

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

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Southern Natural Gas Company, LLC
Enterprise Compressor Station
100 County Road 332
Enterprise, Mississippi
Clarke 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.: 0440-00048

TABLE OF CONTENTS

SECTION 1.	GENERAL CONDITIONS	3
SECTION 2.	EMISSION POINTS & POLLUTION CONTROL DEVICES	13
SECTION 3.	EMISSION LIMITATIONS & STANDARDS	14
SECTION 4.	COMPLIANCE SCHEDULE	28
SECTION 5.	MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS....	29
SECTION 6.	ALTERNATIVE OPERATING SCENARIOS	44
SECTION 7.	TITLE VI REQUIREMENTS	45

APPENDIX A LIST OF ABBREVIATIONS USED IN THIS PERMIT

APPENDIX B LIST OF REGULATIONS REFERENCED IN THIS PERMIT

APPENDIX C COMPLIANCE ASSURANCE MONITORING PLAN

SECTION 1. GENERAL CONDITIONS

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

- (b) Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall only affect those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings shall not be initiated before a notice of such intent is provided to the Title V source by the DEQ at least 30 days in advance of the date that the permit is to be reopened, except that the Permit Board may provide a shorter time period in the case of an emergency.

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

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

direct measurement data shall be supplied; published emission factors such as those relating release quantities to throughput or equipment type (e.g., air emission factors); or other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgments where such judgments are derived from process and/or emission data which supports the estimates of maximum actual emission. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

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

Draft/Proposed

- (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.

Draft/Proposed

(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;

Draft/Proposed

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

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

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

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

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

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

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

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

Draft/Proposed

- (a) Except as otherwise specified herein, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- (b) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (c) following are met.
- (c) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
 - (1) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - (2) the permitted facility was at the time being properly operated;
 - (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
 - (4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- (d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

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

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

Draft/Proposed

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

- (1) For an upset, the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:
 - (i) An upset occurred and that the source can identify the cause(s) of the upset;
 - (ii) The source was at the time being properly operated;
 - (iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;
 - (iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;
 - (v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.
- (2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.
- (3) This provision is in addition to any upset provision contained in any applicable requirement.
- (4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

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

- (1) Startups and shutdowns are part of normal source operation. Emission

Draft/Proposed

limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

- (2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).
- (3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.

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

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

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-003	2,000 HP Clark TLAD-5 two stroke lean burn (2SLB) SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-008)
AA-004	2,000 HP Clark TLAD-5 2SLB SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-009)
AA-005	2,500 HP Cooper Bessemer GMVH-12C 2SLB SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-010)
AA-006	3,920 HP Cooper Bessemer 8W330-C2 2SLB SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-011)
AA-007	3,920 HP Cooper Bessemer 8W330-C2 2SLB SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-012)
AA-008	3,920 HP Cooper Bessemer 8W330-C2 2SLB SI natural gas-fired non-emergency compressor engine (Ref. No. 001C-013)
AA-009	567 HP Caterpillar G3412 TA four stroke rich burn (4SRB) SI natural gas-fired emergency generator engine (Ref. No. 002G-003)
AA-010	4,730 HP Caterpillar G3616 four stroke lean burn (4SLB) SI natural gas-fired non-emergency compressor engine equipped with an oxidation catalyst (Ref. No. 001C-014)
AA-011	4,730 HP Caterpillar G3616 4SLB SI natural gas-fired non-emergency compressor engine equipped with an oxidation catalyst (Ref. No. 001C-015)
AA-012	340 HP Detroit Diesel S60G 4SRB SI natural gas-fired emergency generator engine (Ref. No. 002G-004)
AA-013	10,350 HP (61.2 MMBTUH) Solar Taurus T-70 natural gas-fired compressor turbine
AA-014	650 HP Kohler 400 REZXB 4SRB SI natural gas-fired emergency generator engine
AA-015	0.25 MMBTUH Fuel Gas Heater
AA-000	Plant-wide Equipment and Pipe Fugitive Emissions

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-003 through AA-008, AA-010, AA-011, AA-013, and AA-014	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(b)	3.B.1	PM	$E=0.8808 \cdot I^{-0.1667}$
AA-009, AA-012, and AA-015	11 Miss. Admin. Code Pt. 2, R. 1.3. D(1)(a)	3.B.2	PM	0.6 lbs/MMBTU
AA-003 through AA-012 and AA-014	40 CFR 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)) 40 CFR 63.6580, Subpart ZZZZ; 40 CFR 63.6585(a)-(b), Subpart ZZZZ; 40 CFR 63.6590(a)(1)(i)-(ii), Subpart ZZZZ; 40 CFR 63.6590(a)(2)(i), Subpart ZZZZ; 40 CFR 63.6590(b)(1)(i), Subpart ZZZZ; and 40 CFR 63.6590(b)(3)(i)-(iii), Subpart ZZZZ	3.B.3	HAP	Applicability
AA-003	Air Construction Permit issued November 7, 1978	3.B.4	NO _x	59.2 lb/hr and 248.6 tpy
			Operating hours	8,424 hours/yr
AA-004	Air Construction Permit issued August 3, 1981	3.B.5	NO _x	37.4 lb/hr and 163.9 tpy
			CO	10.5 lb/hr and 46.2 tpy
AA-005	Air Construction Permit issued August 28, 1984	3.B.6	NO _x	12.7 lb/hr and 55.6 tpy
AA-006, AA-007, and AA-008	Air Construction Permit issued May 14, 1996	3.B.7	NO _x	24.0 lb/hr and 105.0 tpy per emission source
			CO	15.0 lb/hr and 65.0 tpy per emission source
AA-009, AA-012, and AA-014	40 CFR 63.6625(f), Subpart ZZZZ and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	3.B.8	Operational Restriction	Operational Requirements

Draft/Proposed

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
AA-010 and AA-011	Air Title V Permit modified January 18, 2002 and Air Construction Permit issued August 26, 2003	3.B.9	CO	3.65 lb/hr and 16.0 tpy per emission source
			NO _x	7.3 lb/hr and 31.97 tpy per emission source
			VOC	4.43 lb/hr and 19.41 tpy per emission source
		3.B.10	Fuel Restriction	Natural Gas Only
		3.B.11	Control Device Requirement	Must be operated at all times
AA-011	40 CFR 63.6600(b), Subpart ZZZZ and Item 2 of Table 2a of 40 CFR 63, Subpart ZZZZ	3.B.12	CO or Formaldehyde	Reduce CO emissions by $\geq 93\%$ or limit formaldehyde to 14 ppmvd at 15% O ₂
	40 CFR 63.6600(b), Subpart ZZZZ and Item 1 of Table 2b of 40 CFR 63, Subpart ZZZZ	3.B.13	General Operating Condition	Catalyst pressure drop ≤ 2 inches H ₂ O and catalyst inlet temp. ≥ 450 °F and ≤ 1350 °F
	40 CFR 63.6605(a), Subpart ZZZZ	3.B.14	General Operating Condition	Continuous Compliance
	40 CFR 63.6605(b), Subpart ZZZZ	3.B.15	General Operating Condition	Minimizing Emissions
AA-012	40 CFR 63.6602, Subpart ZZZZ; 40 CFR 63.6625(j), Subpart ZZZZ; and Item 6 and Footnotes 1 and 2 of Table 2C of 40 CFR Part 63, Subpart ZZZZ	3.B.16	HAP	Scheduled Maintenance Activities
AA-013	40 CFR 60, Subpart GG (Standards of Performance for Stationary Gas Turbines) 40 CFR 60.330, Subpart GG	3.B.17	SO ₂ and NO _x	Applicability
	40 CFR 60.333(b), Subpart GG	3.B.18	Fuel Sulfur Content	≤ 0.8 percent by weight
	40 CFR 60.332(a)(2), Subpart GG	3.B.19	NO _x	STD = $0.0150((14.4)/Y) + F$
	40 CFR 60.334(h)(3), Subpart GG	3.B.20	Fuel Restrictions	Natural Gas Only, with sulfur content ≤ 20 grains/100 scf
	Air Construction Permit issued April 1, 2013	3.B.21	CO	11.89 lb/hr and 45.14 tpy
			NO _x	9.77 lb/hr and 37.05 tpy
			VOC	3.10 lb/hr and 11.75 tpy

Draft/Proposed

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
AA-014	40 CFR 60, Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) 40 CFR 60.4230(a)(4)(iv), Subpart JJJJ	3.B.22	NO _x , CO, and VOC	Applicability
	40 CFR 60.4233(e), Subpart JJJJ; 40 CFR 60.4234, Subpart JJJJ; and Table 1 to 40 CFR Part 60, Subpart JJJJ	3.B.23	NO _x , CO, and VOC	2.0 g/bhp-hr NO _x or 160 ppmvd @ 15% O ₂ 4.0 g/bhp-hr CO or 540 ppmvd @ 15% O ₂ 1.0 g/bhp-hr VOC or 86 ppmvd @ 15% O ₂
AA-015	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.24	SO ₂	4.8 lbs/MMBTU
	40 CFR 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters)	3.B.25	HAPs	General Applicability
	40 CFR 63.7485, Subpart DDDDD; 40 CFR 63.7490, Subpart DDDDD; 40 CFR 63.7499(l), Subpart DDDDD; and 40 CFR 63.7500(a)(3), Subpart DDDDD	3.B.26	General Operating Condition	Minimizing Emissions

3.B.1 For Emission Points AA-003 through AA-008, AA-010, AA-011, AA-013, and AA-014, 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))

- 3.B.2 For Emission Points AA-009 and AA-012, the maximum permissible emission of ash and/or particulate matter from a fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

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

- 3.B.3 For Emission Points AA-003 through AA-012 and AA-014, the permittee is subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

Emission Points AA-003 through AA-008 are existing non-emergency spark ignition two stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions and as such are not required to meet the requirements of 40 CFR Part 63, Subpart ZZZZ or the General Provisions in Subpart A.

