



**Brook & Scenic RNG
LLC.**
2400 Ansys Drive
Suite 102
Canonsburg PA
15317

Mr. Eric Grinstern
EGLE – Air Quality Division
Grand Rapids District Office
350 Ottawa Ave. NW, Unit 10
Grand Rapids, MI 49503-2316

May 15, 2024

**Re: Response to Violation Notice dated April 10, 2024 – REVISION 1
B&S Renewable Natural Gas – Brook View Dairy (SRN: P1447)**

Dear Mr. Grinstern:

Brook & Scenic RNG LLC. (B&S) is submitting this letter in response to a violation notice (“VN”) dated April 10, 2024 from Michigan Department of Environment, Great Lakes, and Energy (EGLE) concerning the Brook View Dairy Renewable Natural Gas facility (BVD RNG) located at 10560 Freeport Avenue, Freeport, Kent County, MI.

The violation notice requested a written response by May 1, 2024; however, B&S did not receive the letter until April 24, 2024. EGLE approved an extension of this response to be submitted by May 15, 2024. B&S addresses the allegations of the letter below.

Brook View Dairy Farm includes three (3) anaerobic digesters operating since 2008 and the following equipment:

- Two (2) natural gas-fired reciprocating internal combustion engines (RICE) that were relocated from another facility and converted to burn biogas as fuel in 2008
- One (1) natural gas-fired boiler installed in 2010

In 2022, B&S installed a RNG facility at the Brook View Dairy that consists of a gas upgrading operation and a flare for destruction of excess biogas. At that time, the RICE ceased burning biogas and returned to using natural gas as fuel.

The issue raised by EGLE pertains to the BVD RNG equipment and engines observed during an inspection performed on February 12, 2024. In your April 10 letter, EGLE provided the following alleged violations at the BVD RNG facility:

Process Description	Rule	EGLE Alleged Violation
Anaerobic Digester RNG Facility	Rule 201	Installation and operation without obtaining a permit to install (PTI).
(2) Caterpillar G3516, 1148 Horsepower Spark Ignition Engines	40 CFR 60 Subpart JJJJ, Part 60.4243(i)	Failure to conduct emissions testing.

The following sections provide further details and our response to your allegations.

Response to Alleged Rule 201 Violation – Failure to Obtain a Permit to Install

Based upon information from a consultant, B&S was of the understanding that the equipment at BVD RNG was considered to be exempt from requirement to obtain a PTI. B&S has taken immediate action to address this alleged violation and is working with NTH Consultants, Ltd. (NTH) to assemble a PTI application for the BVD RNG facility, including the gas upgrading system and flare owned by B&S, and natural gas-fired boiler and two (2) RICE owned by the farm. B&S anticipates submitting this application to EGLE as soon as practical, but no later than June 14, 2024.

Response to Alleged Rule 40 CFR Subpart JJJJ Violation – Failure to Conduct Emissions Testing

Pursuant to 40 CFR §60.4230, the two (2) natural gas-fired RICE (each rated at 1,148 brake horsepower(bhp)) would be subject to the regulatory requirements of 40 CFR Part 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE) (i.e., the NSPS) if one of the following conditions are met:

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.

The applicability of 40 CFR Part 60 Subpart JJJJ to the two (2) RICE at BVD RNG is addressed below.

NSPS Applicability – Manufacture

The two (2) RICE were manufactured in 2000 to operate on natural gas.¹ Because the RICE were manufactured before July 1, 2007, the RICE do not meet the criteria of 40 CFR §60.4230(4)(i) and thus not subject to 40 CFR Part 60 JJJJ based upon the date of manufacture.

NSPS Applicability – Relocation

As stated previously, the engines were relocated from another facility to the Brook View Dairy Farm in 2008 and used natural gas as fuel. Pursuant to 40 CFR §60.14(e)(6), a relocation of an existing facility (in this case, the “existing facility” is each RICE) is not considered a modification for purposes of the NSPS regulations. The applicability of 40 CFR Part 60 Subpart JJJJ is not changed as result of this relocation. 40 CFR §60.14(e)(6) states:

(e) The following shall not, by themselves, be considered modifications under this part:

(6) The relocation or change in ownership of an existing facility.

