

**STATE OF MISSISSIPPI  
AIR POLLUTION CONTROL  
TITLE V PERMIT  
TO OPERATE AIR EMISSIONS EQUIPMENT**

**THIS CERTIFIES THAT**

Mississippi State University  
600 Russell Street  
Mississippi State, Mississippi 39762  
Oktibbeha, 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: JUL 16 2009

Effective Date: As specified herein.

**MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD**

  
\_\_\_\_\_  
**AUTHORIZED SIGNATURE**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

Expires: JUN 30 2014

Permit No.: 2060-00038

## **TABLE OF CONTENTS**

SECTION 1. GENERAL CONDITIONS .....	3
SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES .....	12
SECTION 3. EMISSION LIMITATIONS & STANDARDS .....	13
SECTION 4. COMPLIANCE SCHEDULE.....	19
SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS .....	20
SECTION 6. ALTERNATIVE OPERATING SCENARIOS .....	25
SECTION 7. TITLE VI REQUIREMENTS .....	26
<b>APPENDIX A</b>	<b>LIST OF ABBREVIATIONS USED IN THIS PERMIT</b>
<b>APPENDIX B</b>	<b>40 CFR 60 – Subpart A, General Provisions, Specifically: 40 CFR 60.7 – Notification and Recordkeeping Requirements 40 CFR 60.8 – Performance Testing Requirements</b>
<b>APPENDIX C</b>	<b>40 CFR 60 – Subpart GG, Standards for Performance for Stationary Gas Turbines</b>
<b>APPENDIX D</b>	<b>Custom Fuel Monitoring Plan</b>

## 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.: APC-S-6, Section III.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.: APC-S-6, Section III.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.: APC-S-6, Section III.A.6.c.)
- 1.4 This permit does not convey any property rights of any sort, or any exclusive privilege. (Ref.: APC-S-6, Section III.A.6.d.)
- 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.: APC-S-6, Section III.A.6.e.)
- 1.6 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.: APC-S-6, Section III.A.5.)
- 1.7 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 APC-S-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.: APC-S-6, Section VI.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.: APC-S-6, Section VI.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.: APC-S-6, Section VI.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.: APC-S-6, Section VI.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.: APC-S-6, Section VI.C.)
- 1.8 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.: APC-S-6, Section III.A.8.)
- 1.9 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.: APC-S-6, Section II.E.)
- 1.10 The permittee shall allow the DEQ, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- (a) enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
  - (b) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - (c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
  - (d) as authorized by the Federal Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. (Ref.: APC-S-6, Section III.C.2.)
- 1.11 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.: APC-S-1, Section 3.9(a))
- 1.12 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.: APC-S-1, Section 3.9(b))
- 1.13 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.: APC-S-6, Section III.F.1.)
- 1.14 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.: APC-S-6, Section III.F.2.)

1.15 The permittee shall comply with the requirement to register a Risk Management Plan if

1080 PER20080001

permittee's facility is required pursuant to Section 112(r) of the Act to register such a plan. (Ref.: APC-S-6, Section III.H.)

- 1.16 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.: APC-S-6, Section IV.C.2., Section IV.B., and Section II.A.1.c.)
- 1.17 The permittee is authorized to make changes within their facility without requiring a permit revision (ref: Section 502(b)(10) of the Act) if:
- (a) the changes are not modifications under any provision of Title I of the Act;
  - (b) the changes do not exceed the emissions allowable under this permit;
  - (c) the permittee provides the Administrator and the Department with written notification in advance of the proposed changes (at least seven (7) days, or such other time frame as provided in other regulations for emergencies) and the notification includes:
    - (1) a brief description of the change(s),
    - (2) the date on which the change will occur,
    - (3) any change in emissions, and
    - (4) any permit term or condition that is no longer applicable as a result of the change;
  - (d) the permit shield shall not apply to any Section 502(b)(10) change. (Ref.: APC-S-6, Section IV.F.)
- 1.18 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 Regulation APC-S-3, "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared. (Ref.: APC-S-3)
- 1.19 Except as otherwise provided herein, a modification of the facility may require a Permit to Construct in accordance with the provisions of Regulations APC-S-2, "Permit Regulations

for the Construction and/or Operation of Air Emissions Equipment", and may require modification of this permit in accordance with Regulations APC-S-6, "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act". Modification is defined as "[a]ny physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

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

1.20 Any change in ownership or operational control must be approved by the Permit Board. (Ref.: APC-S-6, Section IV.D.4.)

