

Michael R. Kirkwood
General Manager & CEO



PASCOAG
UTILITY DISTRICT

Pascoag Electric • Pascoag Water

November 21, 2018

Ms. Luly Massaro
Clerk of the Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: Pascoag Utility District's Responses to Commission's Second Set of Date Requests in Docket No. 4895

Dear Ms. Massaro:

On behalf of the Pascoag Utility District ("Pascoag"), I herewith file an original and nine copies of Pascoag's Answers to the Commission's second set of data requests in the above referenced docket.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in blue ink that reads "Michael R. Kirkwood". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michael R. Kirkwood

Cc: Mr. John Harrington, RIPUC Senior Legal Counsel
Cc: Mr. William Bernstein, Esquire

**PASCOAG UTILITY DISTRICT RESPONSES TO
PUBLIC UTILITIES COMMISSION 2ND SET of DATA REQUESTS**

IN RE: PASCOAG UTILITY DISTRICT :
STANDARD OFFER SERVICE : DOCKET NO. 4895

(Issued November 19, 2018)

- 2-1. With regard to the agreement between the Pascoag Utility District and Tangent Energy Solutions (“Tangent Energy”) referred to as the “Tangent Peaker Agreement” (MRK-Exhibit 2), has Pascoag reduced its peak load obligations since entering into this Agreement? If so, explain and include monthly data, if appropriate.

Response by Christine Beaudry (Energy New England):

Pascoag’s peak load obligation has been reduced each month except for October 2017.

Please see table below:

Peak Date	Peak HE	Generation
10/9/2017	19	0
11/28/2017	18	1.0887
12/28/2017	18	0.9591
1/2/2018	18	1.0959
2/7/2018	18	1.0907
3/7/2018	19	1.0925
4/3/2018	20	1.0919
5/29/2018	19	1.0754
6/18/2018	18	0.2848
7/5/2018	18	1.0699
8/29/2018	18	1.0658
9/6/2018	16	1.066

- 2-2. Please provide the monthly service fees that Pascoag has paid to date to Tangent Energy since entering into the Tangent Peaker Agreement. Please show the calculations.

Response by Christine Beaudry (ENE):

Below is a table of the calculated savings and the resulting services fees paid to Tangent subtotaled by year.

Real Time LMP Value calculation is as follows:

Hourly Generation multiplied by the Real Time LMP at the Rhode Island Load Zone (#4005)

Transmission Value calculation is as follows:

Generation during the Regional Peak multiplied by the (Sum of the ISO RNS Rate 9 and RNS Rate 1)

Tangent Service Fees are calculated as follows:

Energy Charge Saving Service Fee = 100% of the Real Time LMP Value

Transmission Savings Service Fee = 90% of the Transmission Value

Calculated Behind the Meter (BTM) Values					Tangent Share			
Month	Energy MW	Real Time LMP Value	\$/MWH	Transmission Value	Month	100% Energy Charge Savings Service Fee	90% Transmission Charge Savings Service Fee	Total
Oct-17	0.2854	\$ 8.72	\$ 30.54	\$ -	Oct-17	\$ 8.72	\$ -	\$ 8.72
Nov-17	12.9398	\$ 905.77	\$ 70.00	\$ 10,321.33	Nov-17	\$ 905.77	\$ 9,289.19	\$ 10,194.96
Dec-17	122.8803	\$ 20,510.26	\$166.91	\$ 9,092.67	Dec-17	\$ 20,510.26	\$ 8,183.40	\$ 28,693.66
Totals	136.1055	\$21,424.74		\$ 19,413.99	Totals	\$21,424.75	\$17,472.59	\$ 38,897.34
Jan-18	170.7093	\$ 35,693.87	\$209.09	\$ 10,389.59	Jan-18	\$ 35,693.87	\$ 9,350.63	\$ 45,044.50
Feb-18	17.3226	\$ 1,111.02	\$ 64.14	\$ 10,340.29	Feb-18	\$ 1,111.02	\$ 9,306.26	\$ 10,417.28
Mar-18	22.9649	\$ 1,023.04	\$ 44.55	\$ 10,357.35	Mar-18	\$ 1,023.04	\$ 9,321.62	\$ 10,344.66
Apr-18	30.2635	\$ 2,777.85	\$ 91.79	\$ 10,351.66	Apr-18	\$ 2,777.85	\$ 9,316.50	\$ 12,094.35
May-18	23.90025	\$ 1,237.14	\$ 51.76	\$ 10,195.24	May-18	\$ 1,237.14	\$ 9,175.71	\$ 10,412.85
Jun-18	4.019782	\$ 152.20	\$ 37.86	\$ 2,658.52	Jun-18	\$ 152.20	\$ 2,392.67	\$ 2,544.87
Jul-18	7.2186	\$ 1,358.97	\$188.26	\$ 9,987.19	Jul-18	\$ 1,358.97	\$ 8,988.48	\$ 10,347.45
Aug-18	32.5983	\$ 4,644.67	\$142.48	\$ 9,948.92	Aug-18	\$ 4,644.67	\$ 8,954.03	\$ 13,598.70
Sep-18	28.035	\$ 8,010.67	\$285.74	\$ 9,950.79	Sep-18	\$ 8,010.67	\$ 8,955.71	\$ 16,966.38
Totals	337.0322	\$56,009.42		\$ 84,179.56	Totals	\$56,009.43	\$75,761.61	\$131,771.04

