

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

TO CONSTRUCT AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Goodrich Petroleum Company LLC, Denkmann 33- 28 H Number 1 Production
Facility
Near Parish Road 181
Off Bean Road to unnamed Road
Liberty, Mississippi
Amite County

has been granted permission to construct air emissions equipment to comply with the emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with 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.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: September 13, 2012

1st Modification: May 29, 2014

2nd Modification: SEP 04 2018

Permit No.: 0080-00029

SECTION 1

A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.)
2. Any activities not identified in the application are not authorized by this permit. (Ref.: Miss. Code Ann. 49-17-29 1.b)
3. The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for operating without a valid permit pursuant to State Law. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(5).)
4. It is the responsibility of the applicant/permittee to obtain all other approvals, permits, clearances, easements, agreements, etc., which may be required including, but not limited to, all required local government zoning approvals or permits. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D(6).)
5. The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)
6. 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 the permit, unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(a).)
7. The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)
8. The permit does not convey any property rights of any sort, or any exclusive privilege. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(c).)
9. 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 permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality. The permittee may furnish such

records directly to the Administrator along with a claim of confidentiality. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(d).)

10. Design and Construction Requirements: The stationary source shall be designed and constructed so as to operate without causing a violation of an Applicable Rules and Regulations, without interfering with the attainment and maintenance of State and National Ambient Air Quality Standards, and such that the emission of air toxics does not result in an ambient concentration sufficient to adversely affect human health and well-being or unreasonably and adversely affect plant or animal life beyond the stationary source boundaries. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.A.)
11. Solids Removal: The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits. (Ref.: Miss. Code Ann. 49-17-29)
12. Diversion and Bypass of Air Pollution Controls: The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in 11 Miss. Admin. Code Pt. 2, R. 1.10., "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants." (Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)
13. Fugitive Dust Emissions from Construction Activities: The construction of the stationary source shall be performed in such a manner so as to reduce fugitive dust emissions from construction activities to a minimum. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.A(4).)
14. Right of Entry: The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon presentation of credentials:
 - a) To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and
 - b) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emissions. (Ref.: Miss. Code Ann. 49-17-21)
15. Permit Modification or Revocation: After notice and opportunity for a hearing, the Permit Board may modify the permit or revoke it in whole or in part for good cause shown including, but not limited to:
 - a) Persistent violation of any of the terms or conditions of this permit;

- b) Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
or
- c) A change in federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.C.)

16. Public Record and Confidential Information: Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality, Office of Pollution Control. (Ref.: Miss. Code Ann. 49-17-39)
17. Permit Transfer: This permit shall not be transferred except upon approval of the Permit Board. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.16.B)
18. Severability: The provisions of this permit are severable. If any provision of the permit, or the application of any provision of the permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. (Ref. 11 Miss. Admin. Code Pt. 2, R. 2.1.D(7).)
19. Permit Expiration: The permit to construct will expire if construction does not begin within eighteen (18) months from the date of issuance or if construction is suspended for eighteen (18) months or more. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(1).)
20. Certification of Construction: A new stationary source issued a Permit to Construct cannot begin operation until certification of construction by the permittee. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(3).)
21. Beginning Operation: Except as prohibited in Section 1, Condition 24 of this permit, after certification of construction by the permittee, the Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance or modification of the Title V Permit or the application for issuance or modification of the State Permit to Operate, whichever is applicable, is due. This provision is not applicable to a source excluded from the requirement for a permit to operate as provided by 11 Miss. Admin. Code Pt. 2, R. 2.13.G. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(4).)
22. Application for a Permit to Operate: Except as otherwise specified in Section 1, Condition 24 of this permit, the application for issuance or modification of the State Permit to Operate or the Title V Permit, whichever is applicable, is due twelve (12) months after beginning operation or such earlier date or time as specified in the Permit to Construct. The Permit Board may specify an earlier date or time for submittal of the application. Beginning operation will be assumed to occur upon certification of construction, unless the permittee specifies differently in writing. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(5).)