Emission Point AA-009 is an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions. As such, the emergency engine is only required to meet the emergency operational requirements of 40 CFR Part 63, Subpart ZZZZ that are listed in Condition 5.B.5.

Emission Point AA-010 is an existing non-emergency spark ignition four stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions and as such is not required to meet the requirements of 40 CFR Part 63, Subpart ZZZZ or the General Provisions in Subpart A.

Emission Point AA-011 is a new non-emergency SI 4SLB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions and as such is required to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and the General Provisions in Subpart A.

Emission Point AA-012 is an existing emergency stationary RICE with a site rating of less than 500 brake HP located at a major source of HAP emissions and as such is required to meet the operational requirements of 40 CFR Part 63, Subpart ZZZZ and the General Provisions in Subpart A.

Emission Point AA-014 is a new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR Part 63.6640(f)(2)(ii) and (iii) and as such is not required to

meet the requirements of 40 CFR Part 63, Subpart ZZZZ or the General Provisions in Subpart A, except for the initial notification requirements, which have been met.

(Ref.: 40 CFR 63.6580, 40 CFR 63.6585(a)-(b), 40 CFR 63.6590(a)(1)(i)-(ii), 40 CFR 63.6590(a)(2)(i), 40 CFR 63.6590(b)(1)(i), and 40 CFR 63.6590(b)(3)(i)-(iii), Subpart ZZZZ)

- 3.B.4 For Emission Point AA-003, Nitrogen Oxide (NO_x) emissions are limited to 59.2 pounds per hour (lb/hr) and 248.6 tons per year (tpy) and operating hours are limited to 8,424 hours per year (hrs/yr).

(Ref: Air Construction Permit issued August 3, 1981)

- 3.B.5 For Emission Point AA-004, NO_x emissions are limited to 37.4 lb/hr and 163.9 tpy and Carbon Monoxide (CO) emissions are limited to 10.5 lb/hr and 46.2 tpy.

(Ref: Air Construction Permit issued August 3, 1981)

- 3.B.6 For Emission Point AA-005, NO_x emissions are limited to 12.7 lb/hr and 55.6 tpy.

(Ref: Air Construction Permit issued August 28, 1984)

- 3.B.7 For Emission Points AA-006, AA-007, and AA-008, NO_x emissions are limited to 24.0 lb/hr and 105.0 tpy from each emission source and CO emissions are limited to 15.0 lb/hr and 65.0 tpy from each emission source.

(Ref: Air Construction Permit issued May 14, 1996)

- 3.B.8 For Emission Points AA-009, AA-012, and AA-014, the permittee must install and operate a non-resettable hour meter on each emergency engine.

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

- 3.B.9 For Emission Points AA-010 and AA-011, NO_x emissions are limited to 7.3 lb/hr and 31.97 tpy for each emission point, CO emissions are limited to 3.65 lb/hr and 16.0 tpy for each emission point, and Volatile Organic Compound (VOC) emissions are limited to 4.43 lb/hr and 19.41 tpy for each emission point. These limits were established to remain below PSD significant emission rates.

(Ref: Air Construction Permit issued August 26, 2003, and Air Title V Permit modified January 18, 2002)

- 3.B.10 For Emission Points AA-010 and AA-011, the permittee shall combust pipeline quality natural gas only.

(Ref.: Air Construction Permit issued August 26, 2003, and Air Title V Permit modified January 18, 2002)

- 3.B.11 For Emission Points AA-010 and AA-011, the permittee shall operate each source with emissions routed to each source's respective air pollution control device at all times during operations.

(Ref.: Air Construction Permit issued August 26, 2003, and Air Title V Permit modified January 18, 2002)

- 3.B.12 For Emission Point AA-011, the permittee shall reduce CO emissions by 93 percent or more or limit the concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O₂, with the engine operated at 100% load plus or minus 10%.

(Ref.: 40 CFR 63.6600(b) and Item 2 of Table 2a of 40 CFR Part 63, Subpart ZZZZ)

- 3.B.13 For Emission Point AA-011, the permittee shall maintain the catalyst so that the pressure drop across the catalyst does not change by more than two inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test. In addition, the permittee shall maintain the temperature of the stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.

(Ref.: 40 CFR 63.6600(b) and Item 1 of Table 2b of 40 CFR Part 63, Subpart ZZZZ)

- 3.B.14 For Emission Point AA-011, the permittee shall be in compliance with the emission limitations and operating limitations cited in Conditions 3.B.12 and 3.B.13 at all times.

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

- 3.B.15 For Emission Point AA-011, the permittee shall at all times, operate and maintain the engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safe and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require any further efforts to be made to reduce emissions if levels required by 40 CFR Part 63, Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the DEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the engine.

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

3.B.16 For Emission Point AA-012, the permittee shall comply with the following requirements:

- (a) Change oil and filter every 500 hours of operation or annually, whichever comes first, or perform an oil analysis at the same frequency in order to extend the oil change requirement. If the permittee chooses to use oil analysis in an effort to extend the oil/filter change requirement, the results of the analysis must verify the oil still meets the limits contained in (1)–(3) below. If any of these limits are exceeded, the oil must be changed within two business days of receiving the results of the analysis. If the engine is not in operation when the results are received, the oil must be changed within two business days or before commencing operation, whichever is later.
 - (1) Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from the Total Acid Number when new.
 - (2) Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new.
 - (3) Percent water content (by volume) is greater than 0.5.
- (b) Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
- (c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

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

(Ref.: 40 CFR 63.6602, 40 CFR 63.6625(j) and Item 6 and Footnotes 1 and 2 of Table 2c of 40 CFR 63, Subpart ZZZZ)

3.B.17 Emission Point AA-013 is subject to the New Source Standards of Performance for Stationary Combustion Turbines, 40 CFR Part 60, Subpart GG.

Draft/Proposed

(Ref.: 40 CFR 60.330), Subpart GG)

- 3.B.18 For Emission Point AA-013, the permittee shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight.

(Ref.: 40 CFR 60.333(b)), Subpart GG)

- 3.B.19 For Emission Point AA-013, the permittee shall not cause to be discharged into the atmosphere any gases which contain nitrogen oxides in excess of:

$$\text{STD} = 0.0150[(14.4)/Y] + F$$

where: STD = allowable NO_x emissions (percent by volume at 15 percent oxygen and on a dry basis)

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel bound nitrogen as defined by the following table:

Fuel-bound nitrogen (percent by weight)	F (NO _x percent by volume)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04(N)
$0.1 < N \leq 0.25$	$0.004 + 0.0067(N-0.1)$
$N > 0.25$	0.005

where: N = the nitrogen content of the fuel (percent by weight)

(Ref.: 40 CFR 60.332(a)(2), Subpart GG)

- 3.B.20 For Emission Point AA-013, the permittee shall combust only natural gas that complies with the definition of natural gas in 40 CFR Part 60.331(u). The permittee may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR Part 60.331(u), regardless of whether an existing custom schedule approved by the administrator for subpart GG requires such monitoring. The permittee shall use one of the following sources of information to make the required demonstration:

- (a) 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; or
- (b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 is required.

(Ref: 40 CFR 60.334(h)(3), Subpart GG)

- 3.B.21 For Emission Point AA-013, NO_x emissions are limited to 9.77 lb/hr and 37.05 tpy, CO emissions are limited to 11.89 lb/hr and 45.14 tpy, and VOC emissions are limited to 3.10 lb/hr and 11.75 tpy.

(Ref: Air Construction Permit issued April 1, 2013)

- 3.B.22 Emission Point AA-014 is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR Part 60, Subpart JJJJ.

