA has not been completed by the end of the eight calendar quarter since the quarter of the last RATA, then the RATA must be completed within a 720 unit (or stack) operating hour grace period following the end of the eighth successive elapsed calendar quarter. For the diluent monitors RATA may be performed annually (i.e., once every four successive QA operating quarters, rather than once every two successive QA operating quarters)

- 5.B.4 For Emission Points AA-001, AA-002, and AA-003, the permittee shall monitor and maintain records of emissions in accordance with 40 CFR Part 75. The permittee shall maintain a file on site of all measurements, data, reports, and other information required in 40 CFR Part 75.57 for each affected unit for a period of three (3) years.
- 5.B.5 For Emission Points AA-001, AA-002, and AA-003, the permittee shall record the hours of operation on a daily basis. For Emission Points AA-001 through AA-003, a record of all startups and shutdowns of the associated combustion turbines, duct burners, and SCR systems shall be kept and retained for a period of five (5) years and shall be made available to the Mississippi Department of Environmental Quality Office of Pollution Control, the Mississippi Environmental Quality Permit Board and/or their authorized representatives upon request. Such records shall include the following data for each startup, shutdown, and tuning session: 1) date; 2) beginning time; 3) ending time; 4) description of any deviations from manufacturer's or permittee's written instructions, or permit limitations, as required in Condition 3.B.4, that contribute to excessive emissions. (Ref. Title V Permit issued Month Date Year)
- 5.B.6 For Emission Points AA-001, AA-002, and AA-003, for purposes of demonstrating compliance with NO_x and CO limits, the permittee shall utilize MDEQ approved data substitution procedures. (11 Miss. Admin Code Pt.2, R.6.3.A.3)
- 5.B.7 For Emission Points AA-001, AA-002 and AA-003, permittee shall monitor quantity of fuel burned. For the firing of natural gas, as allowed by 40 CFR 60.334(h)(3), the permittee shall not be required to monitor the total sulfur content of the gaseous fuel combusted in the turbines if the gaseous fuel is demonstrated to meet the definition of natural gas in Sec. 60.331(u). The permittee shall use one of the following sources of information to make the required demonstration:
 - (1) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less.

- 5.B.8 The duct burners associated with Emission Points AA-001, AA-002, and AA-003 are subject to and shall comply with all applicable requirements of the New Source Performance Standards, as described in 40 CFR 60, Subpart A – General Provisions, and Subpart Da – Standards of Performance for Electric Utility Steam Generating Units. The permittee shall comply with the reporting requirements listed in 40 CFR 60, Subpart A, Section 60.7 and 40 CFR 60, Subpart Da, Section 60.49a. The permittee is exempted from the opacity monitoring requirements pursuant 40 CFR 60.49 Da(a)(3).
- 5.B.9 For Emission Point AA-005 and AA-006, the permittee shall perform the following recordkeeping: 1) Record the total hours of operation on a monthly basis; 2) Record the reason the generator was in operation during that time. (11 Miss. Admin Code Pt.2, R.6.3.A.3 and 40 CFR 63.6655)
- 5.B.10 For Emission Points AA-005 and AA-006, the permittee shall comply with the following work and management practices: 1) Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or 2) Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. (Ref. 40 CFR 63.6603(a))
- 5.B.11 For Emission Points AA-001 through AA-003, the permittee shall record the purpose, duration, and actual emissions of each tuning occurrence and confirmation that good air pollution control practices were utilized, as provided in Condition 3.B.4.
- 5.B.12 For Emission Points AA-001, AA-002, and AA-003, the permittee shall comply with the requirements of the Clean Air Interstate Rule (CAIR) as set forth in 40 CFR Part 96. The permittee was subject to the requirements of the Cross-State Air Pollution Rule (CSAPR) as set forth in 40 CFR Part 97; however, the United States Court of Appeals for the D.C. Circuit issued its ruling to stay CSAPR pending judicial review. While this decision will delay implementation of CSAPR, it will also leave CAIR in place while the Court considers the merits of the challenges to CSAPR. All the requirements in CAIR, the CAIR Federal Implementation Plans (FIPs) and EPA-approved CAIR State Implementation Plans (SIPs), are federally enforceable and all sources that are covered by the three (3) CAIR trading programs - the ozone-season NO_x trading program, the annual NO_x trading program, and the annual SO₂ trading program - must continue to comply with the requirements of those programs.

The permittee shall comply with all applicable monitoring, recordkeeping, testing, and reporting requirements of CAIR. The permittee shall maintain files on site of all measurements, monitoring, data, reports, and other information required by CAIR in accordance with Condition 5.A.3, and the records shall be made available upon request by MDEQ personnel. The permittee shall submit a summarized report in accordance with Condition 5.A.4. (Ref.: Clean Air Interstate Rule (CAIR), 40 CFR Part 96)

- 5.B.13 For Emission Points AA-001, AA-002, and AA-003, the permittee shall demonstrate compliance with volatile organic compound emission limitations by stack testing in accordance with EPA Reference Methods 18 and 25 or approved equivalents and submittal of a stack test report once within the life of this permit. The test shall be conducted at one load point not to be less than 70% load.