1.21 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.: APC-S-6, Section III.B.1)

1.22 Except as otherwise specified or limited herein, the open burning of residential,  
1080 PER20080001

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.: APC-S-1, Section 3.7)

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

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

- (2) the permitted facility was at the time being properly operated;
  - (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
  - (4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- (d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein. (Ref.: APC-S-6, Section III.G.)

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

- (a) Upsets (as defined by APC-S-1, Section 2.34)
- (1) The occurrence of an upset constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards or other requirements of Applicable Rules and Regulations or any applicable permit if the permittee demonstrates through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
    - (i) an upset occurred and that the permittee can identify the cause(s) of the upset;
    - (ii) the source was at the time being properly operated;
    - (iii) during the upset the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit;
    - (iv) the permittee submitted notice of the upset to the DEQ within 5 working days of the time the upset began; and
    - (v) the notice of the upset shall contain a description of the upset, any steps taken to mitigate emissions, and corrective actions taken.
  - (2) In any enforcement proceeding, the permittee seeking to establish the

occurrence of an upset has the burden of proof.

- (3) This provision is in addition to any upset provision contained in any applicable requirement.

(b) Startups and Shutdowns (as defined by APC-S-1, Sections 2.31 & 2.26)

- (1) Startups and shutdowns are part of normal source operation. Emissions limitations applicable to normal operation apply during startups and shutdowns except as follows:
  - (i) when sudden, unavoidable breakdowns occur during a startup or shutdown, the event may be classified as an upset subject to the requirements above;
  - (ii) when a startup or shutdown is infrequent, the duration of excess emissions is brief in each event, and the design of the source is such that the period of excess emissions cannot be avoided without causing damage to equipment or persons; or
  - (iii) when the emissions standards applicable during a startup or shutdown are defined by other requirements of Applicable Rules and Regulations or any applicable permit.
- (2) In any enforcement proceeding, the permittee seeking to establish the applicability of any exception during a startup or shutdown has the burden of proof.
- (3) In the event this startup and shutdown provision conflicts with another applicable requirement, the more stringent requirement shall apply.

(c) Maintenance.

- (1) Maintenance should be performed during planned shutdown or repair of process equipment such that excess emissions are avoided. Unavoidable maintenance that results in brief periods of excess emissions and that is necessary to prevent or minimize emergency conditions or equipment malfunctions constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards, or other regulatory requirements if the permittee can demonstrate the following:
  - (i) the permittee can identify the need for the maintenance;
  - (ii) the source was at the time being properly operated;

- (iii) during the maintenance the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit;
  - (iv) the permittee submitted notice of the maintenance to the DEQ within 5 working days of the time the maintenance began or such other times as allowed by DEQ; and
  - (v) the notice shall contain a description of the maintenance, any steps taken to mitigate emissions, and corrective actions taken.
- (2) In any enforcement proceeding, the permittee seeking to establish the applicability of this section has the burden of proof.
- (3) In the event this maintenance provision conflicts with another applicable requirement, the more stringent requirement shall apply. (Ref.: APC-S-1, Section 10)

1.25 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 APC-S-1, Section 8. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-004	17 MMBTUH Gas/oil Fired Water Heating Boiler
AA-005	13 Megawatt, Gas/oil Fired, Gas Turbine
AA-006	13 Megawatt, Gas/oil Fired, Gas Turbine
AA-007	1.0 Megawatt, Diesel Fired, Backup Generator Used to Provide Power to Start the Turbines
AA-008	51 Backup Emergency Use Generators
AB-001	Pathological Incinerator, Joy Energy System, Model 1000T
AB-002	1.5 MMBTUH Animal Crematorium, Natural Gas Only, B & L Cremation Systems, Model BLP 200/75