(Ref: 40 CFR 60.4230(a)(4)(iv), Subpart JJJJ)

- 3.B.23 For Emission Point AA-014, Nitrogen Oxide (NO_x) emissions are limited to 2.0 grams per horsepower-hour (g/bhp-hr) or 160 ppmvd @ 15% O₂, Carbon Monoxide (CO) emissions are limited to 4.0 g/bhp-hr or 540 ppmvd @ 15% O₂, and Volatile Organic Compound (VOC) emissions are limited to 1.0 g/bhp-hr or 86 ppmvd @ 15% O₂. The engine must be operated and maintained such that the engine achieves these emission standards over the entire life of the engine.

(Ref: 40 CFR 60.4233(e), 40 CFR 60.4234, and Table 1 of 40 CFR 60, Subpart JJJJ)

- 3.B.24 For Emission Point AA-015, the permittee shall not discharge sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer in excess of 4.8 pounds (measured as sulfur dioxide (SO₂) per million BTU heat input.

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

- 3.B.25 Emission Point AA-015 is subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63 Subpart DDDDD. Emission Point AA-015 is an existing process heater in the “units designed to burn gas 1 fuel” subcategory as listed in 40 CFR Part 63.7499(l) and defined in 40 CFR Part 63.7575. These units do not have any applicable emission standards

and only have to comply with the work practice standard in Condition 3.D.1.

(Ref: 40 CFR 63.7485, 40 CFR 63.7490(a)(1) and (d), 40 CFR 63.7499(l), and 40 CFR 63.7500(a)(1), Subpart DDDDD)

- 3.B.26 For Emission Point AA-015, the permittee shall operate and maintain the process heater, including any monitoring equipment, in a manner consistent with safe and good air pollution control practices for minimizing emissions.

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

C. Insignificant and Trivial Activity Emission Limitations & Standards

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

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

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

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

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

D. Work Practice Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
AA-015	40 CFR 63.7500(e), Subpart DDDDD; 40 CFR 63.7515(d), Subpart DDDDD; 40 CFR 63.7540(a)(10)(i)-(vi), (12) and (13), Subpart DDDDD; and Table 3 of 40 CFR Part 63, Subpart DDDDD	3.D.1	Tune Up	Tune-ups

3.D.1 For Emission Point AA-015, the permittee shall complete a tune-up on the process heater every five years beginning from the date of the initial tune-up. Each subsequent tune-up shall be completed no more than 61 months after the previous one. If the unit is not operating on the required date of the tune-up, the tune-up must be conducted within 30 calendar days of startup. The tune-up must be completed in accordance with (a) through (f) below:

- (a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
- (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;
- (d) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;
- (e) Measure the concentrations in the effluent stream of CO in parts per million, by

Draft/Proposed

volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

- (f) Maintain on-site and submit, if requested by MDEQ, an annual report containing the following information listed in (1) through (3) of this section:
 - (1) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
 - (2) A description of any corrective actions taken as a part of the tune-up of the process heater; and
 - (3) The type and amount of fuel used over the 12 months prior to the tune-up of the process heater, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(Ref.: 40 CFR Part 63.7500(e), 40 CFR Part 63.7515(d), 40 CFR Part 63.7540(a)(10)(i)-(vi),(12), and(13), and Table 3 of 40 CFR Part 63, Subpart DDDDD)

SECTION 4. COMPLIANCE SCHEDULE

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

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

- 4.3 The permittee shall submit progress reports consistent with an applicable schedule of compliance and 11 Miss. Admin. Code Pt. 2, R. 6.2.C(8). semiannually, or at such other frequency as is specified in an applicable requirement or by the Permit Board. Such progress reports shall contain the following:
- (a) dates for achieving the activities, milestone(s), or compliance required in the schedule of compliance, and dates when such activities, milestone(s) or compliance were achieved; and
 - (b) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.2.C(8).)

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

A. General Monitoring, Recordkeeping and Reporting Requirements

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

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

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

- (a) the date, place as defined in the permit, and time of sampling or measurements;
- (b) the date(s) analyses were performed;
- (c) the company or entity that performed the analyses;
- (d) the analytical techniques or methods used;
- (e) the results of such analyses; and
- (f) the operating conditions existing at the time of sampling or measurement.

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

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

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

- 5.A.4 Except as otherwise specified herein, the permittee shall submit reports of any required monitoring by July 31 and January 31 for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with 11 Miss. Admin. Code Pt. 2, R. 6.2.E.

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

- 5.A.5 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) days of the time the deviation began.

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

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

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

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

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

B. Specific Monitoring and Recordkeeping Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Monitoring/Recordkeeping Requirement
AA-003	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.1	Operating Hours	Monitor and record daily operating hours
AA-003 through AA-008	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.2	NO _x	Biennial performance tests
AA-004 and AA-006 through AA-008	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.3	CO	Biennial performance tests
AA-003 through AA-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.4	Fuel	Monitor and record monthly the type and quantity of natural gas combusted.
AA-009 and AA-012	40 CFR 63.6640(f), Subpart ZZZZ and 40 CFR 63.6675, Subpart ZZZZ	5.B.5	General Operating Condition	Emergency Operations
AA-009, AA-012, and AA-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2) and 40 CFR 63.6625(d), Subpart ZZZZ	5.B.6	Hours	Monitor and record operations
AA-010 and AA-011	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.7	NO _x	Semiannual portable analyzer tests
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.8	Inspections	Weekly inspections
	40 CFR 64	5.B.9	CO and Formaldehyde	CAM Requirements – See Appendix B
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2); 40 CFR 63.6640(a), Subpart ZZZZ; and Item 1 of Table 6 of 40 CFR Part 63, Subpart ZZZZ	5.B.10	Temperature	Monitor and record catalyst inlet temperature.
AA-010	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.11	CO	Annual performance tests
	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.B.12	CO	Perform performance test upon replacement of the catalyst.
AA-011	40 CFR 63.6615, Subpart ZZZZ; 40 CFR 63.6620, Subpart ZZZZ; 40 CFR 63.6640, Subpart ZZZZ; and Tables 3, 4, and 6 of 40 CFR Part 63, Subpart ZZZZ	5.B.13	CO & O ₂	Semiannual portable analyzer tests
	40 CFR 63.6640, Subpart ZZZZ and Table 6 of 40 CFR 63, Subpart ZZZZ	5.B.14	Temperature	Monitor and record catalyst inlet temperature.

Draft/Proposed

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Monitoring/Recordkeeping Requirement
	40 CFR 63.6640, Subpart ZZZZ and Table 6 of 40 CFR 63, Subpart ZZZZ	5.B.15	Pressure Drop	Monitor and record catalyst pressure drop
	40 CFR 63.6640(b), Subpart ZZZZ	5.B.16	CO and Pressure Drop	Perform performance test upon replacement of the catalyst.
AA-013	40 CFR 60.334(h)(3), Subpart GG	5.B.17	Fuel Sulfur Content	Monitor and record fuel sulfur content
AA-014	40 CFR 60.4243(a)(1) and (b)(1), Subpart JJJJ	5.B.18	NO _x , CO, and VOC	Purchase a certified engine
	40 CFR 60.4245(a)(1)-(4) and (b), Subpart JJJJ	5.B.19	NO _x , CO, and VOC	Keep records
	40 CFR 60.4243(d)(1)-(3), Subpart JJJJ and 40 CFR 60.4248, Subpart JJJJ	5.B.20	NO _x , CO, and VOC	Emergency Operational Requirements
AA-015	40 CFR 63.7540(a)(12), Subpart DDDDD	5.B.21	HAP	Continuous Compliance
	40 CFR 63.7555(a)(1), Subpart DDDDD; 40 CFR 63.7560, Subpart DDDDD; and 40 CFR 63.10(b)(2), Subpart DDDDD	5.B.22	HAP	Recordkeeping

5.B.1 For Emission Point AA-003, the permittee shall keep records of the hours of operation of the engine on a monthly and 12-month consecutive rolling total basis.

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

5.B.2 For Emission Points AA-003 through AA-008, the permittee shall conduct biennial performance tests in accordance with EPA Reference Method 7 or 7E or an approved equivalent, to demonstrate compliance with the permitted emission limitations for NO_x. The permittee shall conduct testing on a biennial basis in accordance with the schedule established in previous permit(s). For the purpose of compliance demonstration the permittee shall operate the sources at their maximum capacity.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ 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.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

Draft/Proposed

- 5.B.3 For Emission Points AA-004, AA-006, AA-007, and AA-008, the permittee shall conduct biennial performance tests in accordance with EPA Reference Method 10, or an approved equivalent, to demonstrate compliance with the permitted emission limitations for CO.

The permittee shall conduct testing on a biennial basis in accordance with the schedule established in previous permit(s). For the purpose of compliance demonstration the permittee shall operate the sources at their maximum capacity.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ 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.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

- 5.B.4 For Emission Points AA-003 through AA-014, the permittee shall monitor and maintain records of the type and quantity of fuel combusted on a monthly and 12-month consecutive rolling total basis.

