

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

TO OPERATE AIR EMISSIONS EQUIPMENT

**THIS CERTIFIES THAT**

Texas Eastern Transmission,  
Clinton Compressor Station  
1485 Billy Bell Road  
Hinds County

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

**Permit Issued:** \_\_\_\_\_

**Effective Date:** As specified herein.

**MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD**

\_\_\_\_\_  
**AUTHORIZED SIGNATURE  
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

**Expires:**

**Permit No.: 1080-00209**

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**APPENDIX A LIST OF ABBREVIATIONS USED IN THIS PERMIT**

**APPENDIX B LIST OF REGULATIONS REFERENCED IN THIS PERMIT**

**APPENDIX C 40 CFR 64, COMPLIANCE ASSURANCE MONITORING (CAM) PLAN**

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## SECTION 1. GENERAL CONDITIONS

- 1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(a).)
- 1.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(b).)
- 1.3 This permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(c).)
- 1.4 (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

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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

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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;

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- (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).)

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- 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

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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).)

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- 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

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signed contemporaneous operating logs, or other relevant evidence that include information as follows:

- (1) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - (2) the permitted facility was at the time being properly operated;
  - (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
  - (4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- (d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.G.)

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

(a) Upsets

- (1) For an upset defined in 11 Miss. Admin. Code Pt. 2, R. 1.2., 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

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requirement of an applicable rule, regulation, or permit;

- (iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;
  - (v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.
- (2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.
  - (3) This provision is in addition to any upset provision contained in any applicable requirement.
  - (4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.
- (b) Startups and Shutdowns (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.)
- (1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.
  - (2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).
  - (3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.
- 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

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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.

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SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-000	Plant wide Fugitive Emissions for Pipeline Components
AA-001	7,600 HP General Electric Frame 3 natural gas-fired compressor turbine equipped with SCR and oxidation catalyst (Serial No. 127624, Ref. No. 41901)
AA-002	7,600 HP General Electric Frame 3 gas-fired compressor turbine equipped with SCR and oxidation catalyst (Serial No. 127626, Ref. No. 41902)
AA-003	7,600 HP General Electric Frame 3 gas-fired compressor turbine equipped with SCR and oxidation catalyst (Serial No. 127703, Ref. No. 41903)
AA-004	7,600 HP General Electric Frame 3 gas-fired compressor turbine equipped with SCR and oxidation catalyst (Serial No. 127704, Ref. No. 41904)
AA-006	2,940 gallon vertical fixed roof pipeline condensate storage tank (Ref. No, V5-419)
AA-007	Tank Truck Loading
AA-008	Natural Gas Blowdown
AA-009	440 HP Waukesha four-stroke, lean-burn (4SLB) natural gas-fired emergency backup generator engine
AA-010	880 HP Waukesha 4SLB natural gas-fired emergency backup generator engine

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### 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.)

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B. Emission Point Specific Emission Limitations & Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
AA-001 through AA-004	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(b)	3.B.1	PM	$E=0.8808 * I^{-0.1667}$
	Air Construction Permit issued October 8, 2015	3.B.2	NO <sub>x</sub>	25 ppmvd at 15% O <sub>2</sub>
	Air Construction Permit issued October 8, 2015	3.B.3	NO <sub>x</sub>	Operational Restriction
	40 CFR Part 64, CAM Requirements	3.B.4	NO <sub>x</sub>	Selective Catalytic Reduction (SCR). See CAM Plan in Appendix C
AA-001 through AA-004, AA-009, and AA-010	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	3.B.5	Natural Gas	Operational Restriction
AA-009 and AA-010	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(a)	3.B.6	PM	0.6 lb/MMBTU
	40 CFR 63.6580; 63.6585(a) and (c) and 63.6590(c)(1)	3.B.7	HAPs	Applicability
	40 CFR 60.4230(a)(4)(iv)	3.B.8	NO <sub>x</sub> , CO, and VOC	Applicability
	40 CFR 60.4233(e) and Table 1 to 40 CFR 60, Subpart JJJ (Emission limits apply to each unit, individually)	3.B.9	NO <sub>x</sub> , CO, and VOC	2.0 g/bhp/hr NO <sub>x</sub> or 160 ppmvd @ 15% O <sub>2</sub> , 4.0 g/bhp/hr CO or 540 ppmvd @ 15% O <sub>2</sub> , 1.0 g/bhp/hr VOC or 86 ppmvd @ 15% O <sub>2</sub> ,
	40 CFR 60.4234	3.B.10	NO <sub>x</sub> , CO, and VOC	Continuous Emissions Compliance
	40 CFR 60.4237(a)-(b)	3.B.11	Operational Restriction	Operational Requirements