The permittee shall submit a written test protocol at least thirty (30) days prior to the intended test date(s) to ensure that all test methods and procedures are acceptable and notify the DEQ in writing at least ten (10) days prior to the intended test date(s) so that an observer may be afforded the opportunity to witness the test. (Title V Permit issued June 25, 2005 and modified July 22, 2008)

- 5.B.14 For Emission Point AA-004, the permittee shall monitor and maintain records of the hours of operation on a daily basis and a 365-day rolling total. The permittee shall record and maintain records of the amount of fuel combusted each day. (Ref.: 40 CFR 60.48c(g))

C. Specific Reporting Requirements

- 5.C.1 For Emission Points AA-001, AA-002, and AA-003 the permittee shall submit semi-annual reports summarizing the results of the NO_x and CO emission rates in tons/year based on a 365-day rolling total, as specified in Condition 5.A.4.
- 5.C.2 For Emission Points AA-004, AA-005, and AA-006, the permittee shall submit semiannual reports showing the hours of operation on a monthly basis and on a 12 month rolling total basis, as specified in Condition 5.A.4. For Emission Points AA-005 and AA-006, permittee shall submit semiannual report showing the reason the generators were in operations as specified in Condition 5.A.4.
- 5.C.3 For Emission Points AA-001, AA-002, and AA-003 the permittee shall submit semi-annual nitrogen oxides and carbon monoxide excess emission and monitoring system reports to the DEQ identifying any excess emissions (for both lb/hr and ppm limits) and monitor downtime that occurred during that six-month period as specified in Condition 5.A.4.
- 5.C.4 For Emission Points AA-001, AA-002, and AA-003 the permittee shall submit the startup, shutdown, and tuning session duration time deviations and the total startup, shutdown, and tuning session percent deviations during the reporting period, as specified in Condition 5.A.4.
- 5.C.5 For Emission Points AA-001 through AA-003, the permittee shall submit report showing the purpose, duration, and actual emissions of each tuning occurrence.
- 5.C.6 For Emission Point AA-004, the permittee shall comply with the reporting requirements list in 40 CFR 60, Subpart A, Section 60.7, 60.8, and Subpart Dc.

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://ecfr.gpoaccess.gov> under Title 40, or DEQ shall provide a copy upon request from the permittee.

- 7.1 If the permittee produces, transforms, destroys, imports or exports a controlled substance or imports or exports a controlled product, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart A – Production and Consumption Controls.
- 7.2 If the permittee performs service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart B – Servicing of Motor Vehicle Air Conditioners.
- 7.3 The permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart E – The Labeling of Products Using Ozone-Depleting Substances, for the following containers and products:
 - (a) All containers in which a class I or class II substance is stored or transported;
 - (b) All products containing a class I substance; and
 - (c) All products directly manufactured with a process that uses a class I substance, unless otherwise exempted by this subpart or, unless EPA determines for a particular product that there are no substitute products or manufacturing processes for such product that do not rely on the use of a class I substance, that reduce overall risk to human health and the environment, and that are currently or potentially available. If the EPA makes such a determination for a particular product, then the requirements of this subpart are effective for such product no later than January 1, 2015.
- 7.4 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart F – Recycling and Emissions Reduction:
 - (a) Servicing, maintaining, or repairing appliances;
 - (b) Disposing of appliances, including small appliances and motor vehicle air conditioners; or
 - (c) Refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, persons selling class I or class II refrigerants or offering class I or class II refrigerants for sale, and persons purchasing class I or class II 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.

SECTION 8. ACID RAIN REQUIREMENTS

- 8.1T The permittee shall comply with all requirements of the Phase II Acid Rain Permit attached as Appendix C of this permit. All conditions of the Phase II Acid Rain Permit are effective for the dates specified in the Acid Rain Permit; however, these conditions may be revised by the DEQ during the permitted period.