## 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.: APC-S-1, Section 3.1)
- 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.: APC-S-1, Section 3.2)

### B. Emission Point Specific Emission Limitations & Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
AA-004	APC-S-1, Section 3.4(a)(2)	3.B.1	PM	$E = 0.8808 * T^{-0.1667}$ or as otherwise limited by facility modification restrictions
	Title V Permit to Operate issued June 14, 2004, and renewed: July 16, 2009	3.B.2	Fuel Restriction	The permittee shall fire natural gas or No. 2 fuel oil only
AA-005 AA-006	Federally Enforceable Permit to Construct;  Issued: April 22, 2004	3.B.3	PM/PM <sub>10</sub>	0.042 lb/MMBTU while firing natural gas and 0.061 lb/MMBTU while firing fuel oil  Total from both turbines not to exceed 14.38 tons/year

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
		3.B.3	SO <sub>2</sub>	0.056 lb/MMBTU while firing natural gas and 0.505 lb/MMBTU while firing fuel oil  Total from both turbines not to exceed 34.52 tons/year
	40 CFR 60.332(a)(2)	3.B.3 and 3.B.8	NO <sub>x</sub>	STD = 0.0150 (14.4/Y) + F  0.103 lb/MMBTU while firing natural gas and 0.399 lb/MMBTU while firing fuel oil;  Total from both turbines not to exceed 35.3 tons/year
	Federally Enforceable Permit to Construct;  Issued: April 22, 2004	3.B.4	Fuel Restriction	The permittee shall fire natural gas or No. 2 fuel oil only.
		3.B.5	Sulfur Content	Fire No. 2 fuel oil with a sulfur content of 0.5% by weight or less.
		3.B.6	Usage of Electrical Power	The permittee shall only use the electricity generated by these power-generating units for supplying the electrical power demands of Mississippi State University campus. The selling of electricity to the power grid is prohibited.
AA-005 AA-006	Federally Enforceable Permit to Construct;  Issued: April 22, 2004	3.B.7	Total Fuel Usage	Maximum amount of total fuel the permittee shall be allowed to fire through both turbines is based on the following equations:  <b>Total Allowable Natural Gas = 685,000,000 – (550* Amount of Fuel Oil Fired)</b>  Where: Total Allowable Natural Gas is measured in scf/year on a 12 consecutive month basis and limited to a maximum of 685,000,000 scf/year.  Amount of Fuel Oil Fired is measured in gallons/year on a 12 consecutive month basis and limited to a maximum of 750,000 gallons/year.
	40 CFR 60.333(b)	3.B.9	SO <sub>2</sub>	Fire natural gas, which contains 0.8 percent sulfur by weight or less.  The standard for sulfur dioxide in 40 CFR 60.333(b) states that no owner or

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limit/Standard
				operator shall burn any fuel that contains sulfur in excess of 0.8 percent by weight. In order to limit SO <sub>2</sub> emission rates, the permittee has requested a maximum No. 2 oil sulfur content of 0.5% by weight. Therefore, the permittee shall fire No. 2 oil, which contains 0.5 percent sulfur by weight or less.
AA-007	Federally Enforceable Permit to Construct;  Issued: April 22, 2004	3.B.4	Fuel Restriction	The permittee shall only fire No. 2 fuel oil
		3.B.5	Fuel Oil Sulfur Content	Fire No. 2 oil with a sulfur content of 0.5% by weight or less
		3.B.10	Total Fuel Usage	Fire 14,000 gallons or less of No. 2 fuel oil/year on a 12 consecutive month basis  Or  No more than 198 hours per year
AB-001 AB-002	APC-S-1, Section 3.8(a)	3.B.11	PM	0.2 grains/dscf calculated to 12% CO <sub>2</sub> by volume
AB-001	APC-S-1, Section 12.2(h)	3.B.12	Co-Fired Limitation	Fuel stream feed consist of 10 percent or less of the weight of which is hospital waste and medical/infectious waste as measured on a calendar quarter basis
AA-008	NESHAP Subpart ZZZZ, 40 CFR 63.6585 and 63.6590(a)(1)(iii)	3.B.13 and 3.B.14	HAP	MACT applicability only, no requirements for existing affected sources at this time

3.B.1 For Emission Point AA-004, the maximum discharge of particulate matter 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 of heat input and I is the heat input in millions of BTU per hour.