3.B.1 For Emission Points AA-001 through AA-004, the permittee shall not have particulate emissions from fossil fuel burning installations of greater than 10 MMBTU/hr heat input that exceeds the 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

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heat input in millions of BTU per hour. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b))

- 3.B.2 For Emission Points AA-001 through AA-004, the compressor turbines are limited to a Nitrogen Oxides (NO<sub>x</sub>) emission rate of 25 ppmvd at 15% O<sub>2</sub>. (Ref.: Air Construction Permit No. 1080-00209 issued October 8, 2015)
- 3.B.3 For Emission Points AA-001 through AA-004, the permittee shall not bypass the SCR when operating the combustion turbines. (Ref.: Air Construction Permit No. 1080-00209 issued October 8, 2015)
- 3.B.4 For Emission Points AA-001 through AA-004, AA-009, and AA-010, the permittee is restricted to using only natural gas as a fuel. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))
- 3.B.5 For Emission Points AA-001 through AA-004, the permittee shall comply with the Compliance Assurance Monitoring (CAM) requirements as specified in 40 CFR Part 64. A CAM Plan has been prepared to ensure proper operation of Selective Catalytic Reduction (SCR) on each source to ensure compliance with Nitrogen Oxides (NO<sub>x</sub>) emissions limitations.

The two (2) performance indicators include the SCR Catalyst Bed Outlet Temperature and the Ammonia Injection Rate. The indicator range selected for the SCR catalyst bed outlet temperature is greater than 400°F. The indicator range for the ammonia injection rate is a difference between the ammonia flow and the ammonia injection set-point of less than 10%. The ammonia set-point injection rate is the flow rate of ammonia reagent determined by the Injection Controls System algorithm.

The CAM Plan is provided in Appendix C. (Ref.: TVOP issued herein)

- 3.B.6 For Emission Points AA-009 and AA-010, the permittee shall not have particulate emissions from fossil fuel burning installations of less than 10 MMBTU/hr heat input that exceeds 0.6 lb/MMBTU. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(a))
- 3.B.7 Emission Points AA-009 and AA-010 are subject to the National Emission Standards for Hazardous Air Pollutants (HAP) for Stationary Combustion Engines, 40 CFR Part 63, Subpart ZZZZ.

Emission Point AA-009 is considered a new, spark ignition, 4-stroke lean-burn, emergency engine with a site rating less than 500 HP that is located at an Area Source of HAP emissions. Emission Point AA-010 is considered a new, spark ignition, 4-stroke lean-burn, emergency engine with a site rating greater than 500 HP that is located at an Area Source of HAP emissions. As such, each source must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, subpart JJJJ, for spark ignition

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engines. No further requirements apply for such engines under this 40 CFR 63 Subparts ZZZZ or A. (Ref.: 40 CFR 63.6580, 63.6585(a) and (c), and 63.6590(c)(1))

- 3.B.8 Emission Points AA-009 and AA-010 are subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ. (Ref: 40 CFR 60.4230(a)(4)(iv))
- 3.B.9 For Emission Points AA-009 and AA-010, Nitrogen Oxide (NO<sub>x</sub>) emissions from each emission point are limited to 2.0 grams per horsepower-hour (g/bhp-hr) or 160 ppmvd @ 15% O<sub>2</sub>, Carbon Monoxide (CO) emissions from each emission point are limited to 4.0 g/bhp-hr or 540 ppmvd @ 15% O<sub>2</sub>, and Volatile Organic Compound (VOC) emissions are limited to 1.0 g/bhp-hr or 86 ppmvd @ 15% O<sub>2</sub>. (Ref: 40 CFR 60.4233(e) and Table 1 of Subpart JJJJ)
- 3.B.10 For Emission Points AA-009 and AA-010, the permittee must operate and maintain each engine such that they achieve the emission standards found in Condition 3.B.9 over the entire life of the engine. (Ref: 40 CFR 60.4234)
- 3.B.11 For Emission Points AA-009 and AA-010, the permittee must install and operate a non-resettable hour meter on each emergency engine. (Ref: 40 CFR 60.4237(a)-(b))

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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 <sub>2</sub>	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.
- 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.