23. Operating Under a Permit to Construct: Except as otherwise specified in Section 1, Condition 24 of this permit, upon submittal of a timely and complete application for issuance or modification of a State Permit to Operate or a Title V Permit, whichever is applicable, the applicant may continue to operate under the terms and conditions of the Permit to Construct and in compliance with the submitted application until the Permit Board issues, modifies, or denies the Permit to Operate. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(6).)
24. Application Requirements for a Permit to Operate for Moderate Modifications: For moderate modifications that require contemporaneous enforceable emissions reductions from more than one emission point in order to “net” out of PSD/NSR, the applicable Title V Permit to Operate or State Permit to Operate must be modified prior to beginning operation of the modified facilities. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(7).)
25. General Duty: All air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)
26. Deviation Reporting: 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) working days of the time the deviation began. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)
27. Compliance Testing: Regarding compliance testing:
- a) The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.
 - b) Compliance testing will be performed at the expense of the permittee.
 - c) Each emission sampling and analysis report shall include but not be limited to the following:
 - (1) detailed description of testing procedures;
 - (2) sample calculation(s);
 - (3) results; and
 - (4) comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.
- (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.6.B(3), (4), and (6).)

B. GENERAL NOTIFICATION REQUIREMENTS

1. Within fifteen (15) days of beginning actual construction, the permittee must notify DEQ in writing that construction has begun. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(2).)
2. The permittee must notify DEQ in writing when construction does not begin within eighteen (18) months of issuance or if construction is suspended for eighteen (18) months or more. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C(3).)
3. Upon the completion of construction or installation of an approved stationary source or modification, and prior to commencing operation, the applicant shall notify the Permit Board that construction or installation was performed in accordance with the approved plans and specifications on file with the Permit Board. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(1) and (3).)
4. The Permit Board shall be promptly notified in writing of any change in construction from the previously approved plans and specifications or permit. If the Permit Board determines the changes are substantial, it may require the submission of a new application to construct with “as built” plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an “as built” application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law. (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D(2).)

SECTION 2 EMISSION POINT DESCRIPTION

The permittee is authorized to construct and operate, upon certification of construction, air emissions equipment, as described in the following table.

Emission Point	Facility Reference	Description
AA-000	---	Entire Oil and Gas Production Facility
AA-002	2-12-HT-BS	One (1) 0.5 MMBTU/hr Heater Treater
AA-006	6-12-ICE-ES	One (1) 8.5 HP non-emergency gasoline-fired circulating pump engine
AA-007	7a-12-OST-CV	One (1) 16,800 Gallon (400 BBL) Oil Storage Tank
AA-008	7b-12-OST-CV	One (1) 16,800 Gallon (400 BBL) Oil Storage Tank
AA-009	7c-12-OST-CV	One (1) 16,800 Gallon (400 BBL) Oil Storage Tank
AA-011	7e-12-WST-CV	One (1) 16,800 Gallon (400 BBL) Water Storage Tank
AA-016	12-12-BV	Blowcase Vessel (Drip Pot)
AA-020	16-12-LL	Oil Loading Losses
AA-021	17-12-PC	Facility-Wide Pneumatic Controllers
AA-022	18-12-FE	Facility-Wide Fugitive Emissions
AA-025	21-12-CST	One (1) 135 Gallon Chemical Storage Tank
AA-026	8-12-F	Process Control Flare
AA-027	26-14-LOT	One (1) 250 Gallon Lube Oil Tank
AA-028	27-14-ICE-ES	One (1) 226 HP non-emergency, natural gas-fired jet pump engine
AA-029	28-14-WG-RV	Well Gas Relief Vent
AA-030	29-15-CST	One (1) 135 Gallon Chemical Storage Tank
AA-031	30-15-LOT	One (1) 55 Gallon Lube Oil Tank
AA-032	31-15-BV	Blowcase Vessel (Pump Skid Fluids)