NSPS Applicability – Fuel Usage

As mentioned above, the RICE were originally designed to combust natural gas, but were converted to burn biogas in 2008 when the RICE were relocated to the Brook View Dairy. The engines returned to natural gas operation in 2022.

¹ Machine Serial Numbers 4EK02823 (built March 14, 2000) and 4EK02828 (built March 16, 2000).

Change from Natural Gas to Biogas

B&S previously submitted information to EGLE using the term “modification” that appears to have created unintended confusion in regulatory applicability, particularly with respect to 40 CFR Part 60 Subpart JJJJ and the usage of biogas and natural gas as fuels. We offer the following information to correct the applicability of a modification with respect to requirements of 40 CFR Part 60 Subpart JJJJ for the two (2) RICE located at the Brook View Dairy.

40 CFR §60.14(e)(4) provides detail of a scenario of a use of an alternative fuel that is not considered a modification under NSPS regulations. 40 CFR §60.14(e)(4) states:

- (e) The following shall not, by themselves, be considered modifications under this part:*
(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by § 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. (...)

Pursuant to 40 CFR §60.14(e)(4), the conversion to biogas fuel in the RICE is not considered a modification because, to our knowledge, only minor changes (e.g., plumbing or fuel injectors) were made for biogas to be used as a fuel source. Biogas is comprised of primarily methane and carbon dioxide; therefore, is similar in nature to natural gas (primarily methane). As you can see in the attached applicability determination dated June 28, 2018 from U.S. Environmental Protection Agency (EPA), EPA determined that a facility using RICE (originally designed for natural gas usage) could change the fuel from landfill gas (a fuel similar to that of biogas) to natural gas is not considered a modification pursuant to 40 CFR §60.14(e)(4) listed above.

The interchangeability of these fuels is recognized by U.S. EPA as an activity not considered to be a modification for NSPS purposes. Accordingly, the conversion of the two (2) RICE from natural gas to biogas in 2008 is not considered a modification with respect to 40 CFR Part 60 Subpart JJJJ.

Change from Biogas to Natural Gas

B&S installed the BVD RNG facility in 2022. At the time, the engines were converted back to natural gas fuel operation because the RNG process relies on biogas as feedstock (i.e., if the engines were to continue burning biogas, there would be no/less biogas to be converted to RNG). Pursuant to 40 CFR §60.14(e)(4) shown above and supported by the attached applicability determination from U.S. EPA, the conversion back to natural gas fuel is not considered a modification.

Conclusion

The two (2) RICE are not subject to 40 CFR Part 60 Subpart JJJJ because they are not manufactured after July 1, 2007, nor have the engines been “modified” (modification as defined within 40 CFR Part 60), and therefore do not meet 40 CFR §60.4230(4) or (5), respectively. Accordingly, the RICE are **not** subject to the requirements of 40 CFR Part 60 Subpart JJJJ, including the requirement to conduct emission testing as EGLE has alleged as required.

We appreciate your review of these matters and look forward to resolving these items as efficiently as practicable. If there are questions regarding this response, please contact Mr. Eric Marko, P.E. of NTH at emarko@nthconsultants.com or 616-451-6244.

Mr. Eric Grinstern
May 15, 2024

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Dugan". The signature is fluid and cursive, with the first name "Matt" being more prominent than the last name "Dugan".

Matt Dugan, P. Eng.
Vice President - Operations
BerQ RNG

cc: Annette Switzer, P.E., EGLE
Christopher Ethridge, EGLE
Brad Myott, EGLE
Jenine Camilleri, EGLE
Heidi Hollenbach, EGLE
Eric Marko, P.E., NTH
Abby Brandstatter, NTH

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 28 2018

REPLY TO THE ATTENTION OF:

Ernest H. Dennison, P.E.
District Engineer
Waste Management of Illinois, Inc.
Milam Recycling and Disposal Facility
601 Madison Road
East St. Louis, Illinois 62201

Re: Request for Applicability Determination of 40 C.F.R. Part 60, Subpart JJJJ

Dear Mr. Dennison:

Thank you for your letter dated January 7, 2016, requesting a determination as to whether three on-site electrical generating engines at the Milam Recycling and Disposal Facility, located at 601 Madison Road, East St. Louis, Illinois (Milam) are subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE), 40 C.F.R. Part 60, Subpart JJJJ (NSPS Subpart JJJJ). We apologize for the delay in responding to your request.

