

Concord Municipal Light Board Minutes  
02/22/2023

Pursuant to a notice duly filed with the Town Clerk, a meeting of the Municipal Light Board was held on Wednesday February 22, 2023, at 7:35 AM, via a Zoom Webinar. Present were Board Members: Brian Foulds (Chair), Wendy Rovelli, Pam Hill, and Warren Leon. Also in attendance were David Wood, CMLP Director; Jason Bulger, Concord CIO; Laura Scott, CMLP Power Supply and Rates; Carole Hilton, Customer Service Administrator; Jan Aceti, Energy Conservation Coordinator; Karin Farrow, CMLP Sr. Admin; Mary Hartman, Selectboard liaison to the Light Board; and residents Phil Thayer, Hal Iverson, Dean Banfield, Pamela Dritt, Andy Puchrik, Mark Howell, Alan Woodward, Charles Parker, Christine Reynolds, and David Allen.

Note definitions for acronyms used in these minutes:

- **CMLP:** Concord Municipal Light Plant
- **EV:** Electric Vehicle
- **TOU:** Time of Use

**CALL TO ORDER**

Mr. Foulds called the meeting to order at 7:35 AM. Meeting recording will be posted to the Minuteman Media Website as soon as it is available.<sup>1</sup>

**MEETINGS & MINUTES**

Upcoming Meeting Dates: March 8, 2023, March 22, 2023, April 26, 2023, May 10, 2023, May 24, 2023, June 14, 2023, June 28, 2023, July 12, 2023, August 9, 2023, September 13, 2023, October 11, 2023, November 8, 2023 & December 13, 2023.

**TIME OF USE OPT OUT RATE – presented by Director Wood (Timestamp 2:13)<sup>2</sup>**

The Light Board has already taken the position that there should be an opt-out rate for those residential customers who do not want to transition to a time of use rate. CMLP needs direction from the Light Board as to the structure of the Opt-out rate. Should the opt-out rate keep the tiered structure where higher levels of usage are charged a higher per kilowatt rate, or should the opt-out rate be flat?. Reminder: a rate structure for opting out of the use of a Smart Meter (to use an analog meter instead) has already been established by the Board.

Discussion followed concerning the rate structure and expenses to be captured by the meter fee. Instructions from the Board resulted in an R-1 TOU Opt-Out Rate that was based on a tiered structure equal to 104% (Baker Tilly recommendation) of the total R-1 TOUR Rate (104% of the combined capacity, transmission, distribution, and energy expense, not 104% of just the capacity charge). Ms. Scott to provide a numeric example for both an analog and a smart meter at the next Board Meeting.

Citizen Comments:

**Mark Howell** – Suggested that the that Board be more concise with the “opt-out” terminology as there is the Opt-Out of the Smart Meter as well as the “Opt-Out” of the TOU Rate structure (current discussion). The rationale for the premium for opting out is that the time of use data in both cases is generating wider bands of uncertainty around use in terms of managing the distribution network and managing the capital asset. Could

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<sup>1</sup> Minuteman Media YouTube Link: <https://www.youtube.com/watch?v=1JMYP2KDabk>

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there be a program for checking when those opting out are drawing their power to determine their use impact. The two reasons for opting out of the Smart Meter for an analog are health (RF concerns) and privacy. Added his support for keeping the tiered rate. Suggested the middle rate was too narrow.

**Warren Leon** – Suggested not presenting it to the public as a penalty (of opting out) but as a discount for going to the TOU Rate.

**Pamela Dritt** – Why have any option to opt out? I can understand allowing it for people with health issues. All prices are incentives for behavior; there's no such thing as an objectively fair rate. We must increase rates beyond the cost because we need the money for the infrastructure to decarbonize our energy supply. Don't offer an opt-out.

**Charles Parker** - On the web, currently at least 15 states are allowing an opt out to get out of smart meters. At the same time, certain states/utilities are saying we ought to charge upfront for the right to do that. For example, Maryland charges \$75 up front if you want to opt out of the meter, and they charge \$5.50 a month to hold on to that status. Thinking back to the notion of everybody paying their share, if we're going to spend more money to manage customers who opted out of smart meters, we've got to charge them for it.

**Dean Banfield** - Having these two alternatives for the customer presents a very interesting problem when we actually move to TOU. When TOU comes into existence, people will review their electric bill because in most cases, it will be different. There will be some people who get hammered, and there will be some people who get a real deal. The people who get the higher bill are going to look at this and say let me run the numbers to see if I can figure out whether this would be less expensive for me if I just went back. It will be the main point at which people are going to choose if they stay on TOU or opt out.

**Pam Hill** - Have we done enough studying of this to know whether we can go forward with something that will be acceptable? The initial take is going to be very important and our communication of what we're doing has to be very clear, as it has to drive people towards the choices we want them to make.

