

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

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Rolls Royce North America
Rolls Royce Center of Excellence
John C. Stennis Space Center
Stennis Outdoor Test Bed Facility - H1 Test Site, Bldg 5002
Stennis Space Center, MS 39529
Hancock 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: NOV 18 2010

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires: October 30, 2015

Permit No.: 1000-00050

23215 PER20080002

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SECTION 1. GENERAL CONDITIONS

- 1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (Ref.: 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

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 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, 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 2.37)
 - (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 2.34 & 2.29)
- (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-001	Jet Engine Test Stand
AA-002	13.75 MMBTU/hr (2,349 HP) Diesel-Fired Generator
AA-003	39,600 gallon Jet Fuel Above Ground Storage Tank (Ref. No. 1)
AA-004	39,600 gallon Jet Fuel Above Ground Storage Tank (Ref. No. 2)
AA-005	14,410 gallon Jet Fuel Day Tank
AA-006	1,000 gallon Diesel Fuel (#2 Distillate Fuel Oil) Above Ground Storage Tank
AA-007	5.46 MMBTU/hr (852 HP) Portable Diesel-Fired Generator
AA-008	4.61 MMBTU/hr (685 HP) Portable Diesel-Fired Generator

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
Facility Wide	Permit to Construct (PTC) issued April 25, 2006	3.B.1	NO _x	249.0 tons per year (tpy)
			CO	249.0 tpy
			SO ₂	249.0 tpy
			VOC	240.0 tpy
AA-001	PTC issued April 25, 2006	3.B.2	Fuel	The permittee is allowed to use jet fuel for engine testing.
AA-001	PTC issued April 25, 2006	3.B.3	Engine Records	The permittee shall maintain records of the following for each engine test: engine type, amount of fuel and fuel type used, and the calculated emissions.

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
AA-002	APC-S-1, Section 3.4(a)(2)	3.B.4	PM/PM ₁₀	$E = 0.8808 * I^{-0.1667}$
	APC-S-1, Section 4.1(a)	3.B.5	SO ₂	4.8 lbs/MMBTU
AA-007 and AA-008	APC-S-1, Section 3.4(a)(1)	3.B.6	PM/PM ₁₀	0.6 lbs/MMBTU
	APC-S-1, Section 4.1(a)	3.B.5	SO ₂	4.8 lbs/MMBTU
AA-008	40 CFR 60, Subpart IIII - NSPS for Stationary Compression Ignition Internal Combustion Engines (60.4200(a)(2))	3.B.7	Fuel, Operation & Maintenance, and Testing Requirements	The permittee shall comply with all required fuel, operations and maintenance, testing, and reporting requirements of NSPS Subpart IIII.
AA-002, AA-007, AA-008	PTC issued April 25, 2006	3.B.8	NO _x , CO, SO ₂ , and VOC	The permittee shall maintain records of fuel used and calculated emissions.
AA-002 and AA-007	40 CFR 63, Subpart ZZZZ - NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR 63.6585, 6603-6605, and 6675	3.B.9	Operating Limits	Maintain oxidation catalyst so that pressure drop across the catalyst does not change by more than 2" of water at 100% load ± 10% from the pressure drop measured during the initial performance test; and maintain the stack temperature exhaust so that catalyst inlet temperature is ≥ 450°F and ≤ 1350°F.
			Emission Limits (CO)	≤ 23 ppmvd @ 15% O ₂ or reduce CO emissions by ≥ 70%, except during periods of startups, shutdowns and malfunctions.
			Fuel Restrictions	For non-emergency diesel-fired compression ignition (CI) RICE > 300 BHP with a displacement of < 30 L/cylinder, the fuel must meet the requirements of 40 CFR 80.510(b).
AA-008	40 CFR 63, Subpart ZZZZ - NESHAP for Stationary RICE, 40 CFR 63.6585 and 6590(c)	3.B.10	N/A	Although subject to the standard, the affected source shall meet the requirements of this subpart by complying with the requirements of 40 CFR 60, Subpart IIII.

