STATE OF MAINE  
PUBLIC UTILITIES COMMISSION  

VERSO BUCKSPORT LLC  
Request for Certification for RPS Eligibility  

SUPPLEMENTAL ORDER  
MODIFYING RENEWABLE ENERGY CALCULATION METHOD  

Docket No. 2011-102  
April 5, 2012  

WELCH, Chairman; VAFIADES and LITTELL, Commissioners

I. SUMMARY

We grant Verso Bucksport, LLC’s (Verso) petition to amend our New Renewable Resource certification of Verso’s advanced biomass facility (Bucksport Biomass Plant) to calculate the Renewable Energy Certificates (RECs) generated by the Plant using an Incremental Method rather than the Proportional Method we previously certified.¹ Verso shall apply the Incremental Method set forth in this Order to calculate the RECs produced by the Plant for all renewable electricity generated as of September 1, 2011 and thereafter.

II. BACKGROUND

A. Class I New Renewable Resource Certification

On November 23, 2011, we issued an order certifying Verso’s Biomass Plant located at the Bucksport Paper Mill (Mill) in Bucksport, Maine as a Class I New Renewable Resource (Certification Order). The Bucksport Biomass Plant constitutes the renewable output of Boiler Number 8 (Boiler 8), a Combustion Engineering VU40 multi-fuel boiler that is capable of burning both renewable and non-renewable fuels, and the two turbine generators it feeds: Turbine Generator Number 2 (TG2) with a nameplate capacity of 21 MW and Turbine Generator Number 3 (TG3) with a nameplate capacity of 72 MW. Under the current configuration of the Plant, the steam produced by Boiler 8 (along with the steam from several oil-fired boilers and a natural-gas fired boiler, Boiler 9) feeds into TG2 and TG3. Steam extractions from those turbines provide steam for the Mill’s paper making process. TG3 also has a condenser to help balance steam supply and demand.

¹ The number of MWhs produced by eligible, renewable generation is equivalent to the number of RECs associated with that generation.
As described more fully in the Certification Order, we certified the existing components of the Bucksport Biomass Plant as a Class I New Renewable Resource pursuant to Chapter 311, section 3(B)(3)(d) (the refurbishment vintage category) as of September 1, 2011. We also prospectively certified the renewable output of a third turbine generator, Turbine Generator No. 5 (TG5), as a Class I New Renewable Resource pursuant to Chapter 311, section 3(B)(3)(b) (the additional capacity vintage category). The installation of TG5 is the last phase of the Bucksport Renewable Energy Project (BREP) and Verso expects that TG5 will be commercially operational in 2012.

Because the operation of the facility is germane to our decision, we include in this order, in Figure 1 below, a schematic of the Verso facility.

Figure 1. Schematic illustrating the Verso Bucksport energy generation facility at the completion of the Bucksport Renewable Energy Project. The process flow diagram indicates how steam (as measured in kpph) will typically flow from the various boilers to TG2 and TG3, and the new TG5 turbine generator. Note that the HRSG Number 9 Boiler is a natural gas fired boiler.

In Verso’s original petition for certification, Verso proposed to calculate the RECs generated by the Bucksport Biomass Plant using an incremental calculation methodology. As described in our Certification Order, Verso’s Incremental Method, assumes the steam from Boiler 8 as incremental to Verso’s process steam requirements and, therefore, exits via the condenser outlet in TG3 under most operating conditions.

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2 We referred to this methodology in the Certification Order as the “Verso Method”, but on a going-forward basis, we will refer to this method as the “Incremental Method.”
conditions. Because the steam exiting from the TG3 condenser outlet is assumed to produce more electrical generation per klb than produced by the steam exiting at the other turbine outlets (i.e., 150 and 40 psi outlets), this method will result in more RECs being attributed to the steam from Boiler 8 than under the Proportional Method (which assumes the Boiler 8 steam flows through all of the outlets, proportionally). 3

Although we recognized in our Certification Order that the Incremental Method may be a reasonable method of calculating Class I REC production, we found that Verso had not satisfied its burden to show that the Incremental Method of calculation was the most appropriate method to use given the complexity of the Incremental Method and the evidence in the record at that time. Accordingly, we ordered Verso to calculate the renewable electricity from the generation of the Bucksport Biomass Plant using the Proportional Method.

Our Certification Order invited Verso to file a supplemental petition to further explain the Incremental Method and provide supporting documentation for the assumptions that form the basis of that Method. We stated that the filing should demonstrate that the Incremental Method is appropriate, objective and verifiable, and should include an explanation of how the Commission can ensure that the operation of the Bucksport Biomass Plant is consistent with the assumptions that would underlie the use of the Incremental Method.