(Ref.: APC-S-1, Section 3.4(a)(2))

3.B.2 For Emission Point AA-004, the permittee shall fire natural gas or No. 2 fuel oil only.

(Ref.: Title V Operating Permit issued on June 14, 2004, and renewed on XXXX)

- 3.B.3 For Emission Points AA-005 and AA-006, the permittee shall be limited to the emissions rate for PM/PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub>, as listed in the table above.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

- 3.B.4 The permittee shall fire natural gas or No. 2 fuel oil only in Emission Points AA-005 and AA-006. The permittee shall fire No. 2 fuel oil only in Emission Point AA-007.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

- 3.B.5 For Emission Points AA-005, AA-006, and AA-007, the permittee shall fire No. 2 oil with a sulfur content of 0.5% by weight or less.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

- 3.B.6 The permittee shall only use the electricity generated by these power-generating units for supplying the electrical power demands of the Mississippi State University campus. The selling of electricity to any power grid is prohibited.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

- 3.B.7 For Emission Points AA-005 and AA-006, the maximum amount of total fuel the permittee shall be allowed to fire through both turbines is based on the following equation:

$$\text{Total Allowable Natural Gas} = 685,000,000 - (550 * \text{Amount of Fuel Oil Fired})$$

Where:

- Total Allowable Natural Gas is measured in scf/year on a 12 consecutive month basis and limited to a maximum of 685,000,000 scf/year.
- Amount of Fuel Oil Fired is measured in gallons/year on a 12 consecutive month basis and limited to a maximum of 750,000 gallons/year.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

- 3.B.8 The permittee shall comply with the standard for nitrogen oxides as governed by the equation listed in 40 CFR 60.332(a)(2). The equation used to calculate NO<sub>x</sub> emissions is as follows:

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

Where:

STD is the allowable NO<sub>x</sub> emission limit (percent by volume at 15% oxygen and on a dry basis), Y is the manufacturer's rated heat rate at manufacturer's rate load (kilojoules per watt hour) where the value of Y shall not exceed 14.4 kilojoules per watt hour, and F is the NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in 60.332(a)(3).

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004)

3.B.9 The permittee shall comply with the standard for sulfur dioxide as specified in 40 CFR 60.333(b).

- The permittee shall fire natural gas, which contains 0.8 percent sulfur by weight or less.
- The standard for sulfur dioxide in 40 CFR 60.333(b) states that no owner or operator shall burn any fuel that contains sulfur in excess of 0.8 percent by weight. In order to limit SO<sub>2</sub> emission rates, the permittee has requested a maximum No. 2 fuel oil sulfur content of 0.5% by weight. Therefore, the permittee shall fire No. 2 fuel oil, which contains 0.5% sulfur by weight or less.

(Ref.: 40 CFR 60.333(b))

3.B.10 For Emission Point AA-007, the permittee shall fire 14,000 gallons or less of No. 2 fuel oil/year on a 12 consecutive month basis.

Alternatively, for Emission Point AA-007, the permittee may restrict operation to no more than 198 hours per year on a 12 month consecutive month basis in lieu of the fuel usage restriction.

(Ref.: Federally Enforceable Permit to Construct issued April, 22, 2004, and Title V Operating Permit issued July 16, 2009)

3.B.11 For Emission Points AB-001 and AB-002, the maximum permissible emission of ash and/or particulate matter shall not exceed 0.2 grains per dry standard cubic foot calculated to twelve percent (12%) carbon dioxide by volume.

