

BIOMASS BOILERS • SERVICE • FUEL

March 26, 2018

Ms. Debra Howland, Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street
Concord, NH 03301

NHPUC 27MAR18AM10:50

Dear Ms. Howland,

I am writing on the behalf of Brian Boardman of Whelen Engineering, 99 Ceda Road in Charlestown, NH 03603 to request an alternative method of measuring thermal energy generated at a site referred to as "Whelen 2" by NEPOOL, during the third and fourth quarters of 2017. The NEPOOL Unit ID number of Whelen 2 is NON60531.

The original method of measuring the thermal energy generated at this site, from when it was first approved from the date of February 16, 2016, was as was shown on the attached drawing: using a Clarkson BTU meter in combination with a data logger which was built into the DCM Logic monitoring system. This set-up functioned well until May of 2017 when the site was hit by lightning which destroyed the BTU meter and data logger.

An Onicon System 10 BTU Meter was installed at Whelen 2 by our crews in September 2017, just as the boilers were being fired up again for the coming winter. However the hook-up into the DCM Logic monitoring system was not done until late December. This was due to a combination of an unavailability of both necessary parts and a qualified service person to create the interface. As a result, there was no recording of BTUs generated during about half of the third quarter and all of the fourth quarter of 2017 at this site.

The alternate method of measuring thermal energy generated is to apply a conservative value to the energy generated during Q4 2017 by comparing records of fuel deliveries to Whelen 2 during Q4 2017 to fuel deliveries and verified Thermal REC generation at Whelen 2 and Whelen 1 during the period beginning in February 2016 and running until the end of Q4 2017.

Please note that the boiler and silo systems at Whelen 1 and Whelen 2 are virtually identical: They both consist of 4 Froling TX-150 boilers each fed by 4 individual silos, each with a 36 ton capacity. See the attachment "FEPR Whelen Engineering Heats with PDCs". The NEPOOL Unit ID number of Whelen 1 is NON 60530.

The data which we are providing to support our alternative method includes two parts:

A: the delivery of fuel to the storage silos of Whelen 2 compared to the approved generation of Thermal RECs (megawatts of heat energy) during this period to other periods before and after this outage.

B: the delivery of fuel to the storage silos of Whelen 1 compared to the approved generation of Thermal RECs (megawatts of heat energy) the period starting February 1, 2016 through December 31, 2017.

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Detail sheets including Approved Thermal REC generation entered into NEPOOL and PDC (semi-dry wood chips) delivery records from Froling Energy are attached. Whelen Engineering confirms that Froling Energy is the only company that has delivered fuel to Whelen 1 and Whelen 2 silos during the quarters discussed in this request.

The following table is a consolidation and restatement of the information attached:

PART A: WHELEN 2 DETAILS

Quarter	Tons Del	T-RECs	T-RECs/Ton
2016 Q1	91.34	215	2.35
2016 Q2	0	108	
2016 Q3	40.12	47	1.17
2016 Q4	248.3	703	2.83
2017 Q1	266.71	833	3.12
2017 Q2	28.8	116	4.03
SUBTOTAL	675.27	2022	2.99
2017 Q3	78.11	0	
2017 Q4	247.02	0	
TOTALS	1000.4	2022	2.02

PART B: WHELEN 1 DETAILS

Quarter	Tons Del	T-RECs	T-RECs/Ton
2016 Q1	206.76	520	2.51
2016 Q2	0	134	
2016 Q3	61.68	82	1.33
2016 Q4	143.89	556	3.86
2017 Q1	137.36	532	3.87
2017 Q2	0	116	
SUBTOTAL	549.69	1940	3.53
2017 Q3	91.44	202	2.21
2017 Q4	182.01	580	3.19
TOTALS	823.14	2722	3.31

The above figures show that prior to the lightning strike, Whelen 2 was averaging 2.99 T-RECs per delivered ton of PDCs. During that same time Whelen 1 was averaging 3.53 T-RECs per delivered ton of PDCs. If Q3 and Q4 are included for Whelen 1, the average drops to 3.31.

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For the Alternative Method, our calculation of T-REC generation for Q3 and Q4 at Whelen 2 using a very conservative factor of 2.5 T-RECs per ton:

PART A: Whelen 2 Details

2017 Q3	78.11	2.5 est.	=	195 est.
2017 Q4	247.02	2.5 est.	=	617 est.

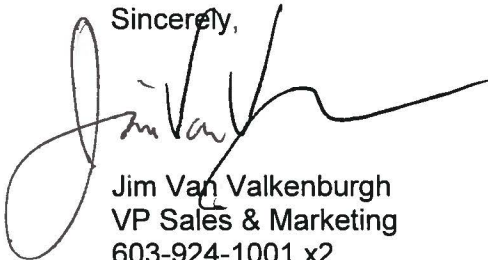
In arguing for consideration of this method of calculating thermal RECs, we understand that this method is somewhat flawed in that fuel delivery and actual heat production are not tightly linked on a day to day, week to week or even month to month basis. Fuel is delivered and stored for future periods of fuel use and it is delivered again in rough but not direct correlation to actual fuel use. At various points of these cycles a silo can be absolutely full or nearly empty, making short term analysis of this data quite inconsistent. That is why a multiple quarter average should be most accurate.

Thank you for considering this alternative method for confirming Thermal RECs for Whelen 2 during Q3 and Q4 of 2017 for a total of 812 Class 1 NH Thermal RECs.

If it is too late for us to actually generate and sell Q3 Thermal RECs, then we request that Q4 of 2017 generation be approved for 617 total Thermal RECs.

Please contact me if additional information is required for the approval of this alternative method.

Sincerely,



Jim Van Valkenburgh
VP Sales & Marketing
603-924-1001 x2

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