B. Verso’s Supplemental Petition

On February 6, 2012, Verso filed a Petition requesting that the Commission amend its prior Certification Order to allow Verso to calculate the RECs generated by the Bucksport Biomass Plant according to the Incremental Method (Supplemental Petition). Verso’s Supplemental Petition provided additional detail on the operation of the Bucksport Biomass Plant and a further description of the Plant’s metering system. The Supplemental Petition also included additional support for the assumption that Boiler 8 steam is incremental to the mill process steam, additional description and documentation regarding the generation factor of 0.125 MW/klb for all steam exiting the TG3 condenser outlet, and a more fully explained rationale for using the Incremental Method rather than the Proportional Method to calculate renewable electricity generated by the Plant. Finally, Verso’s Supplemental Petition set forth Verso’s process for verifying the accuracy of metered data, and proffered a protocol for a regular third-party audit of the Bucksport Biomass Plant’s fuel input, electrical generation, and steam flow data to ensure the accuracy of Verso’s reported renewable electricity production.

3 The November 23, 2011 Certification Order contains a detailed description of the Proportional Method as well as the formula for the calculation of RECs from the Bucksport Biomass Plant using the Proportional Method.
C. Additional Review

On March 14, 2012, the Commission held a technical conference regarding Verso’s proposed Incremental Method for the calculation of renewable electricity production from the Bucksport Biomass Plant. The purpose of the technical conference was to allow Verso an opportunity to present a short overview of the method and to allow the Commissioners, Commission Staff and the parties to ask questions directly of Verso representatives. Notice of the March 14, 2012 technical conference was sent to the service list in the original certification proceeding (Docket No. 2011-102) by a Procedural Order dated February 28, 2012.

III. DECISION

Based upon the additional information that Verso provided in its Supplemental Petition, the information that Verso provided at the technical conference, and the detailed review conducted by Staff, we find that the Incremental Method is appropriate for the purpose of calculating Class I RECs generated by Bucksport Biomass Plant. Although the Incremental Method uses a more complicated formula than the Proportional Method, the Incremental Method has the advantage of being specific to operations at the Plant and Verso’s Supplemental Petition provided the additional detail necessary for the Commission to ensure its reasonableness.

Additionally, despite the complexity of the Incremental Method, it is transparent, as the formula is clearly stated in Verso’s Supplemental Petition at Appendix E and is incorporated in this Order as Attachment 1. Moreover, based on Staff’s review of Verso’s fuel, steam generation and electrical generation data, and Verso’s detailed protocol for storing and reviewing the data, we find that the Incremental Method is verifiable and does not present an opportunity for manipulation.

Accordingly, we amend our prior Certification Order to approve the use of the Incremental Method to calculate the RECs generated by the Bucksport Biomass Plant. The Incremental Method of calculation shall be applied to calculate Plant’s renewable electricity generated as of September 1, 2011 and thereafter.

In order to provide further safeguards to ensure that the Bucksport Biomass Plant’s RECs are calculated correctly under the Incremental Method formula, we accept Verso’s proposal for a third-party audit and verification process (Independent Audit) which was originally set forth in Attachment D of the Supplemental Petition and is incorporated into this Order as Attachment 2. Verso shall propose an Independent Auditor and shall provide his or her qualifications to the Commission Staff. The selection of the Independent Auditor shall be subject to the approval of the Director of the Electric and Gas Utility Industries. Verso shall compensate the Independent Auditor for his or her services.

Although Verso originally proposed that the Independent Audit be conducted on an annual basis, we order that the first Independent Audit occur six months after TG5
commences commercial operation to ensure that any issues with the Incremental Method are addressed earlier rather than later. Each subsequent Independent Audit shall occur annually after the date of first Independent Audit for as long as Verso seeks to qualify electrical generation from the Bucksport Biomass Plant for Class I RECs in the NEEPOOL GIS System (or successor system).

Finally, the Incremental Method Formula that we certify in this Order is tailored to the particular facts before us in this proceeding, including how the Bucksport Biomass Plant is configured and operated. The Commission will continue to determine how the RECs from multi-fuel facilities should be calculated on a case-by-case basis, depending on the specific operational characteristics of each facility.