(Ref.: APC-S-1, Section 3.8(a))

3.B.12 For Emission Point AB-001, the unit is limited to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infection waste as measured on a calendar quarter basis. Pathological waste, chemotherapeutic waste, and low-level radioactive waste are considered "other" wastes when calculating the percentage of hospital waste and medical/infection waste combusted.

(Ref.: APC-S-1, Section 12.2(h))

3.B.13 For Emission Point AA-008, the permittee is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (i.e., the “RICE MACT”), 40 CFR Part 60, Subpart ZZZZ.

(Ref.: 40 CFR 63.6585)

3.B.14 Emission Point AA-008 meets the definition of an existing affected source at an area source for which there are currently no requirements under NESHAP Subpart ZZZZ.

(Ref.: 40 CFR 63.6590(a)(1)(iii))

**C.      Insignificant and Trivial Activity Emission Limitations & Standards**

Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
APC-S-1, Section 3.4(a)(1)	3.C.1  &  1.19	PM	0.6 lbs/MMBTU  or  as otherwise limited by facility modification restrictions
APC-S-1, Section 4.1(a)	3.C.2  &  1.19	SO <sub>2</sub>	4.8 lbs/MMBTU  or  as otherwise limited by facility modification restrictions

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

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

#### 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.: APC-S-6, Section III.C.5.a.,c.,&d.)

## SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

### A. General Monitoring, Recordkeeping and Reporting Requirements

- 5.A.1 The permittee shall install, maintain, and operate equipment and/or institute procedures as necessary to perform the monitoring and recordkeeping specified below.
- 5.A.2 In addition to the recordkeeping specified below, the permittee shall include with all records of required monitoring information the following:
- (a) the date, place as defined in the permit, and time of sampling or measurements;
  - (b) the date(s) analyses were performed;
  - (c) the company or entity that performed the analyses;
  - (d) the analytical techniques or methods used;
  - (e) the results of such analyses; and
  - (f) the operating conditions existing at the time of sampling or measurement. (Ref.: APC-S-6, Section III.A.3.b.(1)(a)-(f))
- 5.A.3 Except as otherwise specified herein, 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.: APC-S-6, Section III.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 APC-S-6, Section II.E. (Ref.: APC-S-6, Section III.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.: APC-S-6, Section III.A.3.c.(2))
- 5.A.6 Except as otherwise specified herein, the permittee shall perform emissions sampling

and analysis in accordance with EPA Test Methods and with any continuous emission monitoring requirements, if applicable. All test methods shall be those versions or their equivalents approved by the DEQ and the EPA.

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

**B. Specific Monitoring and Recordkeeping Requirements**

Emission Point(s)	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement	Condition Number	Applicable Requirement
AA-004 AA-005 AA-006	Fuel Usage	Recordkeeping	5.B.1	Title V Operating Permit issued on July 16, 2009
AA-004 AA-005 AA-006	Startup, Shutdown, or Malfunction	Recordkeeping	5.B.2	40 CFR 60.7(b)
AA-005 AA-006	NSPS Requirements	Performance Test and Recordkeeping	5.B.3	NSPS 40 CFR 60 Applicability
AA-005 AA-006	Fuel Monitoring	Monitoring	5.B.4	Federally Enforceable Permit to Construct Issued April 22, 2004 and Modified May 2, 2005  And  Title V Permit to Operate Minor Modification Issued May 2, 2005
		Monitoring	5.B.5	
		Monitoring	5.B.6	
	Fuel Usage Recordkeeping	Recordkeeping	5.B.7	Federally Enforceable Permit to Construct issued April 22, 2004
AA-005 AA-006	CO and NO <sub>x</sub>	Compliance Demonstration	5.B.8	APC-S-6, Section III.A.3
AA-005 AA-006 AA-007	Fuel oil sulfur content	Recordkeeping	5.B.9	Federally Enforceable Permit to Construct issued April 22, 2004

Emission Point(s)	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement	Condition Number	Applicable Requirement
AA-007	Records of Fuel Usage or Hours of Operation	Recordkeeping	5.B.10	Federally Enforceable Permit to Construct issued April 22, 2004
AB-001	Co-Fired Limitation	Monitoring and Recordkeeping for Co-Fired Exemption	5.B.11	APC-S-1, Section 12.1(c)

5.B.1 For Emission Points AA-004, AA-005, and AA-006, the permittee shall record and maintain records of the amounts of each fuel combusted during each month.