3.B.1 The permittee shall limit facility-wide emissions from criteria pollutants (e.g., NO_x, CO, SO₂, and VOC). The emission limitations were established as Prevention of Significant Deterioration (PSD) avoidance limits in a Federally-Enforceable Permit to Construct (PTC) issued on April 25, 2006. (Ref.: PTC issued on April 25, 2006)

3.B.2 For Emission Point AA-001, the permittee is allowed to use jet fuel for engine testing.

(Ref.: PTC issued on April 25, 2006)

- 3.B.3 For Emission Point AA-001, the permittee shall maintain a record of the following information for each engine test conducted:
- (a) the engine type;
 - (b) the amount of fuel used in each load of the engine test; and
 - (c) the calculation of the emission rates for NO_x, CO, SO₂, and VOC. The permittee shall use emission factors from the International Civil Aviation Organization (ICAO) emissions data bank, or equivalent factors, in order to calculate the emission rates for the engine type tested.
- 3.B.4 For Emission Point AA-002, the maximum permissible emission of ash and/or PM when burning fossil fuels 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.: APC-S-1, Section 3.4(a)(2))
- 3.B.5 For Emission Points AA-002, AA-007, and AA-008, the maximum discharge of sulfur oxides (SO₂) 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 SO₂) per million BTU heat input or as otherwise specified herein. (Ref.: APC-S-1, Section 4.1(a))
- 3.B.6 For Emission Points AA-007 and AA-008, the maximum permissible emission of ash and/or PM 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.: APC-S-1, Section 3.4(a)(1))
- 3.B.7 For Emission Point AA-008, the permittee is subject to 40 CFR 60, Subpart IIII - New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines. The permittee shall comply with all applicable requirements of the subpart for new affected sources, which may include, but is not limited to maintaining manufacturer engine testing certifications, fuel restrictions, non-resettable hour meters, particulate control filters, operation and maintenance, and initial notification requirements. (Ref.: 40 CFR 60.4200(a)(2) and 63.6590(c))
- 3.B.8 For Emission Points AA-002, AA-007, and AA-008, the permittee shall maintain records of the amount of fuel used by the emission units on a monthly basis. The permittee shall use the information along with an approved emission factor in order to calculate the emission rates for NO_x, CO, SO₂, and VOC from the units.
- 3.B.9 Emission Points AA-002 and AA-007 are considered existing affected sources

(commenced construction before June 6, 2006) subject to 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAP) from Stationary Reciprocating Internal Combustion Engines (RICE).

The permittee must comply with the requirements in Table 2d of Subpart ZZZZ and the operating limitations in Table 2b. For existing stationary non-emergency diesel-fired compression ignition (CI) RICE greater than 300 brake HP with a displacement of less than 30 liters per, the permittee must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. The permittee must be in compliance with the emission limitations and operating limitations at all times, and at all times must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. (Ref.: 40 CFR 63.6585, 6603-6605, and 6675)

- 3.B.10 Emission Point AA-008 is considered a new affected source (commenced construction on or after June 12, 2006) subject to 40 CFR 63, Subpart ZZZZ - NESHAP from Stationary RICE; however, the permittee must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart IIII (see above condition). No other requirements of Subpart ZZZZ apply. (Ref.: 40 CFR 63.6585 and 6590(c))

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	PM	0.6 lbs/MMBTU or as otherwise limited by facility modification restrictions
APC-S-1, Section 4.1(a)	3.C.2	SO ₂	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; and
 - (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.)
- 4.3 For Emission Points AA-002 and AA-007, existing stationary CI RICE subject to 40 CFR 63, Subpart ZZZZ, the permittee must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. (Ref.: 40 CFR 63.6595(a)(1))