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

- 5.B.5 For Emission Points AA-009, AA-012, and AA-014, the permittee shall operate each emergency engine according to the requirements below:

- (a) There is no limit on the use of the engine during emergency situations.
- (b) The engine may be operated for a maximum of 100 hours per calendar year 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 DEQ 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 emergency RICE beyond 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (c) counts as part of the 100 hours per calendar year allowed by this paragraph.
- (c) The 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. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency

demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

If the emergency engine is not operated according to the requirements in (a) - (c) above, the engine will not be considered an emergency engine under Subpart ZZZZ and must meet any applicable requirements for a non-emergency engine.

(Ref.: 40 CFR 63.6640(f) and 40 CFR 63.6675, Subpart ZZZZ)

- 5.B.6 For Emission Points AA-009, AA-012, and AA-014, the permittee shall monitor and record the hours of operation of the engine using the non-resettable hour meter. These records must indicate how many hours are spent in emergency operation, including what classified the operation as an emergency, and how many hours are spent in non-emergency operation. Records should also include any time spent operating for the purposes identified in Condition 5.B.5(b) and (c), and should contain an explanation of the emergency situation, date, and start and end time of engine operation for this purpose.

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

- 5.B.7 For Emission Points AA-010 and AA-011, the permittee shall conduct semiannual performance test monitoring on each engine to demonstrate compliance with NO_x limitations. The monitoring shall be done using an approved portable analyzer for NO_x in accordance with ASTM D6522-00, or as an option the permittee may use EPA Reference Methods 7 and 10 or other approved equivalents. The NO_x testing shall be performed while the engine is operating at peak load conditions.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ 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). After the first successful submittal of a written test protocol for the portable analyzers, the permittee may request that the resubmittal of testing protocol be waived for subsequent testing by certifying in writing at least thirty (30) days prior to subsequent testing that all conditions for testing remain unchanged such that the original protocol can and will be followed.

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

- 5.B.8 For Emission Points AA-010 and AA-011, the permittee shall perform weekly visual inspections of the air pollution control equipment for leaks, ruptures, cracks, etc. Maintenance shall be performed as necessary to maintain proper operation of the pollution control equipment. Records of weekly inspections and any maintenance work shall be kept in log form and must be made available for review upon request during any inspection visit

by the Office of Pollution Control personnel.

The permittee shall maintain on hand at all times sufficient equipment as is necessary to repair and/or overhaul the pollution control equipment. In the event of a failure of the pollution control equipment, the permittee shall cease operations until such time as repairs are made and the proper efficiency of the pollution control equipment is restored.

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

- 5.B.9 For Emission Points AA-010 and AA-011, the permittee shall comply with the Compliance Assurance Monitoring (CAM) requirements as specified in 40 CFR Part 64. The CAM Plans are provided in Appendix B.

(Ref.: 40 CFR 64)

- 5.B.10 For Emission Points AA-010 and AA-011, the permittee shall continuously monitor and keep records of the catalyst bed temperature.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2), 40 CFR Part 63.6640(a), and Item 1 of Table 6 of 40 CFR 63, Subpart ZZZZ)

- 5.B.11 For Emission Point AA-010, the permittee shall conduct annual performance tests using a portable analyzer for CO and O₂ in accordance with ASTM D6522-00, or as an option the permittee may use EPA Reference Methods 3A and 10 or another approved equivalent, to demonstrate compliance with the permitted emission limitations for CO.

The permittee shall conduct testing on an annual basis in accordance with the schedule established in previous permit(s). For the purpose of compliance demonstration the permittee shall operate the source at its maximum capacity.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ 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.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2))

- 5.B.12 For Emission Point AA-010, within 180 days of replacement of the catalyst, the permittee must conduct a new performance test in accordance with Condition 5.B.11.

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

- 5.B.13 For Emission Point AA-011, the permittee shall conduct semiannual performance tests using a portable analyzer for CO and O₂ in accordance with ASTM D6522-00, or as an option the permittee may use EPA Reference Methods 3A and 10 or another approved equivalent, to demonstrate compliance with the CO reduction requirement.

The permittee shall conduct testing on a semiannual basis in accordance with the schedule established in previous permit(s). For the purpose of compliance demonstration the permittee shall operate the source at its maximum capacity.

When compliance is demonstrated for two consecutive tests, the testing frequency may be reduced to annually. If the results of any annual performance test indicates non-compliance with the CO emission limitation, or the permittee deviates from any operating limitations, the permittee must resume semiannual testing.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the DEQ. The DEQ 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.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2) and 40 CFR 63.6615, 63.6620, 63.6640 & Tables 3, 4, & 6, Subpart ZZZZ)

- 5.B.14 For Emission Point AA-011, the permittee shall install, operate, and maintain the continuous parameter monitoring systems (CPMS) used to monitor the catalyst inlet temperature in accordance with the following:

- (a) The permittee shall prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in (1) through (5) below:
 - (1) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
 - (2) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;
 - (3) Equipment performance evaluations, system accuracy audits, or other audit procedures;
 - (4) Ongoing operation and maintenance procedures in accordance with provisions in 63.8(c)(1)(ii) and (c)(3); and

- (5) Ongoing reporting and recordkeeping procedures in accordance with provisions in 63.10(c), (e)(1) and (e)(2)(i).
- (b) The permittee shall install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.
- (c) The CPMS must collect data at least once every 15 minutes.
- (d) The temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.
- (e) The permittee must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

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

5.B.15 For Emission Point AA-011, the permittee shall demonstrate continuous compliance with the CO percent reduction requirement referenced in Condition 3.B.12 for the engine in accordance with the following:

- (a) Collect the catalyst inlet temperature data, reduce the data to 4-hour rolling averages, and maintain the 4-hour rolling averages within the operating limits for the catalyst inlet temperature.
- (b) Measure the pressure drop across each catalyst once per month and demonstrate that the pressure drop across the catalyst is within the operating limitation established during the previous performance test.

The permittee shall monitor continuously at all times the engine is operating except for periods of monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. Any data obtained during one of these periods shall not be used in any average or calculation used to demonstrate compliance.

(Ref.: 40 CFR 63.6635, 40 CFR 63.6640(a), and Table 6 of Item 10 of 40 CFR Part 63, Subpart ZZZZ)

5.B.16 For Emission Point AA-011, upon a change to the catalyst, the permittee must reestablish the value for the pressure differential operating parameter that was measured during the initial performance test. When the pressure differential value is reestablished, the permittee must also conduct a performance test to demonstrate that the emission limitation.

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

- 5.B.17 For Emission Point AA-013, the permittee shall monitor and keep records of the total sulfur content of the gaseous fuel combusted in the turbine. The permittee shall not be required to monitor the total sulfur content of the gaseous fuel combusted in the turbine if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR Part 60.331(u). The permittee shall use the following source of information to make the required demonstration:
- (a) 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; or
 - (b) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR, Part 75 is required.

(Ref.: 40 CFR 60.334(h)(3), Subpart GG)

- 5.B.18 For Emission Point AA-014, the permittee shall comply with the emission standards specified in Condition 3.B.23 by purchasing an engine certified according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year and demonstrating compliance by operating and maintaining the certified engine and control device according to the manufacturer's emission-related written instructions. Records of conducted maintenance must be kept to demonstrate compliance, but no performance testing is required. The applicable requirements as specified in 40 CFR part 1068, subparts A through D, must also be met. If engine settings are adjusted according to and consistent with the manufacturer's instructions, the engine will not be considered out of compliance.

(Ref.: 40 CFR 60.4243(a)(1) and 40 CFR 60.4243(b)(1), Subpart JJJJ)

- 5.B.19 For Emission Point AA-014, the permittee shall keep records of the following information:
- (a) All notifications submitted to comply with Subpart JJJJ and all documentation supporting any notification;
 - (b) Maintenance conducted on the engine;
 - (c) Documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable; and

- (d) Documentation that the engine meets the emission standards.
- (e) If the emergency engine does not meet the standards applicable to non-emergency engines, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(Ref: 40 CFR 60.4245(a)(1)-(4) and (b), Subpart JJJJ)

5.B.20 For Emission Point AA-014, the permittee must operate the emergency stationary engine according to the requirements cited below. In order for the 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 the engine is not operated according to these requirements, the engine will not be considered emergency engines under 40 CFR Part 60, subpart JJJJ and must meet all requirements for non-emergency engines.

- (a) There is no time limit on the use of the emergency stationary engine in emergency situations.
- (b) The 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) The 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) and 40 CFR 60.4248, Subpart JJJJ)

5.B.21 For Emission Point AA-015, the permittee shall demonstrate continuous compliance with the applicable work practice standards by conducting a tune-up on the process heater in accordance with Condition 3.D.1.

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

5.B.22 For Emission Point AA-015, the permittee shall keep a copy each notification and report submitted to comply with Subpart DDDDD, including all documentation supporting the

Notification of Compliance Status or a semiannual compliance report. These records shall be retained for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. The permittee is required to keep the records on site for a period of 2 years after the event and then they may be kept offsite for the remaining three years. All records must be readily available for review.