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#### 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).)

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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).)

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- 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.

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**B. Specific Monitoring and Recordkeeping Requirements**

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Monitoring/Recordkeeping Requirement
AA-001 through AA-004	Air Construction Permit No. 1080-00209 issued October 8, 2015 and 40 CFR Part 64, CAM Requirements	5.B.1	NO <sub>x</sub>	Performance Stack Tests
	Air Construction Permit No. 1080-00209 issued October 8, 2015 and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.2	CO	Performance Stack Tests
	40 CFR Part 64, CAM Requirements	5.B.3	NO <sub>x</sub>	Selective Catalytic Reduction (SCR). See CAM Plan in Appendix C
AA-001 through AA-004, AA-009, and AA-010	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.4	Fuel	Fuel Records
AA-009	40 CFR 60.4243(b)(2)(i)	5.B.5	NO <sub>x</sub> , CO, and VOC	Maintenance plan and records
AA-010	40 CFR 60.4243(b)(2)(ii) and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.6	NO <sub>x</sub> , CO, and VOC	Maintenance plan and records and Triennial Performance Stack Tests
AA-009 and AA-010	40 CFR 60.4244(a)-(g)	5.B.7	NO <sub>x</sub> , CO, and VOC	Performance Stack Test Requirements
	40 CFR 60.4243(d)(1)-(3)	5.B.8	NO <sub>x</sub> , CO, and VOC	Emergency Operational Requirements
	40 CFR 60.4245(a)(1), (2), and (4)	5.B.9	NO <sub>x</sub> , CO, and VOC	Keep records

5.B.1 For Emission Points AA-001 through AA-004, the permittee shall conduct performance tests annually on the turbines for Nitrogen Oxides (NO<sub>x</sub>). If the result from the performance test is less than 75% of the limits for NO<sub>x</sub>, the testing frequency can be reduced to every two years. If the performance tests are above 75% of the NO<sub>x</sub> limits the permittee shall test annually.

The permittee shall use EPA Reference Method 7 or EPA Reference Method 20 to determine the NO<sub>x</sub> emissions. The turbines must be operated within 25% of maximum load during emission testing.

A test protocol shall be submitted at least thirty (30) days prior to the proposed test date to insure that all test methods and procedures are acceptable to MDEQ Compliance

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Division. Also, MDEQ must be notified at least ten (10) days prior to the scheduled test date so that an observer may be scheduled to witness the test(s).

(Ref.: Air Construction Permit No. 1080-00209 issued October 8, 2015 and 40 CFR Part 64, CAM Requirements)

- 5.B.2 For Emission Points AA-001 through AA-004, the permittee shall conduct performance tests biennially on the turbines for Carbon Monoxide (CO). The CO will be tested simultaneously with the NO<sub>x</sub> testing to verify the CO emission factor. If the result from the performance test is less than 75% of the limits for NO<sub>x</sub>, the testing frequency can be reduced to every two years. If the performance tests are above 75% of the NO<sub>x</sub> limits the permittee shall test annually.

The permittee shall use EPA Reference Method 10 to determine the CO emissions. The turbines must be operated within 25% of maximum load during emission testing.

A test protocol shall be submitted at least thirty (30) days prior to the proposed test date to insure that all test methods and procedures are acceptable to MDEQ Compliance Division. Also, MDEQ must be notified at least ten (10) days prior to the scheduled test date so that an observer may be scheduled to witness the test(s).