- 2-3. Please explain how the Energy Service Fee rebate works and whether Pascoag received a rebate for 2017 and when it will know whether it will receive a rebate for Calendar Year 2018. If Pascoag did receive a rebate in 2017, what was the amount?

Response by Michael Kirkwood:

Pascoag did receive an Energy Service Fee Rebate for 2017 which was booked as a credit to our customers in April, 2018 (see line 55 of Book 2, Schedule A-1 of Pascoag's pre-filed testimony). The calculation is based on the total of the hourly Energy Service Charge Fees for 2017 of \$21,424.74, less the Tangent Peaker natural gas costs for that period of \$10,108.41. This yielded a total avoided LMP margin of \$11,316.33, which was split evenly between Pascoag and Tangent at \$5,658 each, with the Pascoag amount being booked and to be passed through to our customers as a credit per this reconciliation filing as shown on Schedule A-1. There will also be a rebate pertaining to 2018, which will be calculated post-December after final 2018 natural gas costs are billed to Constant Energy Contact (the financing partner for Tangent) for the Tangent Peaker by National Grid.

- 2-4. Has Pascoag received any payments under the ISO-NE Program Service Fee rebate provision of the Tangent Peaker Agreement? If so, please provide a schedule for each month with the amounts.

Response by Michael Kirkwood:

No, there have been no ISO-NE Program Service Fee rebates. This particular provision is a catch-all provision to allow latitude for shared savings for ISO-NE programs that may be implemented in the future. Under this provision, Tangent is required to seek Pascoag's approval before submitting the Tangent Peaker into a particular ISO-NE program.

- 2-5. For purposes of these data requests, "Pascoag Utility District Center" refers to the campus behind an electric meter that is a retail service customer of Pascoag Utility District and is the center of operations and management for the Pascoag Utility District. Please provide responses to the following:

Responses by Michael Kirkwood:

- a. Please confirm that the Tangent Energy facility is behind the meter of Pascoag Utility District Center.

Response: The Tangent Peaker facility resides on an easement of a portion of Pascoag's campus property, but the Peaker is connected directly to Pascoag at the wholesale level through a 13.8 kV connection into one of the breakers in our bulk substation, also on the campus property. The Tangent unit is therefore behind the wholesale meter connection that Pascoag has with National Grid, not behind a retail meter of the Pascoag campus. The Tangent unit, when operating, becomes a reduction to our wholesale load as viewed by National Grid.

- b. Is Pascoag Utility District Center a National Grid gas customer?

Response: Yes, Pascoag purchases natural gas from National Grid for heating needs on its campus.

- c. Is Tangent Energy or some affiliate of Tangent Energy a National Grid gas customer?

Response: Yes, Tangent has a separate arrangement with National Grid to purchase natural gas for the Tangent Peaker.

- d. Is the "Customer," as defined in Schedule D of the Tangent Peaker Agreement technically Pascoag Utility District Center?

Response: No, the Customer as defined in the Agreement is Pascoag Utility District, the Rhode Island quasi-municipal corporation, and not limited to the Pascoag campus.

- 2-6. Regarding Article 6 of Schedule D of the Tangent Peaker Agreement, is the sale of electrical energy that is contemplated a *wholesale* or *retail* transaction?