(Ref.: 40 CFR 63.7555(a)(1), 40 CFR 63.7560, and 40 CFR 63.10(b)(2), Subpart DDDDD)

C. Specific Reporting Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant / Parameter Monitored	Reporting Requirement
AA-003 through AA-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.1	Fuel	Submit reports of fuel usage
AA-003 through AA-008, AA-010, AA-011, and AA-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.2	Test Results	Submit test reports
AA-003, AA-009, AA-012, and AA-014	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.3	Hours	Submit reports of operating hours
AA-010 and AA-011	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2)	5.C.4	Hours	Submit reports of CAM Plan excursions
AA-011	40 CFR 63.6650, Subpart ZZZZ and Table 7 of 40 CFR Part 63, Subpart ZZZZ	5.C.5	Deviations	Submit reports of excursions
AA-015	40 CFR 63.7550(a),(b), and(c)(5)(i)-(iii),(xiv), and (xvii), Subpart DDDDD and Table 9 of 40 CFR Part 63, Subpart DDDDD	5.C.6	HAP	Submit compliance reports

5.C.1 For Emission Points AA-003 through AA-014, the permittee shall submit fuel usage reports summarizing the type of fuel and the 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.2 For Emission Points AA-003 through AA-008, AA-010, AA-011, and AA-014, the permittee shall submit written reports of all required performance stack testing results within sixty (60) days of the date the performance stack test is performed and all portable analyzer results within thirty (30) days of the date the portable analyzer test is performed.

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

5.C.3 For Emission Points AA-003, AA-009, AA-012, and AA-014, the permittee shall submit a

Draft/Proposed

summary report of the hours of operation in accordance with Condition 5.A.4.

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

- 5.C.4 For Emission Points AA-010 and AA-011, the permittee shall submit 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 shall be reported 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 Point AA-011, the permittee shall submit a compliance report in accordance with Condition 5.A.4. The compliance report shall identify whether or not there were any deviations from the emission limitations or operating limitations, any periods for which the continuous monitoring system was out-of-control, or any start-up, shutdown or malfunction events, during the reporting period.

The permittee shall also provide oral notification within two (2) working days of any actions taken to address startup, shutdown or malfunction that is inconsistent with the permittee's startup, shutdown or malfunction plan. A written notification shall be submitted within seven (7) working days following the end of the event in accordance with the information in 40 CFR Part 63.10(d)(5)(ii).

(Ref.: 40 CFR 63.6650 and Table 7 of 40 CFR 63, Subpart ZZZZ)

- 5.C.6 For Emission Point AA-015, the permittee shall submit the information listed in (a) through (e) in accordance with the next required report per Condition 5.A.4 once the tune-ups required in Condition 3.D.1 have been completed. This information must be submitted for each process heater:

- (a) Company and Facility name and address
- (b) Process unit information
- (c) Date of report and beginning and ending dates of reporting period
- (d) The date of the most recent tune-up. Include the date of the most recent burner inspection, if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled shutdown.
- (e) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(Ref.: 40 CFR 63.7550(a), (b), and (c)(5)(i)-(iii),(xiv), and (xvii) and Table 9 of 40 CFR 63, Subpart DDDDD))

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 None permitted.

SECTION 7. TITLE VI REQUIREMENTS

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

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

equipment, approved recycling and recovery equipment testing organizations, 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.

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
NM VOC	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

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 Part 60, Subpart A – General Provisions

40 CFR Part 60, Subpart GG – New Source Standards of Performance for Stationary Gas Turbines

40 CFR Part 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 Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

APPENDIX C

COMPLIANCE ASSURANCE MONITORING PLAN

CAM PLAN FOR AA-010

Introduction

The Compliance Assurance Monitoring (CAM) regulations, whose guidelines are established in 40 CFR §64, were promulgated on November 21, 1997. CAM is required for units using control devices “to provide reasonable assurance of compliance with applicable requirements under the Clean Air Act for large emissions units that rely on pollution control devices to achieve compliance.”¹ The CAM rule requires owners and operators to maintain their control devices at levels that assure compliance, to design CAM plans around current requirements and operating practices, and to select representative parameters upon which compliance can be assured. The CAM plan establishes indicator ranges or procedures for setting the indicator ranges, uses performance testing and other information to verify the parameters and ranges, and seeks to correct control device performance problems as expeditiously as possible.

This document presents the results of a CAM applicability study performed for Southern Natural Gas Company’s (SNG) Enterprise Compressor Station located in Enterprise, Mississippi, in Clarke County. Each source at Enterprise Compressor station is assessed for applicability to CAM. This report presents a brief summary of the CAM rule, a discussion of applicability rationale with respect to emission sources at the Enterprise Compressor Station, and a CAM plan submittal for the affected source.

1.1 CAM Summary

Under the CAM regulations at 40 CFR §64, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V Operating Permit application. The CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits. Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V Operating Program. For a subject unit whose post-controlled emissions also exceed the major source threshold, a CAM plan is required to be submitted with the initial Title V Operating Permit application. For a subject unit whose post-control emissions are less than the major source threshold, a CAM plan does not have to be submitted until the first renewal application.

Exemptions to CAM requirements are as follows:²

- ▲ Any Pollutant-Specific Emissions Unit (PSEU) that is subject to a New Source Performance Standard (NSPS) or a National Emission Standard for Hazardous Air Pollutants (NESHAP) that was promulgated after November 15, 1990. These standards are designed with monitoring that provides a reasonable assurance of compliance.
- ▲ Any PSEU that is subject to the stratospheric ozone protection requirements, acid rain program requirements, or other emissions limitations or standards that apply solely under an emission trading program or an emission cap.

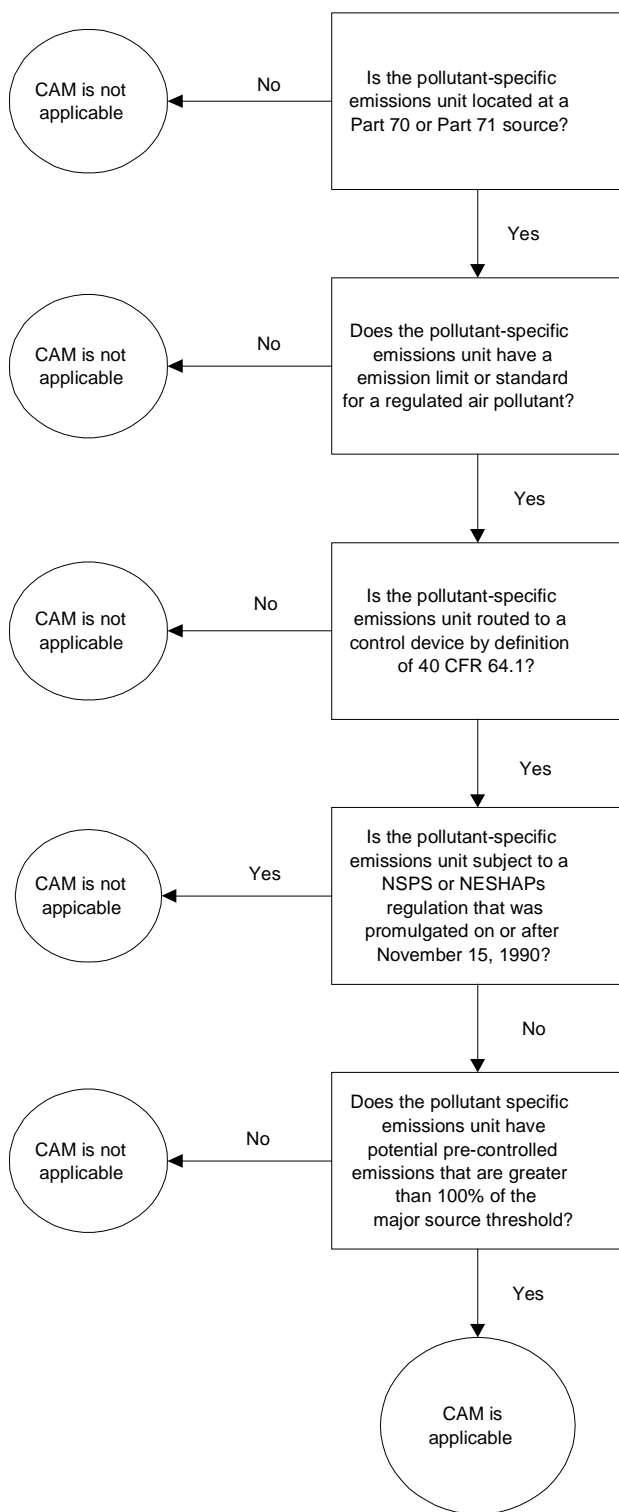
¹ CAM Technical Guidance Document, August 1998.

² 40 CFR §64.2(b).