(Ref.: Title V Operating Permit issued July 16, 2009)

5.B.2 For Emission Points AA-004, AA-005, and AA-006, the permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in its operation; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(Ref.: 40 CFR 60.7(b))

5.B.3 The combustion turbines, associated with Emission Points AA-005 and AA-006, are subject to and shall comply with all applicable requirements of the New Source Performance Standards (NSPS), as described in:

- 40 CFR 60.7, Subpart A – Notification and Recordkeeping
- 40 CFR 60.8, Subpart A – Performance Test Requirements, and
- 40 CFR 60.330, Subpart GG – Standards of Performance for Stationary Gas Turbines.

The specific requirements enumerated within this permit may not encompass all applicable requirements set forth in 40 CFR 62, Subparts A and GG.

5.B.4 For Emission Points AA-005 and AA-006, for the firing of natural gas, as allowed by 40 CFR 60.334(h)(3), the permittee shall not be required to monitor the total sulfur content of the gaseous fuel combusted in the turbines if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u). The permittee shall use the following source of information to make the required demonstration: 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.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004, and modified May 2, 2005, and Title V Permit to Operate Minor Modification issued May 2, 2005)

- 5.B.5 For Emission Points AA-005 and AA-006, for the firing of natural gas, should the permittee no longer hold 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, the permittee shall monitor for the total sulfur content as provided in the custom fuel monitoring plan as submitted by the permittee and attached to this permit in Appendix D.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004, and modified May 2, 2005, and Title V Permit to Operate Minor Modification issued May 2, 2005)

- 5.B.6 For Emission Points AA-005 and AA-006, in lieu of the fuel monitoring requirements of 40 CFR 60.334, Subpart GG, the permittee shall comply with the custom fuel monitoring plan as submitted by the permittee and attached to this permit in Appendix D.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004, and modified May 2, 2005, and Title V Permit to Operate Minor Modification issued May 2, 2005)

- 5.B.7 For Emission Points AA-005 and AA-006, the permittee shall keep the following records:

- A. The monthly fuel usage for each unit
- B. The allowable amount of natural gas and allowable amount of fuel oil fired based on the allowable fuel equation, and
- C. Documentation of compliance with the 12 consecutive month total fuel usage restriction.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004)

- 5.B.8 For Emission Points AA-005 and AA-006, while firing natural gas and separately while firing fuel oil, the permittee shall demonstrate compliance with the carbon monoxide and nitrogen oxides emission limitations by stack testing in accordance with EPA Reference Methods 10 and 20, respectively, once per permit term.

(Ref.: APC-S-6, Section III.A.3)

- 5.B.9 For Emission Points AA-005, AA-006, and AA-007, the permittee shall maintain a record of the percent sulfur weight content of the No. 2 fuel oil in accordance with the requirements of 40 CFR 60, Subpart GG, Section 60.334 – Monitoring of Operations.

This record should document compliance with the maximum permitted value of 0.5% sulfur content by weight.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004)

- 5.B.10 For Emission Point AA-007, the permittee shall keep records of the monthly fuel usage and document compliance with the 12 consecutive month total fuel usage restriction.

Alternatively, for Emission Point AA-007, the permittee may keep records of the monthly hours of operation and document compliance with the 12 consecutive month hours of operation restriction in lieu of the fuel usage limitation.

(Ref.: Federally Enforceable Permit to Construct issued April 22, 2004, and Title V Operating Permit issued July 16, 2009)

- 5.B.11 For Emission Point AB-001, as a co-fired combustor subject to APC-S-1, Section 12 the permittee shall keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor.

