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October 17 2018

Ms. Lynn Jarvis
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

RE: Methodology to Calculate RECs from Multi-fuel mix including Poultry Waste Press Cake;
N.C.U.C. Docket No. SP-5640, Sub 0

Dear Ms. Jarvis:

On May 15, 2015, the Commission issued an Order Amending CPCN, Accepting Registration and Approving Method of Calculating Portions of Biomass Fuel and Thermal Energy (the "Order") in the above-referenced docket, for a renewable energy facility owned and operated by North Carolina Renewable Power-Lumberton, LLC ("NCRP-Lumberton") in Robeson County. This facility, as certificated, has been fueled by wood waste and poultry litter.

As explained in the Memorandum enclosed with and immediately following this letter, NCRP-Lumberton is currently testing and planning to use as a fuel organic waste material resulting from the rendering or processing of poultry products ("Press Cake"), which was determined by the Commission to be a "poultry waste" for the purposes of G.S. 62-133.8(f), in its Order on Request for Declaratory Ruling in Docket No. SP-100, Sub 33 dated April 24, 2018 ("April 24 Declaratory Ruling"). The use of Press Cake as a fuel was not expressly contemplated or discussed at the time of filing the Verified Application in Docket SP-5640, Sub 0, but otherwise all of the information contained in that Verified Application, including the Multi-Fuel Information on pages 8 and 9, remains accurate. The methodology and concepts described in the Verified Application have not changed, but the formulas need to be supplemented to note that Press Cake will be an additional Heat Input, so that, for each reporting period, the RECs calculations are as follows (wherein "PC" is the abbreviation for "Press Cake"):

PL Heat Input (Btu) = Weight PL (lbs) x Average Heat Content PL (Btu/lb)
WB Heat Input (Btu) = Weight WB (lbs) x Average Heat Content WB (Btu/lb)
PC Heat Input (Btu) = Weight PC (lbs) x Average Heat Content PC (Btu/lb)
Total Heat Input (Btu) = PL Heat Input + WB Heat Input + PC Heat Input
% Poultry Litter Heat Input (%PL) = (PL Heat Input) / (Total Heat Input)
% Wood Biomass Heat Input (%WB) = (WB Heat Input) / (Total Heat Input)
% Press Cake Heat Input (%PC) = (PC Heat Input) / (Total Heat Input)

Based upon this allocation, the calculation of RECs at the Lumberton facility generated by the addition of Press Cake as fuel is shown in Exhibit D to the Memorandum enclosed herewith. That document is filed confidentially and labeled "Revised Registration Exhibit D." That Exhibit D, filed confidentially, updates and replaces the original Registration Exhibit D filed with the Verified Application in Docket No. SP-5640, Sub 0 on April 24, 2015.

As previously stated, NCRP-Lumberton began utilizing Press Cake in limited quantities for testing and planning purposes following the April 24 Declaratory Ruling. NCRP-Lumberton respectfully requests that the Commission inform the NC-RETS administrator to accept this revised multi-fuel calculation in accounting for the use of Press Cake as a renewable poultry-waste fuel for the generation of RECs, as of the initial use of Press Cake at its facility.

If you have any questions or comments regarding this filing, please do not hesitate to call me. Thank you in advance for your assistance and cooperation.

Very truly yours,

Smith Moore Leatherwood LLP

M. Gray Styers, Jr.

Enclosures

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MEMORANDUM

Background and Benefits

North Carolina Renewable Power-Lumberton ("NCRP-Lumberton") owns and operates a biomass power generation facility in Robeson County, North Carolina ("Lumberton Facility"). The facility generates revenue through the sale of energy, capacity, and renewable energy certificates ("RECs") as well as by drying biomass products using waste heat from the facility. The fuel used at the facility has historically been a blend of poultry litter and woody biomass. This past month, NCRP-Lumberton began incorporating into the fuel-mix Press Cake -- organic waste material resulting from the rendering or processing of poultry products, which was determined by the Commission to be a "poultry waste" for the purposes of G.S. 62-133.8(f), in its Order on Request for Declaratory Ruling in Docket No. SP-100, Sub 33 dated April 24, 2018.