- ▲ Any PSEU whose emission limitations or standards specify a continuous compliance determination method unless this applicable emission reduction factor includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device.
- ▲ Certain municipally-owned utility units that
 - ▲ Are exempt from all monitoring requirements,
 - ▲ Produce electricity during periods of peak electrical demand or emergency situations since these periods or situations are infrequent, and
 - ▲ Have actual emissions from the utility unit based on the average annual emissions over the last three years of operation that are less than 50 percent of the amount in tpy required for a source to be classified as a major source.

A flow chart that can be used to determine applicability to CAM is provided in Figure B-1.

FIGURE B-1. CAM APPLICABILITY FLOWCHART



1.2 CAM Applicability

This section describes the applicability of CAM requirements for Emission Point AA-010 at SNG's Enterprise Compressor Station. The facility currently operates under Title V Operating Permit No. 0440-00048 issued on October 15, 2003. Table 1 identifies applicable emission limits or standards for Emission Point AA-010 which is a 4,730 hp, 4-stroke, lean-burn, reciprocating internal combustion engines (RICE) that employs the use of an oxidation catalyst as an active control device to abate emissions of carbon monoxide (CO), Volatile Organic Compounds (VOC), and Hazardous Air Pollutants (HAP) including formaldehyde (HCHO).

TABLE 1. APPLICABLE EMISSION LIMITS OR STANDARDS

Emission Point ID	Facility Reference Number	Pollutant	Emission Limit or Standard
AA-010	001C-14	CO	3.65 lb/hr; 16.00 TPY
		VOC	4.43 lb/hr; 19.41 TPY
		HCHO	1.14 lb/hr; 4.98 TPY
		NO _x	7.3 lb/hr; 31.97 TPY

On June 15, 2004 the final NESHAP rule for RICE was published in the Federal Register. This final rule does not apply to Emission Point AA-010 since it is considered an existing 4-stroke lean-burn engine³.

To assess the applicability of CAM requirements, Engine AA-010 is assessed on a pollutant-by-pollutant basis to quantify the pre-control and post-control emissions controlled by the oxidation catalyst on each engine. The emissions presented in Table 2 are based upon manufacturer's specifications/guarantees and engineering judgment as presented in the permit applications for the engine. Note that because the oxidation catalyst is not designed to control NO_x emissions, the engine is not considered a PSEU for NO_x and CAM is presumptively determined not to apply.

TABLE 2. COMPRESSOR ENGINE PSEU EMISSIONS CONTROL ANALYSIS

Pollutant	Major Source Threshold (tons per year)	Pre-Control Emissions (tons per year)	Post-Control Emissions (tons per year)
CO	100	114.2	16.00
VOC	100	22.8	19.41
HCHO	10	18.3	4.98

As shown in Table 2, the pre-control emissions of VOC are below the major source threshold, and the pre-controlled CO and HCHO emissions are above the major source thresholds. Because the post-

³ With respect to the RICE NESHAP, Engines 001C-014 is considered an existing unit as a commitment to a program of continuous construction and permit application were in place and the engine was installed prior to the regulatory deadline of December 19, 2002.

control emissions of CO and HCHO are below the major source thresholds, the compressor engine is determined to be an affected small-PSEU for CO and HCHO subject to CAM requirements. Accordingly, SNG is required to submit its CAM plan for this engine with the initial Title V renewal application that was submitted in September 2003.

In response to the letters dated July 15, 2004 and October 1, 2004 from Mississippi Department of Environmental Quality (MDEQ), the following sections contain the updated CAM plan for Emission Point AA-010 for CO and HCHO.

COMPLIANCE ASSURANCE MONITORING PLAN

SOUTHERN NATURAL GAS COMPANY - ENTERPRISE COMPRESSOR STATION

I. BACKGROUND

1. EMISSION UNIT

Description: 4,730 hp Caterpillar G3616 Compressor Engine

Identification: Facility Reference Number 001C-014, Emission Point AA-010

Facility: SNG's Enterprise Compressor Station, Clarke County, Mississippi

2. APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS

Regulation/ Mississippi Title V Operating Permit No. 0440-00048
Emission Limit: 3.65 lb/hr of CO and 1.14 lb/hr of HCHO

Current Monitoring Oxidation catalyst inlet temperature continuous monitoring
Requirements: of the oxidation catalyst inlet temperature (in degrees Fahrenheit) and
monthly monitoring of pressure drop across the catalyst (in inches of H₂O).

3. CONTROL TECHNOLOGY

An oxidation catalyst has been utilized since the engine commenced operation. Due to ongoing maintenance issues and operating costs associated with the existing catalyst, a new Mueller oxidation catalyst system was installed to replace the existing catalyst. This installation was performed during the week of October 24, 2005. The catalyst system included the complete replacement of the duct work and exhaust stack (with identical stack parameters) that exits the Unit 14 (AA-0010) compressor building. The new catalyst will be setup with thermocouples and pressure transmitters to continuously measure inlet temperature and monthly monitor the differential pressure across the catalyst.

II. MONITORING APPROACH

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in the following table.

**TABLE 3. COMPRESSOR ENGINE AA-010
CAM SUMMARY – OXIDATION CATALYST INLET TEMPERATURE**

Indicator	
Parameter	Oxidation Catalyst Inlet Temperature (° F).
Measurement Approach	The inlet temperature to the oxidation catalyst is continuously monitored using a thermocouple.
Indicator Range	
Parameter Range	Oxidation Catalyst Inlet Temperature Range of 450° F – 1,350° F at all loads.
Performance Criteria	
Data Representativeness	<p>The inlet catalyst temperature monitoring device is a K-type thermocouple or an equivalent type capable of measuring catalyst inlet temperature. The thermocouple is Pyromation Model K49U-009-00-15-H1A048-3I-Q1 or an equivalent model capable of measuring catalyst inlet temperature.</p> <p>The inlet catalyst temperature monitoring device is installed upstream of the catalyst. SNG is confident that this placement, provides catalyst inlet temperature readings that are representative of actual exhaust temperature entering the catalyst element.</p>
Verification of Operational Status	The inlet temperature monitors have already been installed. Please see Data Representative Section above for more information.
QA/QC Practices and Criteria	Annual inspections of the thermocouples will be performed and the thermocouples will be replaced if necessary. Because inlet temperature is being measured continuously while the engine is operating, any thermocouple failure during engine operation will be an automatic indicator triggering the engine alarm and/or engine shutdown settings noted below. Inspection and replacement (if necessary) rather than calibration was determined to be a more practical and cost effective approach. Based on discussions with the thermocouple manufacturer, the cost of replacing thermocouples compared to the cost of calibration checks, which may require a need for replacement, is such that equipment replacement is much more feasible than calibration checks ⁴ .

⁴It is important to note that thermocouples cannot be calibrated. A calibration check can be performed, however, if this check shows that the equipment is out of calibration, the thermocouple must be replaced.

	<p>SNG will establish alarm and shutdown limits that prevent the engine from operating below 450°F and above 1350°F as follows:</p> <ul style="list-style-type: none"> • Lower limit alarm set-point: 500 °F • Lower limit shutdown set-point: 475 °F • Upper limit alarm set-point: 1300 °F • Upper limit shut-down set-point: 1325 °F
Monitoring Frequency and Data Collection Procedures	<p>SNG proposes the following for the oxidation catalyst inlet temperature per the RICE MACT (40 CFR 63.6640a and Table 6):</p> <ul style="list-style-type: none"> • Continuous monitoring of the catalyst inlet temperature using a thermocouple. • Calculate 4-hour rolling average of the inlet temperature, and maintain it within the catalyst inlet temperature range of 450°F – 1350°F at all loads.
Recordkeeping	<p>As required by the Mississippi DEQ Construction Permit No. 0440-00048, weekly visual inspections of the oxidation catalyst will be conducted to inspect for leaks, ruptures, cracks, etc. Maintenance is also required to maintain proper operation of the control equipment. Records will be kept of the weekly visual inspections and of any required maintenance.</p>

**TABLE 4. COMPRESSOR ENGINE AA-010
CAM SUMMARY – OXIDATION CATALYST PRESSURE DROP**

Indicator	
Parameter	Pressure Drop across Oxidation Catalyst (inches of H ₂ O).
Measurement Approach	Pressure Drop across Oxidation Catalyst is monitored and recorded once per calendar month at 100% +/- 10% load.
Indicator Range	
Parameter Range	Less than or equal to 12 inches of H ₂ O
Performance Criteria	
Data Representativeness	The pre- and post-catalyst pressure devices will be installed upstream and downstream of the catalyst. The differential pressure transmitter will be mounted below the catalyst with a collection bottle to capture liquid condensation from the transmitter's associated tubing lines. SNG is confident that the measurement device being used, in conjunction with this placement, provides catalyst differential pressure readings that are representative of actual differential pressure across the catalyst element.
Verification of Operational Status	Being that this measurement is not intended to be recorded on a continuous basis, no ongoing action is required. Prior to each measurement reading, however, facility personnel will verify that the measurement devices and associated automation equipment is functioning properly and that no erroneous readings are taken.
QA/QC Practices and Criteria	<p>In order to ensure accurate measurement, SNG will verify the calibration of the differential pressure transmitters twice per calendar year.</p> <p>SNG is confident that the inherent accuracy of the pressure transmitters in conjunction with biannual calibration will ensure a measurement accuracy needed for guaranteeing operation below the proposed differential pressure limit.</p>
Monitoring Frequency and Data Collection Procedures	<p>SNG proposes the following monitoring requirements for pressure drop across the catalyst per the RICE MACT (40 CFR 63.6640a and Table 6):</p> <ul style="list-style-type: none"> • Monthly monitoring of pressure drop across the catalyst at 100% +/- 10% load. • Maintain monthly pressure drop across the catalyst within 12 inches of water.
Recordkeeping	As required by the Mississippi DEQ Construction Permit No. 0440-00048, weekly visual inspections of the oxidation catalyst will be conducted to inspect for leaks, ruptures, cracks, etc. Maintenance is also required to maintain proper operation of the control equipment. Records will be kept of the weekly visual inspections and of any required maintenance.