The three SI ICE engines have historically combusted landfill gas (LFG). On or about January 7, 2016, Milam requested a permit modification from the Illinois Environmental Protection Agency (Illinois EPA) to be able to combust natural gas in the three SI ICE so that more LFG could be directed to the facility's newly commissioned plant that converts LFG to pipeline quality gas (High BTU Plant). The power generated by the engines would help off-set electrical usage by the High BTU Plant. The permit application requested that Milam retain the option in the permit to switch the engines back to LFG depending on gas production and other site conditions. On March 16, 2016, the Illinois EPA issued Milam a construction permit to your facility to combust either natural gas or LFG gas in the three SI ICE.

The manufacture dates of the SI ICE are as follows: Engine 1, 1992; Engine 2, 1993; and Engine 3, 1992. 40 C.F.R. Part 60, Subpart JJJJ applies to, among others, owners or operators of stationary spark ignition internal combustion engines that are modified or reconstructed after June 12, 2006.

The combustion of the natural gas increases nitrogen oxides (NO_x) and would normally also result in an increase in volatile organic compounds (VOC). However, an oxidation catalyst will be used when natural gas is combusted in the engine. The oxidation catalyst is required to be used by 40 C.F.R. Part 63, Subpart ZZZZ, which the engines are subject

to. The increase in NO_x could be considered a modification under 40 C.F.R. § 60.14(a). If the engines are modified, the provisions of NSPS Subpart JJJJ apply. However, 40 C.F.R. § 60.14(e)(4) provides the following exclusion with respect to “modification:”

“Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility’s construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.”

The question posed by Milam is whether the fuel change from LFG to natural gas constitutes a “modification” under the General Provisions of the NSPS, 40 C.F.R. Part 60, Subpart A (40 C.F.R. § 60.14) and NSPS Subpart JJJJ. The engines in question are Caterpillar Model 3516 and were originally designed to operate on natural gas but have been purchased by the landfill industry since the 1980’s to recover landfill gas. In order to combust landfill gas, a fuel regulator that allowed increased gas flow was installed since landfill gas has half the BTU value of natural gas. To switch back to natural gas, a different fuel regulator was installed and minor changes to the engines air-to-fuel ratio controllers were made to accommodate the higher BTU natural gas. No other physical changes were made other than a connection to the natural gas line. If Milam opts to combust landfill gas in the future, the old fuel regulators can be re-installed and the settings on the air-to-fuel ratio controllers installed.

EPA’s Determination

EPA has reviewed the information provided in your January 7, 2016 letter, your June 15, 2015 Clean Air Act Permit Program (CAAPP) program (Title V permit), which was in effect at the time of your request, and the March 16, 2016 construction permit issued by the Illinois EPA to the facility to address the use of natural gas in the affected engines as an alternative to LFG. Based on this information, EPA has determined that the use of natural gas as a fuel source in the three engines since March 2016 does not constitute a modification under the NSPS for the following reasons:

- (1) The Caterpillar 3516 engines were designed to combust natural gas. The relatively minor modifications you made to the fuel regulator and air-to-fuel ratio did not change the fact that the engines themselves were and are capable of accommodating natural gas; and
- (2) The June 15, 2015 Title V permit authorizes the use of natural gas in the engines. Condition 4.2. (Landfill Gas to Energy Plant) 2. (Applicable Requirements) g. (Operational and Production Requirements) states: “Pursuant to the CAAPP permit issued to the source on November 20, 2002, landfill gas, supplemented as needed with natural gas, shall be the only fuel fired in the landfill gas-fired engines.” Thus, although there were no specific

limits related to combusting natural gas and you were not using natural gas at the time of your request, your permit allowed its use.

The March 16, 2016 permit issued by Illinois EPA, which will be incorporated into the Title V permit, states that the engines are designed and capable of using natural gas as well as landfill gas and provides revised limits for NOx and VOC.

If you have any questions regarding this letter, feel free to contact Linda H. Rosen, of my staff, at (312) 886-6810, or Rosen.Linda@epa.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sara Breneman", with the word "for" written in smaller cursive below it.

Sara Breneman

Chief

Air Enforcement and Compliance Assurance Branch

cc: Julie Armitage, Manager
Bureau of Air – Compliance and Enforcement Section
Illinois Environmental Protection Agency