SECTION 3 EMISSION LIMITATIONS AND STANDARDS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Limitation/Standard
AA-000	11 Miss. Admin. Code Pt. 2, R. 1.3.A.	3.1	Opacity	Facility-wide opacity limitations
	11 Miss. Admin. Code Pt. 2, R. 1.3.B.	3.2		
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.3	PM/PM ₁₀ (filterable only)	0.6 lb/MMBTU per hour heat input
	11 Miss. Admin. Code Pt. 2, R. 1.4.B(2).	3.4	H ₂ S	One (1) grain per 100 standard cubic feet
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.5	Produced Gas	Route produced gas to flare
AA-006 AA-028	40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (63.6585(a) and (c))	3.6	Exhaust Emissions	Applicability
AA-006	40 CFR Part 63, Subpart ZZZZ (63.6590(a)(2)(iii) and 63.6590(c)(1))	3.7	Exhaust Emissions	Demonstration of compliance with Part 63, Subpart ZZZZ by compliance with the specified requirements of Part 60, Subpart JJJJ
	40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (60.4246 and Table 3 to Subpart JJJJ)	3.8	General Provisions	Applicability
	40 CFR Part 60, Subpart JJJJ (60.4233(a), 60.4231(a), and 60.4234)	3.9	Exhaust Emissions	Emission standards
	40 CFR Part 60, Subpart JJJJ (60.4235 and 80.195(a)(1))	3.10	Fuel Requirements	Only use gasoline which contains no more than 80 ppm of sulfur
AA-028	40 CFR Part 63, Subpart ZZZZ (63.6665 and Table 8 to Subpart ZZZZ)	3.11	General Provisions	Applicability

- 3.1 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. 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.

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

- 3.2 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 Condition 3.1. This shall not apply to vision obscuration caused by uncombined water droplets.

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

- 3.3 For the entire facility (AA-000), the permittee shall limit the particulate emissions from fossil fuel burning installations of less than 10 MMBTU/hr heat input to no more than 0.6 pounds per MMBTU per hour heat input.

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

- 3.4 For the entire facility (AA-000), the permittee shall not permit the emission of any gas stream which contains hydrogen sulfide (H₂S) in excess of one grain per 100 standard cubic feet. Gas streams containing hydrogen sulfide in excess of one grain per 100 standard cubic feet shall be incinerated in the control flare (AA-026) at temperatures of no less than 1600 °F for a period of no less than 0.5 seconds or processed in such a manner which is equivalent to or more effective for the removal of hydrogen sulfide.

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

- 3.5 For the entire facility (AA-000), in order to minimize the emissions of air pollutants, the permittee shall route all produced gas emissions to the process flare (AA-026). Emission Point AA-026 is required to be operational as long as it is safe and practical for the flare to be in operation without the use of supplemental fuels. If the amount of produced gas reaches a level where operation of Emission Point AA-026 is no longer safe or practical then those emissions may be vented to the atmosphere.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

- 3.6 Emission Points AA-006 and AA-028 are stationary reciprocating internal combustion engines (RICE) located at an area source of HAPs. As such, these engines are subject to and shall comply with all applicable requirements of 40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

(Ref.: 40 CFR 63.6585(a) and (c))

- 3.7 Emission Point AA-006 is a stationary RICE located at an area source of HAP emissions which was constructed after June 12, 2006. As such, this engine is considered to be a new stationary RICE and shall demonstrate compliance with the requirements of Subpart ZZZZ by complying with the applicable requirements of Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

(Ref.: 40 CFR 63.6590(a)(2)(iii) and 63.6590(c)(1))