Response by Michael Kirkwood:

The sale by Tangent and purchase by Pascoag of electrical energy produced by the Tangent Peaker is strictly a wholesale transaction.

- 2-7. If the answer to question 2-6 is “wholesale,” please confirm (or provide) Pascoag Utility District’s position on whether the Energy Charge Services Fee on Schedule A of the Tangent Peaker Agreement violates any law, regulation, rule, or tariff under the jurisdiction of the Federal Energy Regulatory Commission.

Response by Michael Kirkwood:

The wholesale transaction between Pascoag and Tangent is an intrastate transaction not subject to Federal Energy Regulatory Commission (“FERC”) approval or jurisdiction, therefore Pascoag does not believe this transaction violates any law, regulation, rule or tariff under the jurisdiction of FERC.

- 2-8. If the answer to question 2-6 is “wholesale,” please also explain why the agreement is not included as part of Pascoag Utility District’s supply portfolio.

Response by Michael Kirkwood:

Pascoag Utility District does include the transactions with Tangent in its wholesale portfolio. The financing partner used by Tangent is called Constant Energy Capital and the transactions for kWh and dollars appears under Constant Energy Capital in Schedule A-1, Book 2 of the filing on lines 19, 54 and 55, and on Schedule A-2 on line 119.

- 2-9. If the answer to question 2-6 is “retail,” please provide Pascoag Utility District’s explanation for why this agreement does not violate the ban on competitive energy supply throughout Pascoag Utility District.

Response by Michael Kirkwood:

This Tangent Peaker transaction is wholesale only.

- 2-10. Please also explain if Pascoag Utility district understands whether Tangent Energy is a company subject to RI Gen. Laws § 39-1-27.1 and/or § 39-26-1 *et seq.*

Response by Michael Kirkwood:

Pascoag Utility District does not believe it is in a position to opine on which RI General Laws Tangent is subject to, but in general, Section 9 of the Agreement calls for the Agreement to be governed by, and interpreted and construed in accordance with, the laws of the State of Rhode Island, so Pascoag believes it is Tangent Energy’s requirement as a party to the agreement to abide by all applicable Rhode Island laws.

- 2-11. Regarding Article 6 of Schedule D of the Tangent Peaker Agreement please explain what effect, if any, the sale of electrical energy contemplated will have on Pascoag Utility District’s Standard Offer energy supply contracts and how, if at all, that effect is considered in Pascoag’s Standard Offer energy supply contracts.

Response by Michael Kirkwood:

Pascoag and PSEG Energy Resources include the Tangent generation of 1 megawatts or greater per hour as added back to Pascoag’s load when scheduling the PSEG load following transaction. This allows Pascoag customers to receive the full benefit of the typically lower cost PSEG energy, and to sell the typically higher priced Tangent energy into the ISO-NE markets at the ISO locational marginal price for that hour. In effect, the Tangent energy

production becomes a pass-through transaction to ISO-NE at cost, and Pascoag gets the benefit of the PSEG load following cost structure for its scheduled energy.

- 2-12. Regarding Article 6 of Schedule D of the Tangent Peaker Agreement, regardless of whether the sale is a *wholesale* or *retail* transaction, and regardless of whether Pascoag anticipates that the Tangent Peaker Agreement will affect the Standard Offer energy supply contracts, does the sale of electrical energy contemplated expose Pascoag Utility District's customers to volatility in the wholesale energy spot market? If so, please explain why this exposure is not counter to the energy supply hedging strategy described beginning on page 3 of Mr. Kirkwood's testimony.

Response by Michael Kirkwood:

Please see my response to data request 2-11 above. Pascoag purchases the power from the Tangent Peaker at the ISO locational marginal price ("LMP"), but is able to pass such purchase through to ISO-NE as a sale at that same LMP. This is done by including the Tangent production of 1 MW or greater for each hour as part of Pascoag's load when scheduling the PSEG Energy Resources load following transaction. This allows Pascoag to purchase energy for its customers based on its normal portfolio, with the Tangent energy being passed through to the ISO-NE energy market at cost. Pascoag's customers also receive a once-per-year energy benefit through the Energy Service Fee Rebate, as discussed in the response to data request 2-3, above.

- 2-13. What is the expected annual energy use of the Pascoag Utility District Center?