(Ref.: APC-S-1, Section 12.1(c))

**C.      Specific Reporting Requirements**

Emission Point(s)	Pollutant/Parameter Monitored	Reporting Requirement	Condition Number	Applicable Requirement
AA-005 AA-006 AA-007	Fuel Usage	Submit a semi-annual reporting	5.C.1	Federally Enforceable Permit to Construct Issued April 22, 2004
AA-005 AA-006	Physical or operational changes	Notification of any physical or operational changes	5.C.2	40 CFR 60.7(a)(4)
AA-005 AA-006	Testing	Testing Protocol Submittal and Pretest Conference	5.C.3	40 CFR 60.8(a)
	Testing	Reports of Stack Tests	5.C.4	APC-S-6. Section III.A.3

- 5.C.1 For Emission Points AA-005, AA-006, and AA-007, the permittee shall submit to MDEQ, a semi-annual report. This report should include:

- A. A copy of the fuel usage records for the last 12 consecutive month period, as required by Items 5.B.6 and 5.B.9 above.
- B. The information required by Item 5.B.9 above, to document the sulfur weight content

for each shipment of No. 2 fuel oil received during the reporting period.

(Ref.: Federally Enforceable Permit to Construct Issued April 22, 2004)

- 5.C.2 For Emission Points AA-005 and AA-006, the permittee shall submit a notification of any physical or operational change to the existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change.

(Ref.: 40 CFR 60.7(a)(4))

- 5.C.3 For Emission Points AA-005 and AA-006, submittal of a testing protocol and a pretest conference at least thirty (30) days prior to the scheduled test date is needed to ensure that all test methods and procedures are acceptable to MDEQ. Also, MDEQ must be notified prior to the scheduled test date. At least ten (10) days notice should be given so that an observer may be scheduled to witness the test(s).

(Ref.: 40 CFR 60.8(a))

- 5.C.4 For Emission Points AA-005 and AA-006, the permittee shall submit a stack test report within sixty (60) days of the actual stack test date of each turbine.

(Ref.: APC-S-6, Section III.A.3)

## **SECTION 6. ALTERNATIVE OPERATING SCENARIOS**

- 6.1 None permitted.

## SECTION 7. TITLE VI REQUIREMENTS

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

- A. 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.
- B. 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.
- C. 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:
  - (1) All containers in which a class I or class II substance is stored or transported;
  - (2) All products containing a class I substance; and
  - (3) 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.
- D. 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:
  - (1) Servicing, maintaining, or repairing appliances;
  - (2) Disposing of appliances, including small appliances and motor vehicle air conditioners; or
  - (3) 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.

- E. 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.
- F. 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:
  - (1) Any person testing, servicing, maintaining, repairing, or disposing of equipment that contains halons or using such equipment during technician training;
  - (2) Any person disposing of halons;
  - (3) Manufacturers of halon blends; or



## APPENDIX A

### List of Abbreviations Used In this Permit

APC-S-1	Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants
APC-S-2	Permit Regulations for the Construction and/or Operation of Air Emissions Equipment
APC-S-3	Regulations for the Prevention of Air Pollution Emergency Episodes
APC-S-4	Ambient Air Quality Standards
APC-S-5	Regulations for the Prevention of Significant Deterioration of Air Quality
APC-S-6	Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act
APC-S-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 <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 Φm in diameter
ppm	Parts per Million
PSD	Prevention of Significant Deterioration, 40 CFR 52
SIP	State Implementation Plan
SO <sub>2</sub>	Sulfur Dioxide
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOC	Volatile Organic Compound

# **APPENDIX B**

**40 CFR 60 – Subpart A, General Provisions, Specifically:  
40 CFR 60.7 – Notification and Recordkeeping Requirements  
40 CFR 60.8 – Performance Testing Requirements**

# **APPENDIX C**

**40 CFR 60 – Subpart GG, Standards for Performance for Stationary Gas Turbines**

# **APPENDIX D**

## **Custom Fuel Monitoring Plan**