Accordingly, we

ORDER

1. That Ordering Paragraph No. 4 in the November 23, 2011 Certification Order be modified to eliminate the requirement that Verso calculate the renewable electricity generation from the Bucksport Biomass Plant pursuant to the Proportional Method and add the requirement that Verso calculate the renewable electricity generation from the Bucksport Biomass Plant using the Incremental Method. The formula for the Incremental Method is attached hereto as Attachment 1;

2. That, by June 1, 2012, Verso submit a proposal for the third-party Independent Auditor to conduct the Independent Audit of the renewable electrical generation from the Bucksport Biomass Plant for consideration and approval by the Director of Electricity and Gas Utility Industries;

3. That Ordering Paragraph No. 5 in the November 23, 2011 Certification Order regarding independent audit reporting be eliminated and replaced with the following Ordering Paragraph No. 4;

4. That Independent Audits of the Bucksport Biomass Plant’s renewable electricity generation shall be performed in a manner consistent with the terms set forth in Attachment 2, with the exception of the timing of the Independent Audits, which is as follows:

   a. The first Independent Audit of the renewable electricity generation of the Bucksport Biomass Plant shall be performed based on the first six months of operations after the date of commercial operation of the Plant’s TG5 unit, and each subsequent Independent Audit shall be performed on the next 12 month period of operations. Verso’s Independent Audit obligation shall continue for as long as Verso seeks to qualify electrical generation from the Bucksport Biomass Plant for Class I RECs in the NEEPOOL GIS System (or successor system).
5. Verso Bucksport LLC shall file with the Commission a copy of the Audit Report prepared by the Independent Auditor and, upon request by Staff, all documentation reviewed by the Independent Auditor in developing his or her report. The Reports shall be due 3 months after the conclusion of the operations period covered by the Independent Audit.

6. Verso shall maintain all data and records necessary to calculate and verify the Class I RECs from the Bucksport Biomass Plant for a period of at least five years from the date that the underlying data was generated.

7. That Ordering Paragraph No. 7 in the November 23, 2011 Certification Order be modified to require that Verso Bucksport LLC provide timely notice to the Commission of any material change in the configuration or operation of the facility, including but not limited to, a material change to the configuration or operation of Boilers 5, 6, 7, 8, and/or 9, or TG2, TG3 or TG5, prior to the change(s) taking effect and with reasonably advanced notice to allow the Commission to revise the formula for the Incremental Method, if appropriate.

Dated at Hallowell, Maine, this 5th day of April, 2012.

BY ORDER OF THE COMMISSION

Karen Geraghty
Administrative Director

COMMISSIONERS VOTING FOR: Welch
                           Vaflades
                           Littell
NOTICE OF RIGHTS TO REVIEW OR APPEAL

5 M.R.S.A. § 9061 requires the Public Utilities Commission to give each party to an adjudicatory proceeding written notice of the party's rights to review or appeal of its decision made at the conclusion of the adjudicatory proceeding. The methods of review or appeal of PUC decisions at the conclusion of an adjudicatory proceeding are as follows:

1. **Reconsideration** of the Commission's Order may be requested under Section 1004 of the Commission's Rules of Practice and Procedure (65-407 C.M.R.110) within 20 days of the date of the Order by filing a petition with the Commission stating the grounds upon which reconsideration is sought. Any petition not granted within 20 days from the date of filing is denied.

2. **Appeal of a final decision** of the Commission may be taken to the Law Court by filing, within 21 days of the date of the Order, a Notice of Appeal with the Administrative Director of the Commission, pursuant to 35-A M.R.S.A. § 1320(1)-(4) and the Maine Rules of Appellate Procedure.

3. **Additional court review** of constitutional issues or issues involving the justness or reasonableness of rates may be had by the filing of an appeal with the Law Court, pursuant to 35-A M.R.S.A. § 1320(5).

**Note:** The attachment of this Notice to a document does not indicate the Commission's view that the particular document may be subject to review or appeal. Similarly, the failure of the Commission to attach a copy of this Notice to a document does not indicate the Commission's view that the document is not subject to review or appeal.
APPENDIX E – DETAILED ALGEBRAIC FORMULA

This appendix presents a more detailed algebraic representation of the formulas that would be used to calculate the renewable electricity produced from Boiler #8. Please refer to the figures in Appendix B for a pictorial reference to what these defined terms represent.