Response by Michael Kirkwood:

As indicated above, the load at the Pascoag campus is not connected to the Tangent Peaker. The Tangent Peaker is connected at the wholesale level directly to the Pascoag substation at 13.8 kV and therefore becomes a reduction to Pascoag's wholesale load obligation.

- 2-14. What is the typical summer and winter peak demand of the Pascoag Utility District Center, if known?

Response by Michael Kirkwood:

The Pascoag campus is not connected to the Tangent generator as discussed above. Pascoag Utility District's total 2018 wholesale summer peak load was 12.8 MW, and its 2018 winter peak load was 11.0 MW.

- 2-15. What is the maximum annual energy output of the Tangent Energy facility?

Response by Michael Kirkwood:

The theoretical maximum energy output of the Tangent Peaker facility, based on RI Department of Environmental Management Minor Source Permit Approval No. 2336, is 1,100,000 kWh or 1,100 MWh. The pertinent language in the Minor Source Permit reads that the Tangent generator may "operate up to 1000 hours per year. This permit is issued for a Cummins, Inc. engine/generator set, Model No. C1100 N6C, 1520 BHP, 1100 kWe. The engine shall be fired with natural gas only."

2-16. What is the expected annual energy output of the Tangent Energy facility?

Response by Michael Kirkwood:

We expect significant levels of fluctuation in the energy output from year to year based on weather and ISO-NE operating conditions. For purposes of a generalized estimate, if the unit is dispatched 4 times a month for 4 hours each time in order to try to lower Pascoag's peak for transmission purposes, that would equate to about 18 MWhs for the month (4 hours x 4 days x 1.1 MW = 17.6 MWh). However, the actual output fluctuates greatly based on many operational factors.

2-17. Does the Pascoag Utility District expect, at any time of the year, that the Pascoag Utility District Center will be a net exporter of energy to the Pascoag Utility District distribution system?

Response by Michael Kirkwood:

No, because as mentioned above, the Tangent Peaker will not have any impact on the Pascoag campus or its retail load. The Pascoag Peaker is connected directly to Pascoag's substation at the wholesale level and becomes a load reduction, when operating, for Pascoag total wholesale load as seen by National Grid.

2-18. If the answer to question 2-17 is "yes," please explain under what tariff this energy export is allowed. If the answer to question 8 is "no," please provide the analysis that supports this conclusion.

Response by Michael Kirkwood:

The answer above is no, because the Tangent Peaker has no bearing on the Pascoag campus, as it is connected directly to the Pascoag substation at the wholesale level.

2-19. Is the output of the Tangent Energy facility expected to exceed Pascoag Utility District's load-following product supplied by PSEG?

Response by Michael Kirkwood:

No.

2-20. On page 1 of Mr. Kirkwood's testimony, he states the following, "The total renewable/sustainable power in this portfolio is 24%... Pascoag's total non-carbon based [sic] energy for 2019 is 42% of its requirements..." Please explain whether Pascoag Utility District purchases and retires NEPOOL Generator Information System (NEPOOL GIS) Certificates to substantiate this claim. If the Pascoag Utility District does not purchase and retire NEPOOL Certificates sourced from Rhode Island-eligible renewable energy resources, please confirm that Pascoag Utility District's energy supply is associated with NEPOOL GIS System Mix emissions, and update Mr. Kirkwood's testimony accordingly.

Response by Michael Kirkwood:

Rhode Island general laws at TITLE 39, CHAPTER 39-26.1-2, Long-Term Contracting Standard for Renewable Energy exclude Pascoag Utility District from the state's renewable energy standard and associated GIS Attributes requirements, so Pascoag does not retire GIS Certificates as such and does not claim that such renewable/sustainable energy from

its power supply is from GIS System Mix emissions. The following facilities in Pascoag's mix are considered by Pascoag to be renewable/sustainable energy facilities:

NYPA (St Lawrence and Niagara hydropower) in upstate New York. These are large federal preference power hydro generators that Pascoag (through Rhode Island's allocation) enjoys a portion of as a Neighboring State of New York.

Brown Bear Hydro (formerly Miller hydro) – is a hydropower facility in Maine.

Spruce Mountain Wind – is an on-shore wind facility in Maine.

Canton Mountain Wind – is an on-shore wind facility in Maine.