

February 27, 2021

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Debra Howland
Executive Director
NH PUC
21 S. Fruit St.
Concord, NH 03301

RE: The Holderness School (GIS Code 58196 / NH Certification Code NH-IT-16-499)
Thermal Renewable Energy Credit – Alternative Compliance Request

Dear Ms. Howland,

I am writing in reference to the biomass heating plant at The Holderness School, which has been approved as a Class I Thermal REC generation site since May 4th, 2016. I am the Independent Monitor of record for this site. I am writing to request temporary, one-time waiver to use an alternative compliance method for calculating the Thermal RECs for this site, as detailed below.

Executive Summary

The Holderness School is requesting approval to report the following Thermal RECs under the alternative compliance method detailed in this request:

Proposed Thermal RECs			
Month	Fuel Delivered (ton)	T-REC/Ton	T-REC
Sep-20	62.77	1.52	95
Oct-20	179.68	1.52	273
Nov-20	318.56	1.52	484
Dec-20	382.53	1.52	581
Jan-21	TBD	1.52	TBD
Feb-21	TBD	1.52	TBD
Mar-21	TBD	1.52	TBD

Summary of Metering Issue

When reviewing the trend logs for the energy production of the The Holderness School, I discovered that the data logs for the biomass boiler plant stopped recording on August 4th 2020. This continued until October 11th at which point the data logging issue was corrected. The data logging continued working until November 16th, at which point the data logs again stopped being recorded. This data

logging outage continues to date.

The school is currently working with a consultant to design and implement a new, more robust approach to logging the metering data for their biomass heating plant. This system is expected to be in place and operational by March 1st, 2021.

The biomass heating system serving the Holderness School is a large district heating system providing heating and domestic hot water to most of the campus. This plant burns over 2,000 tons of woodchips each year and relies on the revenue from Thermal RECs to offset their fuel costs. Therefore, they have requested that I analyze their historical fuel consumption and Thermal REC generation data and provide a calculation for how many Thermal RECs have been generated by the plant.

Alternative Compliance Method

The Holderness School biomass heating system is operated in a consistent manner to provide heat to the campus. Historical fuel delivery data and metering data is available for this system. The alternative compliance method is based on comparing the amount of woodchips delivered to the plant compared to the number of Thermal RECs generated for the previous 10-quarters. The heating plant can store a significant volume of chips so its important to review the data over time since some of the woodchips delivered in one period will not be burned until the subsequent period.

The heating plant data was analyzed for the previous 10 full quarters that metering data was available from January of 2018 through June of 2020. The overall T-RECs produced per ton of woodchips delivered was 1.90 in 2018, 1.91 in 2019 and 1.87 during the first two quarters of 2020. Overall, the average rate for the 30 months that were analyzed was calculated at 1.90 T-RECs per ton of woodchips delivered. Refer to Appendix A for this monthly data.

To demonstrate that 1.9 T-RECs per ton of green woodchips is a reasonable projection, I compared this rate to the theoretical value based on the heat content of the fuel. The heat content of green woodchips cannot be predicted as accurately as for wood pellets, however a general rule of thumb is 4,000 btu/lb. This works out to 8 MMBtu/ton of chips. If the fuel contains 8 MMBtu per ton and generates 1.9 T-RECs, then the heating plant efficiency is calculated at 81%, which is a reasonable assumption for the biomass heating system installed at The Holderness School.

In order to make sure that the alternative compliance method does not result in an overcounting of T-RECs, a further 20% reduction is proposed, resulting in a proposed rate of 1.52 T-RECs per ton of woodchips. As a final check the T-RECs proposed under this alternative compliance method are compared to the actual T-RECs reported over the past two years.

Proposed Thermal RECs vs. Actual Thermal RECs for Previous Years			
Month	2018 Actual T-RECs	2019 Actual T-RECs	2020/21 Proposed T-RECs
Sep-20	163	157	95
Oct-20	388	340	273
Nov-20	557	552	484
Dec-20	613	559	581
Jan-21	770	838	TBD
Feb-21	561	723	TBD
Mar-21	605	662	TBD

This analysis shows that the alternative compliance method proposed results in totals that are consistent with the historical generation for the plant. In all but one case, the proposed total is lower than the historical total from the previous two years of metered data. The complete fuel records are not available for Q1 of 2021, but the totals will be calculated using this same method.

As the Independent Monitor for this site, I can confirm with a high level of confidence that the alternative compliance method proposed closely approximates the actual level of Thermal REC generation that would be expected, with a discounting factor included to ensure that there is no over reporting.

On behalf of The Holderness School, I request that the alternative compliance method detailed and summarized in this letter be allowed for the September, October, November and December months of 2020 and January and February of 2021.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam Kohler". The signature is fluid and cursive, with the first name "Adam" and last name "Kohler" clearly distinguishable.

Adam S. Kohler, PE

cc: Jason Morse, NH PUC
cc: Karen Crampton, NH PUC
cc: Walter Schaeffler, The Holderness School
cc: Margot Riley, The Holderness School
cc: Tony LeMenager, The Holderness School