Because of the higher BTU heat content of the Press Cake, as discussed below, the use of Press Cake as a fuel will increase the output of Poultry RECs by the facility -- in furtherance of state policy goals and the objectives of Senate Bill 3 – without increasing the total tonnage of fuel consumed. It also achieves the waste management objectives and other benefits explained in the Request filed in Docket No. SP-100, Sub 33. NCRP-Lumberton is currently testing Press Cake at the facility and is hopeful that—because of its greatly homogeneity and consistency – it may also be beneficial in providing greater predictability of air emission levels from the boilers, which may improve the efficiency of the facility. The use of Press Cake is not intended at this time to reduce the volume of poultry litter used as fuel at the facility, but would likely reduce the volume of woody biomass combusted as fuel.

All suppliers of Press Cake to the facility will provide a Fuel Provider Attestation substantially similar in form to the document labelled Exhibit A attached to this Memorandum. This attestation identifies the fuel provider, confirms that it has have entered into a contract (or, if participating in the test period, anticipates entering into a contract) with NCRP-Lumberton for the sale of Press Cake, and attests that the Press Cake supplied to the facility is a renewable energy resource derived entirely from poultry waste.

Methodology/Practice

The Multi-Fuel Information provided on pages 8-9 of the Verified Application filed in Docket No. SP-5640, Sub 0 remains accurate and the general methodology for calculating RECs, as approved by the Commission for the Lumberton Facility does not change. This memorandum elaborates on that information in light of the current practices at the Lumberton Facility and includes the incorporation of Press Cake as part of the fuel mix.

Fuel is received at the facility on regular intervals. Wood waste and poultry litter are delivered on a daily basis and stored in different areas at the facility. It is anticipated that Press Cake will also be delivered daily and stored in the same area as the poultry litter, but deliveries will depend upon supply availability, inventory levels and operational requirements. Each truck is weighed and grab samples are regularly submitted for analysis to determine the actual energy content of each fuel used at the Lumberton facility. The weight of the Press Cake used for the calculation of RECs is determined at the time the trucks deliver the fuel to the facility. Scales are regularly calibrated and records of all weights of fuels delivered are maintained for RECs calculations and as subject to inspection and verification.

Once received at the facility, the fuels are stored on-site then loaded into hoppers for transport by conveyor belts into the facility. During transit, the fuel stream is again weighed on belt scales integrated into the conveyor belts. The belt scales are calibrated, utilizing standard measurement instruments. The weights of the fuel deliveries to the facility by truck can be cross-checked with the weights of the fuels delivered to the boilers by the conveyor belts.

At the end of each electric day, Duke Energy Progress provides a summary of the metered generation to the facility. This revenue meter is located within the Duke Energy Progress substation located at the facility. This prevents any RECs from being created for energy consumed for station service when the facility is operating. It should be noted that during periods when the facility is off-line, the energy consumed for station service is not deducted from total MWh sold under the power purchase agreement in place between Duke Energy Progress and NCRP-Lumberton.

In addition, as described on pages 5-8, in the Verified Amended CPCN Application filed in Docket No. EMP-91, Sub 0 (transferred to Docket No. SP-5640, Sub 0), useful thermal energy is also produced from the facility -- used in the commercial drying of wood – that is eligible for RECs generation. The formulas for the calculation of that thermal energy and of the resulting RECs remains unchanged, but are summarized again here to help explain the Thermal REC Calculations columns in the Revised Registration Exhibit D discussed below. Useful heat in the drying operation (QD) is the product of: (a) the average circulating water flow to three dryers ("MD"); (b) the reduction in average water temperatures of circulating water used by the dryers ("TD1-TD2"), which is measured by calibrated thermal energy measuring devices placed before ("TD1") and after ("TD2") the water flows through the three dryers; and (c) the specific heat of water ("Cp"). As expressed mathematically: QD= (MD x (TD1-TD2) x Cp). The thermal losses in the dryers (QL) are subtracted from QD to calculate the thermal RECs from the drying operations.

Based on the amount of electricity and thermal energy generated over the 24 hour period, the facility then determines the percentage of each fuel source that was consumed for that period of generation. This includes the following daily and monthly totals:

- Tons of each fuel consumed by the plant.
- Weight percentage of each of the types of fuels consumed.
- BTUs of each fuel consumed by the plant.
- BTU percentage of each of the types of fuels consumed.

Currently, heating values are calculated using a rolling average value based on analysis reports obtained for each of the fuel sources from both on-site and independent laboratories.