(Ref.: Air Construction Permit No. 1080-00209 issued October 8, 2015 and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

- 5.B.3 For Emission Points AA-001 through AA-004, the permittee shall comply with the Compliance Assurance Monitoring (CAM) requirements as specified in 40 CFR Part 64. A CAM Plan has been prepared to ensure proper operation of Selective Catalytic Reduction (SCR) on each source to ensure compliance with Nitrogen Oxides (NO<sub>x</sub>) emissions limitations. The CAM Plan is provided in Appendix C. (Ref.: TVOP issued herein)
- 5.B.4 For Emission Points AA-001 through AA-004, AA-009, and AA-010, the permittee shall monitor the type and quantity of fuel used. These records shall be maintained in accordance with paragraph 5.A.3. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))
- 5.B.5 For Emission Point AA-009, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. (Ref.: 40 CFR 60.4243(b)(2)(i))
- 5.B.6 For Emission Point AA-010, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct subsequent performance testing after

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the initial performance test, every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

A test protocol shall be submitted at least thirty (30) days prior to the proposed test date to insure that all test methods and procedures are acceptable to MDEQ Compliance Division. Also, MDEQ must be notified at least ten (10) days prior to the scheduled test date so that an observer may be scheduled to witness the test(s).

(Ref.: 40 CFR 60.4243(b)(2)(ii) and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

5.B.7 For Emission Points AA-009 and AA-010, the permittee must follow the procedures in 40 CFR 60.4244(a) through (f) for the performance stack tests, as listed below:

- (a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to 40 CFR 60, subpart JJJJ.
- (b) Performance tests may not be conducted during periods of startup, shutdown, or malfunction, as specified in §60.8(c). If the stationary SI internal combustion engine is non-operational, the engine does not have to be started up solely to conduct a performance test; however, the performance test must be conducted immediately upon startup of the engine.
- (c) Three separate test runs must be conducted for each performance test required in this section, as specified in §60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.
- (d) To determine compliance with the NO<sub>x</sub> mass per unit output emission limitation, convert the concentration of NO<sub>x</sub> in the engine exhaust using Equation 1 of 40 CFR 60.4244(d).
- (e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of 40 CFR 60.4244(e).
- (f) For purposes of 40 CFR 60.4244, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of 40 CFR 60.4244(f).
- (g) If the permittee chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then the permittee has the option of correcting the measured VOC emissions to account for

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the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of 40 CFR 60.4244(g).

(Ref.: 40 CFR 60.4244(a)-(g))

5.B.8 For Emission Points AA-009 and AA-010, the permittee must operate each emergency stationary engine according to the requirements cited below. In order for each engine to be considered an emergency stationary engine, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited. If each engine is not operated according to these requirements, the engine will not be considered emergency engines under 40 CFR 60, subpart JJJJ and must meet all requirements for non-emergency engines.

- (a) There is no time limit on the use of each emergency stationary engine in emergency situations.
- (b) Each engine may be operated for maintenance checks and readiness testing, provided that 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 the 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 that federal, state, or local standards require maintenance and testing of each engine beyond 100 hours per calendar year.
- (c) Each engine 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.

(Ref.: 40 CFR 60.4243(d)(1)-(3))

5.B.9 For Emission Points AA-009 and AA-010, the permittee shall keep records of the following information:

- (a) All notifications submitted to comply with 40 CFR 60, subpart JJJJ and all documentation supporting any notification;
- (b) Maintenance conducted on the engine; and
- (c) Documentation that the engine meets the emission standards.

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(Ref: 40 CFR 60.4245(a)(1), (2), and (4))

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C. Specific Reporting Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Reporting Requirement
AA-001 through AA-004	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.1	NO <sub>x</sub> and CO	Submit performance stack test results
	40 CFR Part 64, CAM Requirements	5.C.2	NO <sub>x</sub>	Selective Catalytic Reduction (SCR). See CAM Plan in Appendix C
AA-001 through AA-004, AA-009, and AA-010	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.3	NO <sub>x</sub> , CO, and VOC	Submit performance stack test notifications
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.4	Fuel	Submit report of fuel monitoring records
AA-009 and AA-010	40 CFR 60.4245(c)	5.C.5	NO <sub>x</sub> , CO, and VOC	Submit notifications
	40 CFR 60. 4245(d)	5.C.6	NO <sub>x</sub> , CO, and VOC	Submit performance stack test results

- 5.C.1 For Emission Points AA-001 through AA-004, the permittee shall submit the performance test results within 60 days of the performance of the tests. For the purpose of compliance testing, the turbines shall be tested at or above 75% of the maximum turbine load for the given atmospheric conditions at the time of testing. Each tested turbine load shall be identified in the sampling report. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))
- 5.C.2 For Emission Points AA-001 through AA-004, the permittee shall submit semi-annual reports summarizing each excursion from the CAM Plan and the associated corrective actions. If there were no excursions, a negative declaration should be reported. This data will be reported in accordance with Condition 5.A.4. (Ref: 40 CFR 64.9(a) and (b) and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c))
- 5.C.3 For Emission Points AA-001 through AA-004, AA-009, and AA-010, the permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the

