PERMIT NO. 4953-115-0130-S-01-0
ISSUANCE DATE:

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Quality Permit

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to and in effect under that Act,

Facility Name:	**Synthica Energy, Rome**
Facility Address:	**W. Hermitage Rd NE & Old Shannon Rd. Rome, Georgia 30161 Floyd County**
Mailing Address:	**W. Hermitage Rd NE & Old Shannon Rd. Rome, Georgia 30161 Floyd County**
Facility AIRS Number:	**04-13-115-00130**

is issued a Permit for the following:

Construction and operation of an anaerobic digestion facility to convert organic waste into renewable natural gas, consisting of two digesters, two tanks, and a boiler. This Permit is issued for the purpose of establishing practically enforceable emission limitations such that the facility will not be considered a major source with respect to Title V of the Clean Air Act Amendments of 1990.

This Permit is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 28821 dated April 7, 2023; any other applications upon which this Permit is based; supporting data entered therein or attached thereto; or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **5** pages.

STATE OF GEORGIA
CONSTITUTION
WISDOM
JUSTICE
MODERATION
1776

_____
David B. Dove, Interim Director
Environmental Protection Division

1. General Requirements

1.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate this source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection or surveillance of the source.

1.2 The Permittee shall not build, erect, install or use any article, machine, equipment or process the use of which conceals an emission which would otherwise constitute a violation of an applicable emission standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged into the atmosphere.

1.3 The Permittee shall submit a Georgia Air Quality Permit application to the Division prior to the commencement of any modification, as defined in 391-3-1-.01(pp), which may result in air pollution and which is not exempt under 391-3-1-.03(6). Such application shall be submitted sufficiently in advance of any critical date involved to allow adequate time for review, discussion, or revision of plans, if necessary. The application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity and pollutant emission rates of the plant before and after the change, and the anticipated completion date of the change.

1.4 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and shall be retained for at least five (5) years following the date of entry.

1.5 In cases where conditions of this Permit conflict with each other for any particular source or operation, the most stringent condition shall prevail.

2. Allowable Emissions

2.1 The Permittee shall not combust biogas in the flare (Source Code: FL01) equal to or in excess of 426,366,720 cubic feet during any consecutive 12-month period.
[Avoidance of 40 CFR Part 70]

2.2 The Permittee shall comply with all applicable provisions of the New Source Performance Standards (NSPS) as found in 40 CFR 60 Subpart A – "General Provisions" and 40 CFR 60 Subpart Dc – "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" for the operation of the boiler (Source Code: BL01).
[40 CFR 60 Subpart A and Dc]

2.3 The Permittee shall not fire any fuel, other than natural gas containing no more than 2.5 percent sulfur, by weight, in the boiler (Source Code: BL01).
[391-3-1-.02(2)(g) and Avoidance of 40 CFR 60 Subpart JJJJJJ]

2.4 The Permittee shall not cause, let, suffer, permit, or allow any emission from equipment as indicated below:
[391-3-1-.02(2)(d)]

a. Contain fly ash and/or particulate matter in amounts equal to or exceeding the rate derived from $P = 0.5(10/R)^{0.5}$ where R equals the heat input rate in million BTU per hour and P equals the allowable emission rate in pounds per million BTU from the boiler (Source Code: BL01).
[391-3-1-.02(2)(d)2(ii)]

b. Exhibit visible emissions, the opacity of which is equal to or greater than 20 percent except for one six-minute period per hour of not more than 27 percent opacity from the boiler (Source Code: BL01).
[391-3-1-.02(2)(d)3]

2.5 The Permittee shall not cause, let, suffer, permit, or allow emissions of NO_X, from the boiler (Source Code: BL01) exceeding 30 ppm at 3 percent O_2 dry basis during the period May 1 through September 30 of each year.
[391-3-1-.02(2)(lll)]

3. Fugitive Emissions

3.1 The Permittee shall take all reasonable precautions with any operation, process, handling, transportation, or storage facilities to prevent fugitive emissions of air contaminants.

4. Process & Control Equipment

4.1 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1 and Avoidance of 40 CFR 70]

a. A device to measure the gas flow rate to the flare (Source Code: FL01) at least once every 15 minutes during operation.