III. JUSTIFICATION

1. Background

The Emission Point AA-010 is a 4,730 horsepower (hp), 4-stroke, lean burn, reciprocating internal combustion engine that fires only pipeline-quality natural gas. This engine is considered an “existing source” and is not subject to any NESHAP⁵ or NSPS standards promulgated after November 15, 1990. The unit operates throughout the year at or near full capacity. This unit is not a “large” CAM source as post-controlled CO and HCHO emissions do not exceed the Title V major source threshold of 100 tpy and 10 tpy, respectively. Thus, continuous monitoring is not required for CO or HCHO.

2. Rationale for Performance Indicators Selection

Inlet Temperature to Oxidation Catalyst

An oxidation catalyst facilitates the breakdown of excess O₂ molecules in the exhaust stream. The resulting oxygen atoms are subsequently available to bond with the CO molecules in the exhaust stream to form CO₂, thereby reducing the CO levels in the exhaust. Breakdown of O₂ molecules results also in reduction of HCHO. The catalyst supplier has stated that:

“The oxidation of formaldehyde in this application tracks the curve for CO closely.”

The two most important variables to consider when examining catalyst performance are the catalyst inlet temperature and O₂ concentration. Due to the design characteristic of the Caterpillar G3616 engine, significant excess air is required for proper operation and the engine will always operate well above of the 4% O₂ required by the catalyst for the oxidation process. Therefore, the oxidation catalyst inlet temperature is the only key parameter that needs to be monitored to ensure the proper operation and reduction efficiency of the oxidation catalyst.

Since the HCHO emission reduction is closely related to CO emissions, the catalyst inlet temperature serves as a reliable means of monitoring compliance with CO and HCHO emission limits. By meeting the proposed indicator range levels for the oxidation catalyst inlet temperature, reasonable assurances can be provided that the control device is working properly and the emission unit will not exceed the relevant limits.

Pressure Drop across Oxidation Catalyst

Pressure drop across the oxidation catalyst element is one indicator of the health of the oxidation catalyst element. Excessive pressure drop across the catalyst is the result of accumulation of particulates from lube oil ash, oil carryover, and /or other products of combustion. The accumulation of these deposits can limit the oxidation catalysts ability to effectively destroy CO, HCHO, and VOC. With this in mind, SNG will monitor, on a monthly basis, the differential pressure across the oxidation catalyst as one indicator of catalyst health.

⁵ With respect to the RICE NESHAP, engine AA-010 is considered an existing unit as a commitment to a program of continuous construction and permit application were in place prior to the regulatory deadline of December 19, 2002.

3. Rationale for Indicator Range Selection

Oxidation Catalyst Inlet Temperature

SNG is proposing an oxidation catalyst inlet temperature range of 450°F – 1350°F, to be monitored and recorded continuously as per the Title V operating permit. The lower end of this range, 450°F, was set to ensure destruction efficiency of CO, HCHO, and VOC as stipulated in the Title V operating permit. During the design of the exhaust system, the supplier of the oxidation catalyst sized the element based on the engine manufacturer's guaranteed emission outputs and expected exhaust flows at varying load conditions. This design, as specified in the manufacturer's literature and as demonstrated in the attached performance curves (Attachment A) supplied by the manufacturer, show sufficient destruction of CO, HCHO, and VOCs, at all operating conditions, down to a catalyst inlet temperature of 450°F. The upper end of this range, 1350°F, is set only to ensure the safety of the oxidation catalyst element. At temperatures above 1350°F, the catalyst begins to lose efficiency due to thermal damage to the element.

Pressure Drop across Oxidation Catalyst

SNG is proposing a maximum pressure drop across the oxidation catalyst of 12 in H₂O, to be monitored on a monthly basis at engine loads of 100% +/- 10%. If during the course of a calendar month, the engine does not operate within this window, no differential pressure measurement will be taken. A maximum differential pressure of 12 in H₂O is a manufacturer supplied performance criteria that should not be exceeded. As stipulated by the catalyst supplier, operating the catalyst at differential pressures below 12 in H₂O ensures that the catalyst element is not congested with particles of lube oil ash, oil carryover, or other products of combustion.

Please note that since the Emission Point AA-010 is not a "large" CAM source (as post-controlled CO and HCHO emissions are less than the Title V major source thresholds), continuous monitoring is not required for CO or HCHO for CAM purposes. However, since SNG will *continuously* monitor and record the oxidation catalyst inlet temperature range of 450°F – 1350°F (along with monthly pressure drop monitoring), SNG is confident that the CO and Formaldehyde limits will easily be met and therefore, periodic testing of CO is not being proposed.

IV. IMPLEMENTATION/TEST PLAN

1. Implementation Plan

Inlet Temperature to Oxidation Catalyst

No implementation plan is necessary. The infrastructure to monitor the inlet temperature to the oxidation catalyst is already in place. SNG has established a data collection and recording scheme which facilitates the measurement and recording of this parameter and provides hourly averages. A printout of the recorded parameter is generated on a daily basis. A routine maintenance schedule is also in place.

Since Permit No. 0440-00048 requires continuous monitoring and recording of this parameter and the parameter is actually logged on an hourly basis, SNG proposes to define variation as a 4-hour rolling average being outside the established temperature range to be consistent with the RICE MACT requirements.

The RICE MACT (40 CFR 63.6640(a) and Table 6) requires that the 4-hour rolling average be used to

demonstrate compliance with the catalyst inlet temperature range at all loads, and if the 4-hour rolling average is outside the range, then it is identified as an excursion. EPA based this averaging time on the total time required to perform a reference method emission compliance test (3 1-hour test runs plus transition time of 1 hour in-between). As such, SNG proposes aligning the CAM plan “variation or excursion” with that of the RICE MACT by changing the 3-hour rolling average to 4-hour rolling average.

Catalyst inlet temperature alarms and shutdowns will be set as follows for the proposed temperature range (450°F – 1350°F):

- Lower limit alarm set-point: 500 °F
- Lower limit shutdown set-point: 475 °F
- Upper limit alarm set-point: 1300 °F
- Upper limit shut-down set-point: 1325 °F

SNG is confident these measures will prevent the operation of the unit outside of the specified range. By implementing a unit alarm prior to exceeding the temperature range, time is provided to make changes to the operating scenario. If, however, these changes are not successful in reducing/increasing the catalyst inlet temperature, the unit will be shutdown prior to exceeding the range.

Pressure Drop across Oxidation Catalyst

In order to implement the pressure drop measurement, SNG has installed differential pressure measurement equipment outlined in the sections above for the new Mueller oxidation catalyst system. Once installed, the equipment will receive an initial calibration to ensure proper operation within 180 days of approval of the Title V renewal permit as specified under 40 CFR 64.4(e).

Once per calendar month, a differential pressure reading, across the oxidation catalyst, will be taken. A reading will only be taken when the unit is operating at a load of 100% +/- 10%. If the engine does not operate for at least 4-hours at 100% load +/- 10%, during a calendar month, then no differential pressure measurement will be recorded for that month.

Records of the monthly differential pressure readings will be acquired and retained at the facility for a period of at least 5 years. These records will include, at a minimum, the date of the differential pressure reading, the operational load of the engine during the reading, and the differential pressure measurement. Records of the calibration activities for the differential pressure measurement devices will also be maintained at the facility for a period of no less than 5 years.

If a monthly differential pressure reading is determined to be above the specified maximum of 12 in H₂O, the source of the elevated reading will be investigated in a timely fashion. If the source of the elevated reading cannot be determined, or if it is determined that the oxidation catalyst is congested with lube oil ash, oil carryover, or other products of combustion, the engine will be shutdown and the oxidation catalyst will be cleaned or replaced accordingly.