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performance test is scheduled to begin. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

5.C.4 For Emission Points AA-001 through AA-004, AA-009, and AA-010, the permittee shall submit fuel usage reports summarizing type and quantity of fuel used in accordance with Condition 5.A.4. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

5.C.5 For Emission Points AA-009 and AA-010, the permittee must submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs 40 CFR 60.4245(c)(1) through (5), listed below:

- (a) Name and address of the owner or operator;
- (b) The address of the affected source;
- (c) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
- (d) Emission control equipment; and
- (e) Fuel used.

(Ref.: 40 CFR 60.4245(c))

5.C.6 For Emission Points AA-009 and AA-010, the permittee must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed. Performance test reports using EPA Method 18, EPA Method 320, or ASTM D6348-03 (incorporated by reference—see 40 CFR 60.17) to measure VOC require reporting of all QA/QC data. For Method 18, report results from sections 8.4 and 11.1.1.4; for Method 320, report results from sections 8.6.2, 9.0, and 13.0; and for ASTM D6348-03 report results of all QA/QC procedures in Annexes 1-7. (Ref.: 40 CFR 60.4245(d))

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## SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 None permitted.

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## 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

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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.

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# 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
NEESHAP	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 <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM <sub>10</sub>	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 <sub>2</sub>	Sulfur Dioxide
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOC	Volatile Organic Compound

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## APPENDIX B

### LIST OF REGULATIONS REFERENCED IN PERMIT

The full text of the regulations referenced in this permit may be found on-line at <http://www.deq.state.us.us> and <http://ecfr.gpoaccess.gov>, or the Mississippi Department of Environmental Quality (MDEQ) will provide a copy upon request. A list of regulations referenced in this permit is shown below:

11 Miss. Admin. Code Pt. 2, Ch. 1, Mississippi Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants (Amended December 14, 2011)

11 Miss. Admin. Code Pt. 2, Ch. 6, Mississippi Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Air Emissions Operating Permit Regulations for the Purpose of Title V of the Federal Clean Air Act (Amended December 14, 2011)

40 CFR Part 82 - Title VI of the Clean Air Act (Stratospheric Ozone Protection)

40 CFR 63, Subpart A – General Provisions

40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR 60, Subpart A – General Provisions

40 CFR 60, Subpart JJJJ – New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines

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## **APPENDIX C**

### **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN EMISSION POINTS AA-001, AA-002, AA-003, AND AA-004**

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# 40 CFR Part 64 Compliance Assurance Monitoring Plan

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Clinton Compressor Station

July 24, 2017

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# 1 Regulatory Background

Texas Eastern Transmission, L.P., (TETLP) owns and operates Clinton Compressor Station (Clinton), a natural gas compressor station in Clinton, Hinds County, Mississippi. The Mississippi Department of Environmental Quality (MDEQ) issued Construction Permit 1080-00209 on October 8, 2015 authorizing the installation and operation of an emission reduction project. The emission reduction project consisted of the installation of Selective Catalytic Reduction unit (SCR) to reduce NO<sub>x</sub> emissions and Oxidation Catalyst (OxCat) to reduce CO emissions on four (4) GE Frame 3 turbines; Units 41901-41904, EU: AA-001 to AA-004. The facility operates under Title V Permit No. 1080-00209.

On October 1997, the United States Environmental Protection Agency (EPA) issued and published the final Compliance Assurance Monitoring (CAM) rule codified in 40 CFR Part 64. The CAM rule applies to each pollutant specific emission unit (PSEU) that meets a three-part test. The PSEU must:

1. be subject to an emission limitation or standard,
2. use a control device to achieve compliance, and
3. have pre-control emissions that exceed or are equivalent to the major source threshold.

The 4 GE Frame 3 turbines at Clinton are subject to CO and NO<sub>x</sub> emission limitations and use a control device to achieve compliance with the emission limitations. The CO pre-control emissions from each turbine are less than the major source threshold; therefore, the turbines are not subject to CAM requirements for CO.