5. Monitoring

5.1 The Permittee shall, each calendar year, monitor the emissions of nitrogen oxides from the boiler (Source Code: BL01) during the period from May 1 through September 30 by performing a tune-up to demonstrate compliance with the NO_X concentration limit in Condition 2.5, using the following procedures:
[PTM Section 2.119]

a. The tune-up shall be performed no earlier than March 1 and no later than May 1 of each calendar year. In case of initial startups that occur during the period from May 1 to September 30, a tune-up shall be performed within the first 120 hours of operation. The tune-up shall be performed at the normal maximum operating load expected during the period from May 1 to September 30 of each year.

b. The tune-up shall be performed using the manufacturer recommended settings for reduced NO_X emissions or by using a NO_X analyzer. Adjustments shall be made, as needed, so that NO_X emissions are reduced in a manner consistent with good combustion practices and safe fuel-burning equipment operation.

c. Following the adjustments, or determining adjustments are not required, the Permittee shall perform a measurement consisting of a minimum of three test runs to demonstrate compliance with the NOx concentration limit in Condition 2.5. Each test run shall be a minimum of 30 minutes of operational date in length. Following any test run that exceeds the NO_X concentration limit in Condition 2.5, the Permittee shall make adjustments to the affected facility and conduct a new measurement prior to May 1, or within one day if the initial measurement is conducted during the period of May 1 through September 30. Subsequent adjustments followed by measurements shall be continued until another measurement (average of 3 consecutive test runs) do not exceed the NO_X concentration limit in Condition 2.5.

d. All measurements of NO_X and oxygen concentrations in paragraphs b and c shall be conducted using ASTM Test Method for Determination of NO_X, Carbon Monoxide (CO), and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, ASTM D 6522; or procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters using Portable Analyzers, or Procedures of EPA Reference Method 7E and 3A.

e. The Permittee shall maintain records of all tune-ups performed. These records shall indicate the date and time the tune-up was performed, the NO_X and O_2 values determined during the measurement, state what operating parameters were adjusted to minimize NO_X emissions and explain how those settings were determined.

f. Following the tune-up, from the period May 1 through September 30 of each year, the Permittee shall operate the affected boiler using the settings determined during the annual tune-up. If no parameters can be monitored to indicate the performance of the affected boiler, the Permittee shall certify that no adjustments have been made to the affected facility the Permittee and/or any third party since the most recent successful tune-up was completed. The certification shall be made in writing no later than October 15 of each year and shall be maintained with the records required to be maintained in paragraph e.

g. Alternatively, an affected boiler with NO_X emission rate of less than or equal to 15 ppm corrected to 3 percent oxygen may conduct measurements of NO_X at a reduced rate following a tune-up and verification demonstrating the affected boiler is capable of a NO_X

emission rate of 15 ppm corrected to 3 percent oxygen. The Permittee may conduct subsequent tune-ups at 48 calendar months intervals. Measurements of NO_X emissions shall be conducted as described in paragraph a through f. The Permittee shall continue to make annual certifications of no adjustments since the previous tune-up.

h. As an alternative to complying with the requirements in this condition, the Permittee shall submit documentation no later than April 30 of each year confirming that an affected unit will not operate during the period of May 1 through September 30.

6. Performance Testing

6.1 The Permittee shall cause to be conducted a performance test at any specified emission point when so directed by the Division. The following provisions shall apply with regard to such tests:

a. All tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants.

b. All test results shall be submitted to the Division within sixty (60) days of the completion of testing.

c. The Permittee shall provide the Division thirty (30) days prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test, and shall provide with the notification a test plan in accordance with Division guidelines.

d. All monitoring systems and/or monitoring devices required by the Division shall be installed, calibrated and operational prior to conducting any performance test(s). For any performance test, the Permittee shall, using the monitoring systems and/or monitoring devices, acquire data during each performance test run. All monitoring system and/or monitoring device data acquired during the performance testing shall be submitted with the performance test results.

7. Notification, Reporting and Record Keeping Requirements

7.1 The Permittee shall submit written notification of startup to the Division within 15 days after such date. The notification shall be submitted to:
Mr. Sean Taylor
Stationary Source Compliance Program
4244 International Parkway, Suite 120
Atlanta GA 30354

7.2 The Permittee shall submit notification of the date of construction and actual startup of the boiler (Source Code: BL01) as provided by 40 CFR 60.7 within 15 days of such date. This notification shall include all items specified in 40 CFR 60.48c(a).
[40 CFR 60.48c(a)]

7.3 The Permittee shall record and maintain records of the amount of natural gas combusted in the boiler (Source Code: BL01) during each calendar month. All records shall be maintained by the Permittee for a period of two years following the date of such record.
[40 CFR 60.48c(g)(2) and 40 CFR 60.48c(i)]

7.4 The Permittee shall maintain records of the measurements conducted in Condition 5.1 for a period of 5 years following the date of such record.
[PTM Section 2.119.4]

8. Special Conditions

8.1 At any time that the Division determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Division reserves the right to amend the provisions of this Permit pursuant to the Division's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.

8.2 The Permittee shall calculate and pay an annual Permit fee to the Division. The amount of the fee shall be determined each year in accordance with the "Procedures for Calculating Air Permit Application & Annual Permit Fees."