APPENDIX A

List of Abbreviations Used In this Permit

| | |
|------------------------------------|--|
| 11 Miss. Admin. Code Pt. 2, Ch. 1. | Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants |
| 11 Miss. Admin. Code Pt. 2, Ch. 2. | Permit Regulations for the Construction and/or Operation of Air Emissions Equipment |
| 11 Miss. Admin. Code Pt. 2, Ch. 3. | Regulations for the Prevention of Air Pollution Emergency Episodes |
| 11 Miss. Admin. Code Pt. 2, Ch. 4. | Ambient Air Quality Standards |
| 11 Miss. Admin. Code Pt. 2, Ch. 5. | Regulations for the Prevention of Significant Deterioration of Air Quality |
| 11 Miss. Admin. Code Pt. 2, Ch. 6. | Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act |
| 11 Miss. Admin. Code Pt. 2, Ch. 7. | Acid Rain Program Permit Regulations for Purposes of Title IV of the Federal Clean Air Act |
| BACT | Best Available Control Technology |
| CEM | Continuous Emission Monitor |
| CEMS | Continuous Emission Monitoring System |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| COM | Continuous Opacity Monitor |
| COMS | Continuous Opacity Monitoring System |
| DEQ | Mississippi Department of Environmental Quality |
| EPA | United States Environmental Protection Agency |
| gr/dscf | Grains Per Dry Standard Cubic Foot |
| HP | Horsepower |
| HAP | Hazardous Air Pollutant |
| lbs/hr | Pounds per Hour |
| M or K | Thousand |
| MACT | Maximum Achievable Control Technology |
| MM | Million |
| MMBTUH | Million British Thermal Units per Hour |
| NA | Not Applicable |
| NAAQS | National Ambient Air Quality Standards |
| NESHAP | National Emissions Standards For Hazardous Air Pollutants, 40 CFR 61 or National Emission Standards For Hazardous Air Pollutants for Source Categories, 40 CFR 63 |
| NMVOC | Non-Methane Volatile Organic Compounds |
| NO _x | Nitrogen Oxides |
| NSPS | New Source Performance Standards, 40 CFR 60 |
| O&M | Operation and Maintenance |
| PM | Particulate Matter |
| PM ₁₀ | Particulate Matter less than 10 µm in diameter |
| ppm | Parts per Million |
| PSD | Prevention of Significant Deterioration, 40 CFR 52 |
| SIP | State Implementation Plan |
| SO ₂ | Sulfur Dioxide |
| TPY | Tons per Year |
| TRS | Total Reduced Sulfur |
| VEE | Visible Emissions Evaluation |
| VHAP | Volatile Hazardous Air Pollutant |
| VOC | Volatile Organic Compound |

APPENDIX B

PHASE II ACID RAIN PERMIT

ACID RAIN PERMIT

Issued to: TVA Caledonia Combined Cycle Plant
Operated by: Tennessee Valley Authority
ORIS code: 55197
Effective: MAY 15 2015 through APR 30 2020

Summary of Previous Actions:

This page will be replaced to document new actions each time a new action is taken by the DEQ.

| | |
|---|------------------|
| 1) Draft permit for public and EPA comment | November 3, 2000 |
| 2) Permit finalized and issued. | April 6, 2001 |
| 3) Draft permit for public and EPA comment | June 1, 2005 |
| 4) Permit finalized and issued. | July 25, 2005 |
| 5) Permit Modification/Transfer | July 22, 2008 |
| 6) Draft Permit for public and EPA comment. | March 27, 2015 |

Present Action:

1) Permit finalized and issued.



Signature

MAY 15 2015

Date

Harry M. Wilson, P.E., DEE
Chief, Environmental Permits Division
Mississippi Department of Environmental Quality
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Telephone: (601) 961-5171 Facsimile: (601) 961-5703

ACID RAIN PERMIT

Issued to: TVA Caledonia Cycle Plant
Operated by: Tennessee Valley Authority
ORIS code: 55197
Effective: MAY 15 2015 through APR 30 2020

ACID RAIN PERMIT CONTENTS:

1. Statement of Basis.
2. SO₂ allowances allocated under this permit and NO_x requirements for each affected unit.
3. Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.
4. The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application.

1. STATEMENT OF BASIS:

Statutory and Regulatory Authorities: In accordance with the Mississippi Air and Water Pollution Control Law, specifically Miss. Code Ann. " 49-17-1 through 49-17-43, and any subsequent amendments, and Titles IV and V of the Clean Air Act, the Mississippi Department of Environmental Quality issues this permit pursuant to the State of Mississippi Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act, Regulation APC-S-6, and the State of Mississippi Acid Rain Program Permit Regulations for Purposes of Title IV of the Federal Clean Air Act, Regulation APC-S-7.

2. SO₂ ALLOWANCE ALLOCATIONS AND NO_x REQUIREMENTS FOR EACH AFFECTED UNIT:

| | | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------------------|--|------|------|------|------|------|
| AA-001 AA-002 AA-003 | SO ₂ allowances, under Tables 2, 3, or 4 of 40 CFR Part 73. | NA | NA | NA | NA | NA |
| | NO _x limit | NA | | | | |

3. COMMENTS, NOTES AND JUSTIFICATIONS: All affected units are natural gas fired units; therefore, the affected units are not subject to the NO_x requirements outlined in 40 CFR Part 76. Additionally, these are units that were not listed in 40 CFR Part 73, Tables 2, 3, or 4, and have not been allocated any SO₂ allowances.

4. PERMIT APPLICATION: Attached