Each Frame 3 turbine has NO<sub>x</sub> pre-control emissions of 260 tpy that exceed that the major source threshold of 100 tpy<sup>1</sup>. The NO<sub>x</sub> emission limitation was requested by TETLP to limit facility-wide emissions below the PSD major source threshold. The basis for this specific emission limitation was not the result of a proposal by the U.S. EPA after November 15, 1990, pursuant to section 111 or 112 of the Act, nor is it derived from Title VI, Title IV, or other emissions trading program of the Clean Air Act. TETLP is not utilizing a continuous emissions monitoring system (CEMS) for continuous compliance demonstration.<sup>2</sup> As such, none of the exemptions delineated under 40 CFR 64.2(b) apply and each turbine is subject to CAM requirements for NO<sub>x</sub>.

## 1.1 Equipment Description

Four (4) GE Frame 3 Diffusion Flame, Regenerative Cycle Turbines

- Rating: 7,600 bhp National Electrical Manufacturers Association (NEMA), each
- Heat Input: 88.77 mmBTU/hr, each
- Constructed: 1957
- Fuel: Natural Gas
- Identification: Emission Units AA-001 – AA-004

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<sup>1</sup> Hinds County is designated as attainment or unclassifiable for all pollutants, including NO<sub>2</sub>, CO, and ozone (with NO<sub>x</sub> as a precursor) – see 40 CFR 81.318, and thus the Title V major source threshold is 100 tpy, per the definition of “major source” at 40 CFR 70.2.

<sup>2</sup> See definition of “continuous compliance demonstration” under 40 CFR 64.1.

## 1.2 Emission Limits

NO<sub>x</sub> emissions, from each Frame 3 turbine shall not exceed 25 ppmvd (part per million by volume on a dry basis) at 15 percent O<sub>2</sub>.

## 2 Monitoring Plan Requirements

The requirements of the monitoring plan are established in 40 CFR §64.4. Table 1 summarizes the requirements of the monitoring plan with its corresponding location in the plan.

**Table 1- Monitoring Plan Requirements Cross Reference**

Citation	Requirement	Location in Plan
§64.4(a)(1)	Indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO <sub>x</sub> emission controls	Table 2
§64.4(a)(2)	Ranges (or designated conditions) of the indicators	Table 2
§64.4(a)(3)	Process the permittee will use to make certain that the data that are representative of the emissions or parameters being monitored	Table 2
§64.4	Quality assurance and control practices	Table 2
§64.4	Frequency of monitoring and data collection procedures	Table 2
§64.4(b)	Justification for the proposed elements of the monitoring	Section 4

## 3 Monitoring Approach

The elements of the monitoring approach are presented in Table 2. The monitoring approach is identical for each Frame 3 turbine and consists of monitoring the SCR catalyst bed outlet temperature and the ammonia injection rate.

**Table 2- SCR System Monitoring Approach**

Indicator	SCR Catalyst Bed Outlet Temperature	Ammonia Injection Rate
<b>Monitored Parameter</b>	Operate and maintain a temperature gauge (thermocouple) to continuously record the temperature of the SCR catalyst bed of each turbine.	Operate and maintain a flow indicator to continuously record the ammonia sent to the SCR catalyst bed of each turbine. The measured actual ammonia injection rate is compared to the set-point injection rate <sup>3</sup> indicated by the control skid.
<b>Indicator Range</b>	Except during periods of start-up and shutdown <sup>4</sup> , an excursion is defined as a 4-hour rolling temperature of less than 400°F. Excursions trigger an inspection, corrective action, and a reporting requirement. A computer system records and alerts if the	Except during periods of start-up and shutdown <sup>4</sup> , an excursion is defined as 4-hour rolling percent difference between the ammonia flow and the ammonia injection set-point of more than 10%. Excursions trigger an inspection, corrective action, and a reporting requirement. A computer system automatically records and alerts if the ammonia

<sup>3</sup> The ammonia set-point injection rate is the flow rate of ammonia reagent determined by the unit Injection Controls System algorithm.