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
Facility Wide	NO _x , CO, SO ₂ , & VOC	Maintain records of each engine test, engine type tested, amount of fuel and fuel type used (includes engines and generators), and emissions calculations on a monthly basis and consecutive 12-month period.	5.B.1	PTC issued on April 25, 2006
AA-002 and AA-007	CO Testing	Conduct performance testing in accordance with Tables 4 and 5 of 40 CFR 63, Subpart ZZZZ. Measure CO and O ₂ at the inlet and outlet of the control device. Conduct subsequent testing every 8,760 hours or every 3 years, whichever comes first.	5.B.2	40 CFR 63, Subpart ZZZZ(63.6595, 6612, 6615, and 6620)
AA-002 and AA-007	Operation & Maintenance	Install crankcase ventilation or filtration system to reduce emissions, and comply with manufacturer's O&M procedures. Minimize idle time spent during startup to less than 30 minutes.	5.B.3	40 CFR 63, Subpart ZZZZ(63.6625(g) & (h))
AA-008	Fuel, O&M, and Testing	Maintain records of fuel type used, operation and maintenance (O&M) and O&M procedures, and manufacturer emissions test certification(s).	5.B.4	40 CFR 60, Subpart IIII (60.4200)

5.B.1 The permittee shall maintain records of the following information:

- (a) The number of tests for each engine type and the amount of fuel (and fuel type) used for each engine type on a monthly basis and for each consecutive 12-month period.
- (b) The amount of fuel (and fuel type) used by the generator(s) on a monthly basis and for each consecutive 12-month period.
- (c) The total emission rates in tons/year for NO_x, CO, SO₂, and VOC from the engine test(s) and the generator(s) on a monthly basis and for each consecutive 12-month period.

(Ref.: PTC issued on April 25, 2006)

5.B.2 For Emission Points AA-002 and AA-007, the permittee shall conduct any applicable initial performance test or other initial compliance demonstration according to Tables 4 and 5 of 40 CFR 63, Subpart ZZZZ within 180 days after the compliance date (May 3, 2013)

and according to the provisions in §63.7(a)(2). The permittee is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described below:

- (a) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
- (b) The test must not be older than 2 years.
- (c) The test must be reviewed and accepted by MDEQ.
- (d) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

For the compliance demonstration testing associated with Emission Points AA-002 and AA-007, the permittee shall measure the CO and O₂ at the inlet and outlet of the control device, and conduct subsequent performance tests every 8,760 hrs or 3 years, whichever comes first. Testing requirements are detailed in Tables 3-5 of Subpart ZZZZ, and the performance test procedures are detailed in §63.6620. (Ref.: 40 CFR 63.6595, 6612, 6615, 6620)

5.B.3 For Emission Points AA-002 and AA-007, which are existing non-emergency CI engines greater than or equal to 300 brake HP, the permittee shall comply with the following if the unit is not equipped with a closed crankcase ventilation:

- (a) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or
- (b) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

The permittee shall follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or shall request approval of different maintenance requirements that are as protective as manufacturer requirements. In addition, the permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup (in Tables 1a, 2a, 2c, and 2d to Subpart ZZZZ) shall apply. (Ref.: 40 CFR 63.6625(g) and (h))

5.B.4 For Emission Point AA-008, the permittee shall maintain records of all applicable 40 CFR 60, Subpart III requirements, which may include, but is not limited to fuel type used,

engine controls (e.g., non-resettable hour meter and particulate controls), operation and maintenance (O&M), O&M procedures, and manufacturer emissions test certification(s). (Ref.: 40 CFR 60, Subpart IIII and 40 CFR 63.6590(c))

C. Specific Reporting Requirements

Emission Point(s)	Pollutant/Parameter Monitored	Reporting Requirement	Condition Number	Applicable Requirement
Facility Wide	NO _x , CO, SO ₂ , & VOC	Report facility wide emissions on a monthly basis and 12-month consecutive period.	5.C.1	PTC issued on April 25, 2006
Facility Wide	NO _x , CO, SO ₂ , & VOC	Report emission limit exceedances, including cause and actions taken, within 10 days following the end of the month the exceedance occurred.	5.C.2	PTC issued on April 25, 2006
AA-002 and AA-007	Notifications	Submit notification requirements, including Initial Notification Requirements, Notice of Intent to Conduct a Test, and Notification of Compliance Status.	5.C.3	40 CFR 63, Subpart ZZZZ(63.6645(a), (g), & (h))
AA-002 and AA-007	Reporting	Submit semi-annual deviation reports and annual compliance report.	5.C.4 and 5.C.5	40 CFR 63, Subpart ZZZZ(63.6650)
AA-008	Fuel, O&M, and Testing	Report 40 CFR Part 60, Subpart IIII applicable requirements and methods to demonstrate compliance.	5.C.6	40 CFR 60, Subpart IIII