At the end of each month, Duke Energy Progress provides a final summary of electricity that was metered at the facility. This monthly summary reflects the daily totals that were provided during the month. NCRP-Lumberton then compares this generation summary against the daily confirmation from Duke Energy Progress. It should be noted that a separate calculation is used to determine fuel used for start-up and shutdown as well during those periods when the facility is only providing steam to its host.

NCRP-Lumberton has a real-time, online data acquisition system tracking flows of water and temperature to and from (i.e. both TD1 and TD2) the dryers. From this system, it maintains detailed records of thermal energy measuring device readings from the water circulation, as well as records from the wood drying operations, in order to document the correct calculation of thermal RECs generation each month.

In the event data submitted is found to be incorrect or if there is a discrepancy between the information submitted during the on-line registration process and the materials provided to verify the information, the North Carolina Renewable Energy Tracking System ("NC-RETS") Administrator notifies the registrant that the information could not be positively verified. At this point, the registrant can either a) correct the registration form, b) withdraw the registration form, or c) provide sufficient proof, to the satisfaction of the NC-RETS Administrator, that the information provided on the registration form is correct and compliant with the NC-RETS standards for accuracy. In addition, the NC-RETS Operating Procedures do not allow for the earning of RECs for generation supplying station service.

Need for Allocation of RECs from Press Cake/ Revised Registration Exhibit D

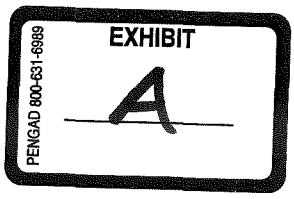
In general, for multi-fuel facilities such as the Lumberton facility operated by NCRP-Lumberton, RECs are calculated by applying a weighted average fuel blend to the megawatt-hours produced each month, as described above. The percentage of each type of fuel (on an energy basis) that is used determines the number of RECs registered.

NCRP-Lumberton is seeking to supplement the facility's fuel mix calculations presented along with its Application for Registration as a New Renewable Energy Facility ("Registration Statement") pursuant to NCUC Rule R8-66, in order to clarify the allocation of RECs from Press Cake and the tracking of those RECs in NC-RETS as poultry waste set-aside RECs.

The source of materials and method of processing of Press Cake result in it having an average heat content of 11,500 Btu/lb. This has been verified by independent laboratory analyses filed concurrently with this Memorandum confidentially as Exhibits B and C. The actual heat content

of the Press Cake used at the Lumberton facility is anticipated to be close to this average but will be determined by sampling, testing, and analysis the actual fuel used during operations as described above. This heat content calculation and the quantities of Press Cake utilized in the fuel mix will be used in the multi-fuel calculations for NCRP-Lumberton. RECs will be registered with NC-RETS based upon the actual heat content of the fuel used, as sampled and analyzed.

A Revised Registration Exhibit D, with the fuel mix calculations, total REC generation, and REC totals by fuel and type is filed concurrently with this Memorandum confidentially as Appendix D, and replaces the Registration Exhibit D filed with the Verified Registration Statement on April 24, 2015 in Docket No. SP 5640, Sub 0.



POULTRY WASTE PRESS CAKE
FUEL PROVIDER ATTESTATION

MONTHLY ATTESTATION PERIOD: Month _____ Year:_____

[_____] (the "**Fuel Provider**"), hereby attests as follows with respect to the monthly attestation period referenced above:

1. It has entered into a contract (or intends to enter into a contract) with North Carolina Renewable Power–Lumberton, LLC (NCRP-Lumberton) or an agent of NCRP-Lumberton whereby it has agreed (or will agree) to provide Press Cake to the NCRP-Lumberton facility.

2. During the above referenced Attestation Period, the Fuel Provider supplied _____ Tons of Press Cake to NCRP-Lumberton or its agent for delivery at the NCRP-Lumberton facility.

2. All Press Cake sold by Fuel Provider during the Attestation Period is a renewable energy resource derived entirely from poultry processing waste.

4. The Fuel Producer has not sold, traded, given away, claimed or otherwise disposed of the environmental attributes of the Press Cake sold to NRCP-Lumberton or its agent during the Attestation Period.

_____
Signature

_____
Print Name

_____
Title

_____
Date

_____
Company

_____
Phone No.

_____
E-Mail

EXHIBIT B
FILED CONFIDENTIAL

EXHIBIT C
FILED CONFIDENTIAL

EXHIBIT D
FILED CONFIDENTIAL