<sup>4</sup> A start-up is defined as the period initiated when a flame signal (or equivalent signal) is detected and ends when all permissives for the emission control systems are met. A shutdown is defined as the period initiated when the permissives for the emission control systems cannot be maintained and ends when fuel flow to the turbine is terminated. During periods of start-up and shutdown, the controls are not required to be operational and not relied upon to meet an emission limit. Therefore, these periods are not subject to CAM.

	catalyst bed temperature is not within the indicated range above.	injection rate is not within the indicated range above.
<b>Data Representativeness</b>	The thermocouple is located at the catalyst bed outlet. The minimum accuracy is $\pm 5\%$ .	The flow indicator is located in the ammonia injection line. The minimum accuracy is $\pm 5\%$ .
<b>QA/QC Practices and Criteria</b>	Thermocouple visually checked quarterly, and tested annually.	The ammonia flow meter was calibrated by the manufacturer upon installation. The meter is inspected and calibrated annually.
<b>Monitoring Frequency</b>	Temperature is measured continuously, at least once every clock hour.	Ammonia injection rate is measured continuously, at least once every clock hour.
<b>Data Collection Procedures</b>	A digital data recorder collects the temperature continuously.	A digital data recorder collects the ammonia injection rate and ammonia injection set-point continuously.
<b>Averaging period</b>	4-hour rolling average.	4-hour rolling average.

## 4 Justification

### 4.1 Selection of Performance Indicators

In the SCR, ammonia ( $\text{NH}_3$ ) is injected into the exhaust gas of the combustion turbine, upstream of the catalyst bed. In the catalyst bed,  $\text{NH}_3$  reacts with  $\text{NO}_x$  in the presence of oxygen ( $\text{O}_2$ ) to form nitrogen ( $\text{N}_2$ ) and water ( $\text{H}_2\text{O}$ ). Any unreacted  $\text{NH}_3$  is emitted from the stack as ammonia slip. The  $\text{NO}_x$  reduction efficiency is controlled by the ratio of  $\text{NH}_3$  injected to the amount of  $\text{NO}_x$  in the gas stream ( $\text{NH}_3/\text{NO}_x$ ), the catalyst material and condition, and catalyst bed temperature.

The temperature at the outlet of the catalyst bed provides a good indication of catalytic reduction performance because it indicates that the gas stream and catalyst bed are at sufficient temperature to initiate ammonia injection and reduction of  $\text{NO}_x$ . If the temperature is too low, catalyst activity is reduced and ammonia slip increases.

The  $\text{NH}_3$  volume injection rate should increase or decrease with changes in inlet  $\text{NO}_x$  mass levels due to varying process conditions. The ratio of ammonia to  $\text{NO}_x$  should be optimized; too much ammonia can result in excess "urea/ammonia slip," and too little ammonia results in increased  $\text{NO}_x$  emissions. The ammonia injection rate is a good performance indicator because the ratio of ammonia to  $\text{NO}_x$  affects the  $\text{NO}_x$  reduction efficiency.

### 4.2 Rationale for Performance Indicator Ranges

The indicator range selected for the SCR catalyst bed outlet temperature is greater than  $400^\circ\text{F}$ , and for the ammonia injection rate, a difference between the ammonia flow and the ammonia injection set-point of less than 10%. When an excursion occurs, corrective action will be initiated, documented, and reported, as required.

These selected indicator ranges are based on the following:

- Engineering assessments and manufacturer's recommendations in accordance with 40 CFR 64.4(c)(1);
- Emissions, SCR catalyst bed temperature, and the ammonia injection rate measured and recorded during performance testing in accordance with 40 CFR 64.4(c)(1); and
- The level of the measured emissions relative to the compliance limitation in accordance with 60 CFR 64.3(c).

The SCR catalyst bed temperature and ammonia flow rate ranges were recommended by the manufacturer's operating instructions, tuned during equipment commissioning and verified through performance testing.

## **5 Recordkeeping and Reporting**

Texas Eastern maintains records of monitoring data, performance data, any corrective actions taken, written quality improvement plan (if required in the future), and all other supporting information required to be maintained for a period of at least 5 years.

Deviation reports in accordance with the issued Title V permit and 40 CFR §70.6(a)(3)(iii) are submitted to MDEQ at least every 6 months. The reports are certified by a responsible official and include the number, duration and cause of excursions or exceedances, as applicable, and the corrective actions taken. Deviation reports also include the number, duration and cause for any monitoring downtime incidents.