5.C.1 The permittee shall provide a summary report of facility-wide emission calculations. The emission calculations shall provide emissions on a monthly basis and a 12-month consecutive (12-month rolling) period. A semi-annual report shall be submitted in accordance with Permit Condition 5.A.4 and shall include:

- (a) The number of tests for each engine type and the amount of fuel (and fuel type) used for each engine type on a monthly basis and for each consecutive 12-month period.
- (b) The amount of fuel (and fuel type) used by the generator(s) on a monthly basis and for each consecutive 12-month period.
- (c) The total emission rates in tons/year for NO_x, CO, SO₂, and VOC from the engine test(s) and the generator(s) on a monthly basis and for each consecutive 12-month period.

5.C.2 The permittee shall report any exceedances of the established emission limitations outlined in this permit to MDEQ no later than 10 days following the end of the month in which the exceedance occurred. The permittee shall report the cause of the exceedance and the action(s) taken and/or to be taken to correct it. (Ref.: PTC issued on April 25, 2006)

- 5.C.3 For Emission Points AA-002 and AA-007, the permittee shall submit all of the notifications in §63.7(b) and (c); 63.8(e), (f)(4) and (f)(6); and 63.9(b) through (e), (g) and (h) that apply by the dates specified.

The permittee is required to submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1). The permittee is required to submit a Notification of Compliance Status in accordance with §63.9(h)(2)(ii) when conducting a performance or compliance demonstration test as specified in Tables 4 and 5 of Subpart ZZZZ. For each initial compliance demonstration required in Table 5 that does *not* include a performance test, the permittee must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration. For each initial compliance demonstration required in Table 5 that includes a performance test conducted according to the requirements in Table 3, the permittee must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2). (Ref.: 40 CFR 63.6645(a), (g), and (h))

- 5.C.4 For Emission Points AA-002 and AA-007, the permittee shall report any deviation from the emission limitations or operating limitations during each semi-annual reporting period. The report shall include the total operating time of the stationary RICE at which the deviation occurred during the reporting period; information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable; and the corrective action taken. The permittee shall submit this information in accordance with the semi-annual report required by Permit Condition 5.A.4.

- 5.C.5 For Emission Points AA-002 and AA-007, the permittee shall submit an Annual Compliance Report. The report shall be submitted in accordance with the reporting period and submittal date in Permit Condition 4.2. The Compliance Report must contain the following information:

- (a) Company name and address.
- (b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (c) Date of report and beginning and ending dates of the reporting period.
- (d) If a malfunction occurred during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction and if it caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken during a malfunction to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

- (e) If there are no deviations from any emission or operating limitations, a statement that there were no deviations from the emission or operating limitations during the reporting period.
 - (f) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.
 - (g) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
- 5.C.6 For Emission Point AA-008, the permittee shall identify all applicable requirements of 40 CFR 60, Subpart III and document the method of compliance with each requirement. The permittee shall maintain this information on site for review. In addition, the permittee shall submit this information in the semi-annual report required by Permit Condition 5.A.4.

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

None permitted.

SECTION 7. TITLE VI REQUIREMENTS

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

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

persons selling class I or class II refrigerants or offering class I or class II refrigerants for sale, and persons purchasing class I or class II refrigerants.

- 7.5 The permittee shall be allowed to switch from any ozone-depleting substance to any acceptable alternative that is listed in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G – Significant New Alternatives Policy Program. The permittee shall also comply with any use conditions for the acceptable alternative substance.
- 7.6 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart H – Halon Emissions Reduction:
- (a) Any person testing, servicing, maintaining, repairing, or disposing of equipment that contains halons or using such equipment during technician training;
 - (b) Any person disposing of halons;
 - (c) Manufacturers of halon blends; or
 - (d) Organizations that employ technicians who service halon-containing equipment.

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 _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 Fm 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