2. Test Plan

Inlet Temperature to Oxidation Catalyst

SNG will continue to monitor the inlet temperature to the oxidation catalyst continuously as required by the current operating permit. A routine maintenance schedule will be followed.

Pressure Drop across Oxidation Catalyst

The infrastructure to monitor the pressure drop across the catalyst has been installed with the new Mueller catalyst system and monitoring will commence within 180 days after approval of the Title V renewal permit in accordance with 40 CFR 64.4(e). It was previously stated that the pressure drop monitor will be installed by the end of March 2005, and the monthly monitoring will begin from April 2005. It was originally planned to install pressure drop transmitters to roughly coincide with the original schedule for the catalyst replacement scheduled around late first or second quarter 2005. Due to various operational issues associated with the SNG system, the date of the catalyst replacement was delayed until October 24. A routine maintenance schedule is also in place.

CAM PLAN FOR AA-011

CAM APPLICABILITY FOR EMISSION POINT AA-011

This section describes the applicability of CAM requirements for Emission Point AA-011 at SNG's Enterprise Compressor Station. The facility currently operates under Title V Operating Permit No. 0440-00048 issued on October 15, 2003. Table 1 identifies applicable emission limits or standards for Emission Point AA-011 which is a 4,730 hp, 4-stroke, lean-burn, Reciprocating Internal Combustion Engine (RICE) that employs the use of an oxidation catalyst as an active control device to abate emissions of carbon monoxide (CO), Volatile Organic Compounds (VOC), and Hazardous Air Pollutants (HAP) including formaldehyde (HCHO).

TABLE 1. APPLICABLE EMISSION LIMITS OR STANDARDS

Emission Point ID	Facility Reference Number	Pollutant	Emission Limit or Standard	Permit Condition
AA-011	001C-15	CO	3.65 lb/hr; 16.00 TPY	3.B.8
		VOC	4.43 lb/hr; 19.41 TPY	3.B.8
		HCHO	1.14 lb/hr; 4.98 TPY	3.B.8
		NO _x	7.3 lb/hr; 31.97 TPY	3.B.8

To assess the applicability of CAM requirements, Engine AA-011 is assessed on a pollutant-by-pollutant basis to quantify the pre-control and post-control emissions controlled by the oxidation catalyst on each engine. The emissions presented in Table 2 are based upon manufacturer's specifications/guarantees and engineering judgment as presented in the permit applications for the engine. Note that because the oxidation catalyst is not designed to control NO_x emissions, the engine is not considered a PSEU for NO_x and CAM is presumptively determined not to apply.

TABLE 2. COMPRESSOR ENGINE PSEU EMISSIONS CONTROL ANALYSIS

Pollutant	Major Source Threshold (tons per year)	Pre-Control Emissions (tons per year)	Post-Control Emissions (tons per year)
CO	100	114.2	16.00
VOC	100	22.8	19.41
HCHO	10	18.3	4.98

As shown in Table 2, the pre-control emissions of VOC are below the major source threshold, and the pre-controlled CO and HCHO emissions are above the major source thresholds. Because the post-control emissions of CO and HCHO are below the major source thresholds, the compressor engine is determined to be an affected small-PSEU for CO and HCHO subject to CAM requirements.

In response to the Mississippi Department of Environmental Quality (MDEQ) letters dated July 15, 2004 and October 1, 2004, this submittal outlines "Presumptively Acceptable Monitoring" to satisfy CAM requirements for Emission Point AA-011 for CO and HCHO.

RICE MACT (40 CFR 63, Subpart ZZZZ) Applicability

On June 15, 2004, the final NESHAP rules for RICE were published in the Federal Register. These final rules do apply to Emission Point AA-011 since it is considered a new 4-stroke lean-burn (4SLB) engine¹.

Compliance with RICE MACT and PSD Emission Limits

The RICE MACT (40 CFR 63.6600(b) & Table 2a) requires 93% reduction of Carbon Monoxide (CO) across the catalyst bed at 100% load $\pm 10\%$ OR 14 ppmvd Formaldehyde at 15% O₂ at 100% load $\pm 10\%$. CO can be used as a surrogate to demonstrate compliance with formaldehyde. In other words, if the CO limit option (93% reduction) is met, it is assumed that the formaldehyde limit is already complied with.

SNG proposes to comply with the CO limit option. The uncontrolled emission rate (pre-catalyst) for CO for the Emission Point AA-011 is 26.07 lb/hr (2.5 grams/hp-hr). For RICE MACT purposes, SNG proposes to meet the post-catalyst emission rate of 1.83 lb/hr (93% reduction from 2.5 grams/hp-hr). However, for the PSD purposes, the CO emission limit is specified as 3.65 lb/hr in the Title V permit. So, compliance with the RICE MACT CO limit of 1.83 lb/hr will automatically ensure compliance with the PSD CO limit of 3.65 lb/hr.

Monitoring Approach

SNG proposes the following monitoring requirements per the RICE MACT to satisfy the CAM requirements for the Emission Point AA-011 which is a 4SLB engine:

- Continuous monitoring of the catalyst inlet temperature (63.6625(b) & Table 5).
- Calculate 4-hour rolling average of the catalyst inlet temperature, and maintain it within the catalyst inlet temperature range of 450°F – 1350°F at all loads (63.6600(b) & Table 2b, 63.6640(a) & Table 6).
- Monthly monitoring of pressure drop across the catalyst at 100% $\pm 10\%$ load (63.6640(a) & Table 6).
- Maintain monthly pressure drop measurements across the catalyst within 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test (63.6600(b) & Table 2b).
- Semi-annual performance testing for CO reduction (after two consecutive tests demonstrate compliance, the frequency of subsequent performance tests may be reduced to annually).

Reporting and Recordkeeping

SNG proposes the following Reporting and Recordkeeping requirements per the RICE MACT for the Emission Point AA-011 to satisfy the CAM requirements:

- Startup, Shutdown, Malfunction (SSM) Requirements in accordance with 63.6(e), 63.6640(c) and 63.6655(a)(2).

¹ With respect to the RICE NESHAP, Engines 001C-014 is considered an existing unit as a commitment to a program of continuous construction and permit application were in place and the engine was installed after the regulatory deadline of December 19, 2002.

- Reporting and Notification Requirements as follows:
 - Initial Notification of MACT Applicability (63.6645(b)-(c) & 63.9(b)(2))
 - Notification of Actual Startup Date (63.9(b)(4)(v) & 63.9(b)(5)(ii))
 - Notification of Compliance Status Report (63.6645(f) & 63.9(h)(2)(ii))
 - Semi-Annual Compliance Report, including SSM Report (63.6650(b) & Table 7 & 63.10(d)(5)(i))
 - Immediate SSM Report (for actions not consistent with SSM Plan) (Table 7 63.6(e)(3)(iv); 63.10(d)(5)(ii))
- Recordkeeping Requirements as follows:
 - MACT applicability determinations, including supporting data – Keep this record on-site for 5 years (63.10(b)(3))
 - Copies of all notifications & reports & supporting information (63.6655(a)(1))
 - Site-specific test plans for performance tests and Catalyst Inlet Temperature Continuous Monitoring System performance evaluations (63.6655(a)(1) & 63.10(c)(14))
 - Performance test results and Catalyst Inlet Temperature Continuous Monitoring System performance evaluation test results (63.6655(a)(3))
 - Records of Inlet temperature data to catalyst, Inlet temperature data reduced to 4-hour rolling averages and Monthly pressure drop data (63.6655(d) & 63.10(b)(2)(vii) & Table 6)
 - Records of occurrence & duration of each SSM for the engine and each malfunction of oxidation catalyst and Catalyst Inlet Temperature Continuous Monitoring System; Records of actions during SSM (Checklists if consistent with SSMP, Immediate reports if inconsistent actions) and SSM Plan (including all revisions and previous versions) (63.6655(a)(2) & 63.6(e)(3)(iii)-(v))
 - Records of maintenance performed on oxidation catalyst & Catalyst Inlet Temperature Continuous Monitoring equipment (63.10(b)(2)(iii))
 - Operation & maintenance records to document general duty to minimize emissions at all times, including SSM (63.6(e)(1))
 - Engine operating time (63.10(c)(13))
 - Performance evaluation records, including test plan & procedures adopted per 63.8(d). Results of performance evaluations, and calibration checks (63.6655(b) & 63.10(c)(14) & 63.10(b)(2)(vii)-(x))
 - Documentation for periods of maintenance, malfunction, in operation, and out-of-control periods (63.10(b)(2) & 63.10(c))
 - Data from Catalyst Inlet Temperature Continuous Monitoring System, including raw data, 4-hour rolling averages, & “deviations” (63.10(b)(2)(vii), 63.10(c)(7)-(8))
 - Records of all adjustments & maintenance performed on the Catalyst Inlet Temperature Continuous Monitoring System (63.10(b)(2)(xi))

All records will be kept for at least 5 years (for at least first 2 years records will be accessible on-site in hard copy or electronic form).