Where:

\( A \) = Metered Boiler #9 Steam production in kph

\( B \) = Metered Steam Throttle flow for #3 Turbine
\( B' \) = Metered Steam 15C psi extraction flow for #3 Turbine
\( B'' \) = Metered Steam 40 psi extraction flow for #3 Turbine
\( BC \) = Metered Steam condenser flow for #3 Turbine = \( B-B'-B'' \)

\( C \) = Metered Steam Throttle flow for #2 Turbine
\( C' \) = Metered Steam 150 psi extraction flow for #2 Turbine
\( C'' \) = Metered Steam 40 psi extraction flow for #2 Turbine

\( H \) = Metered Steam Throttle flow for #5 Turbine
\( HC \) = Condenser flow for #5 Turbine = \( H \)

\( D \) = Metered Boiler #5 Steam production
\( E \) = Metered Boiler #6 Steam production
\( F \) = Metered Boiler #7 Steam production
\( G \) = Metered Boiler #8 Steam production
\( TS \) = Total metered steam production = \( A+D+E+F+G \)

\( G2 \) = Metered Electrical production of Generator #2 in MWh
\( G3 \) = Metered Electrical production of Generator #3 in MWh
\( G5 \) = Metered Electrical production of Generator #5 in MWh

\( F1 \) = Metered Biomass fuel input to Boiler #8 in MMBtu
\( F2 \) = Metered Sludge fuel input to Boiler #8 in MMBtu
\( F3 \) = Metered Natural Gas fuel input to Boiler #8 in MMBtu
\( F4 \) = Metered #6 Oil fuel input to Boiler #8 in MMBtu
\( F5 \) = Metered Tire Derived fuel input to Boiler #8 in MMBtu
\( F6 \) = Metered Coal fuel input to Boiler #8 in MMBtu

\( QF \) = ratio of qualifying fuels in #8 Boiler

\( GC3 \) = portion of B8 steam production flowing to G3 Condenser
\( GC5 \) = portion of B8 steam production flowing to G5 Condenser

\( K1 \) = Minimum Condenser flow on G3 = 60 klbs/hr

\( K2 \) = MWh output per klb of condenser flow = .125 MWh/kg
To calculate the qualifying fraction of fuels consumed in Boiler #8:

$$QF = \frac{(F1 + F2)/(F1+F2) + F3 + F4 + F5 + F6)}{F1 + F2 + F3 + F4 + F5 + F6}$$

Are oil boilers #5, #6, and #7 operating? If so, then the sum of their outputs (D+E+F) will be greater than zero. In that case, for purposes of this formula, set the portion of Boiler #8 steam flowing to the G3 Condenser and G5 Condenser to zero:

$$\text{if } (D+E+F) > 0 \text{ then } GC5=0 \text{ and } GC3=0$$

Is G4 operating outside standard operation? If it is, then the metered Boiler #9 steam production will not be greater than 539 kph. In that case, for purposes of this formula, set the portion of Boiler #8 steam flowing to the G5 Condenser and G5 Condenser to zero:

$$\text{if } (A \text{ not } > 539) \text{ then } GC5=0 \text{ and } GC3=0$$

Otherwise, if neither of the above non-standard conditions applies, calculate the portion of Boiler #8 steam flowing to the G3 Condenser and G5 Condenser as follows:

To calculate the portion of Boiler #8 output capable of flowing to TG5 (GC5):

$$GC5 = \text{Lesser of } (HC:G)$$

To calculate the portion of Boiler #8 output capable of flowing to TG3 (GC3):

$$GC3 = \text{Lesser of } ((BC-K1):(G-GC5))$$

To calculate the portion of Boiler #8 output capable of being condensed (G'):

$$G' = GC3 + GC5$$

Thus, the portion of Boiler #8 output not capable of being condensed and flowing through extractions is:

$$G-G'$$

$$REC = \left[ (G'K2) + (G2 + G3 - G'K2)^*(G-G')/(TS-G') \right] * QF$$
APPENDIX D - THIRD PARTY AUDITING OF REC CALCULATION

If the Commission wishes, third-party auditing can provide the Commission assurance that renewable electricity production has been measured properly. Under the simplest approach to third-party auditing, a third-party auditor would conduct a review of the REC calculation process annually and report to the PUC. That third-party auditor would be selected by Verso, which selection could be approved by the PUC, and compensated by Verso.

The third-party auditor's review would cover the following items.

- Review the fuel inputs to the boilers to ensure consistency with the documented fuel purchases and inventory changes
- Review the electrical generation used in the calculations to ensure consistency with the generation data provided by CMP on the CMP Usage web site or the documented mill meter readings
- Review steam flow data used in the calculation to ensure completeness and consistency with electrical and additional steam data
- Review the spreadsheet used to calculate the monthly REC data to ensure consistency with the data entered into the GIS system
- Review any missing or erroneous steam, fuel or electrical data to ensure data has been corrected properly
- Review meter calibration documentation to ensure completeness and consistency with the required calibration schedule
- Conduct adequate spot calculations of RECs generated to ensure formulas and calculations are consistent with the PUC order

A third-party audit such as outlined in this appendix would give the Commission additional assurance that renewable electricity production has been measured properly under the applicable certification order.