- 3.8 For Emission Point AA-006, the permittee is subject to the General Provisions on 40 CFR Part 60 (40 CFR 60.1 through 40 CFR 60.19) as outlined in Table 3 to Subpart JJJJ.
(Ref.: 40 CFR 60.4246)
- 3.9 For Emission Point AA-006, the permittee shall meet the emissions standards outlined in 40 CFR 60.4231(a) as applicable. The permittee shall operate and maintain the affected engine such that it achieves these emission standards for the entire life of the affected engine.
(Ref.: 40 CFR 60.4233(a), 60.4231(a), and 60.4234)
- 3.10 For Emission Point AA-006, the permittee shall only combust gasoline which contains no more than 80 parts per million (ppm) sulfur.
(Ref.: 40 CFR 60.4235 and 80.195)
- 3.11 For Emission Point AA-028, the permittee is subject to the General Provisions on 40 CFR Part 63 (40 CFR 63.1 through 40 CFR 63.15) as outlined in Table 8 to Subpart ZZZZ.
(Ref.: 40 CFR 63.6665)

**SECTION 4
WORK PRACTICES**

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Work Practice
AA-028	40 CFR Part 63, Subpart ZZZZ (63.6603(a) and Item 10 of Table 2d from Subpart ZZZZ)	4.1	Exhaust Emissions	Maintenance requirements

4.1 For Emission Point AA-028, the permittee shall demonstrate compliance with Subpart ZZZZ by complying with the requirements outlined in paragraphs (a) through (c) below:

- (a) Change oil and filter every 1,440 hours of operation or annually, whichever comes first;
- (b) Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and
- (c) Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.

(Ref.: 40 CFR 63.6603(a) and Item 10 of Table 2d from Subpart ZZZZ)

SECTION 5
MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Pollutant/Parameter	Monitoring/Recordkeeping Requirement
AA-006	40 CFR Part 60, Subpart JJJJ (60.4245(a))	5.1	Exhaust Emissions	Demonstration of compliance
	40 CFR Part 60, Subpart JJJJ (60.4243(a)(1) and (a)(2)(i))	5.2	Recordkeeping	Recordkeeping requirements
AA-028	40 CFR Part 63, Subpart ZZZZ (63.6640(a) and Item 9 of Table 6 from Subpart ZZZZ)	5.3	Exhaust Emissions	Demonstration of compliance

- 5.1 For Emission Point AA-006, the permittee shall demonstrate compliance with the emission standards specified in 40 CFR 60.4233(a) by purchasing an engine certified to the emission standards in 40 CFR 60.4231(a) for the same engine class and maximum engine power. Furthermore, the permittee shall demonstrate compliance by meeting the requirements of either paragraph (a) or (b) below:
- (a) If the certified engine is operated and maintained according to the manufacturer's emission related instructions, then the permittee shall keep records of all conducted maintenance. The permittee shall also meet the requirements of 40 CFR Part 1068, Subparts A through D, as applicable. Any adjustments made to the engine's settings which are in accordance with the manufacturer's instructions shall not cause the engine to be considered out of compliance.
 - (b) If the certified engine is not operated and maintained according to the manufacturer's emission related instructions, then the engine shall not be considered a "certified engine". In this circumstance, the permittee shall keep a maintenance plan and records of conducted maintenance to demonstrate compliance. The permittee shall also maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; however, no performance testing is required.

(Ref.: 40 CFR 60.4243(a)(1) and (a)(2)(i))

- 5.2 For Emission Point AA-006, the permittee shall maintain the records outlined in paragraphs (a) through (d) below:
- (a) All notifications submitted to comply with this subpart and all documentation supporting any notification.
 - (b) Maintenance conducted on the engine.
 - (c) If the engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.

- (d) If the engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that the engine meets the emission standards.

(Ref.: 40 CFR 60.4245(a))

5.3 For Emission Point AA-028, the permittee shall demonstrate compliance with Subpart *ZZZZ* by complying with the requirements of paragraphs (a) or (b) below:

- (a) Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
- (b) Develop and follow a site-specific maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(Ref.: 40 CFR 63.6640(a) and Item 9 of Table 6 from Subpart *ZZZZ*)

SECTION 6
REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number(s)	Reporting Requirement
<i>This Section Has Been Intentionally Left Blank</i>			