**Laura Scott** - What Charlie mentioned was about opting out of the AMI meter. The Board has already established the meter opt out rate with appropriate fees (a \$75 onetime charge and a \$20 a month additional charge). What we're talking about today is opting out of the TOU rate, and the question is the 4% the right rate differential. I don't think there was any science on 4% which makes me comfortable going with 2% to 10%. I don't think it should be outrageous, because there will be those who are opting out of the AMI meter for health reasons who are unable to go into the time of use rate because their choice of a physical meter limits them to staying on the old rate. If we make the opt out rate punitive, people who are opting out for health reasons will be paying the extra meter fees for the analog meter, and they're going to be paying more for their energy.

**Wendy Rovelli** – The challenge is that even consumers don't know when they're consuming your own energy. So, when you're looking at TOU, they don't really know what is beneficial and when we start looking at potential time of use rates, we need to have that conversation. To some degree we have to help consumers understand.

**R-7 RATE – HEAT PUMP RATE** (Timestamp 48:28)

*Background: The R-7 Electric Resistance & Heat Pump Heating Systems/Domestic Hot Water rate was adopted several years ago. The rate is for heat pump customers who install a separate meter to measure their heat pump use. The special rate allows the customer to pay the lowest tier R-1 rate for all the heat pump use recorded by the separate meter during the winter months, October 1<sup>st</sup> through April 30<sup>th</sup>.*

*Purpose: To determine if the R-7 rate will be eliminated and if all the customers on the rate will be transitioned to the new Time of Use rate or to the Time of Use Opt-Out rate.*

The packet provided to the Light Board for this meeting included a study that looked at all the CMLP customers

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who are currently on the R-7 special rate that have AMI meters<sup>3</sup>. There are 36 customers who take service under the R-7 rate schedule as of 9/1/2022. Of those, 22 customers have AMI meters that store hourly usage data. The remaining 14 have AMR meters that record only monthly total usage. Hourly usage data is needed to quantify the impact of the TOU rate on R-7 customers.

Hourly usage data was gathered for the 22 customers with AMI meters over the study period October 1, 2021, through April 30, 2022. Those are the months when R-7 customers pay the lowest tier pricing for all of the electricity usage recorded on their heat pump(s) and is also the time period when most heat pump usage occurs. From May 1 through September 30, any usage recorded on the heat pump meter is added to the usage recorded by the house meter and billed under the Rate R-1 according to the tier pricing.

By applying the appropriate TOU rate to each hour of actual usage by each of the 22 customers over the study winter, we can determine what those customers would have paid under the TOU rate and compare that against what they paid under the existing R-7 rate.

On average the 22 customers saved \$0.0050/kWh under the TOU rate, although the financial impact ranged from a savings of \$0.0172 to a cost of \$0.0109/kWh. The customers for whom TOU was more expensive tended to be the smaller-volume users. So, for even the worst-off customer, who paid \$0.0109/kWh more, the cost in dollars was only \$9 for the whole winter.

The study showed charts plotting customer savings/cost in dollars and dollars per kWh for different size users. Most of the heat pump users saw a savings by going to a time of use rate. Those who did not save money lost no more than \$9 for the seven winter months.

**Mr. Foulds** stated the purpose of the Time of Use Rate is to fairly collect for expenses, not to incentivize behavior.

**The Board consensus was to remove the R-7 Rate when the move to TOU rates is made.**

**LIAISON AND PUBLIC COMMENTS** (Timestamp 57:07)

**Mark Howell** - How people are going to look at this on the implementation side, I'd encourage some thought about what the period of time might be between when meters are installed, and data collection can begin so that some modeling can happen. In particular, on the customer communication side because the data is available it should be possible to give customers information that says, had you been on a tier rate or had you been on the flat rate or the old rate before TOU, the bill would have been x and now it's y so that they don't have to do the math. Maybe everybody will be generally satisfied that this was just a reallocation based on what it costs to serve and be clear about that messaging.

**Hal Iverson**- What the best way is for me to ask questions or make comments before the board takes up the ETS rate? (Mr. Wood to receive and distribute Mr. Iverson's comments to the Board).

Charlie Parker - Coming back to the opt out rate, my brief perusal of the web didn't show a lot of of tiered rates for opt out and I wonder whether others are implementing a tiered rate structure for Opt-out? I think that the

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<sup>3</sup> Winter 21-22 HP TOU vs R-7 Study

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opt out tiered rate sends the wrong signal. It basically says to the mid-range of our market that you might do better without TOU, and don't bother electrifying because we'll be charging you for that. So, it's kind of a negative incentive on the electrification side of things. As it is we're making a big change in our structure. We don't need to continue to have a tiered structure as we make this change. Simplify, make it more straightforward, easier for communications, easier for administration and so forth.

**Mr. Leon** (responding to Mr. Parkers' comments) – I suspect that the reason you didn't see examples of other communities using a tiered rate for their TOU opt-out rate is because very few of those places started off with a tiered rate. They had a flat rate originally so when they went to time of use, they kept what they had. That's one of the reasons why I would argue keeping the tiered rate rather than having to explain to people two new rates. We're saying to people, you have two choices: the current system with a 4% premium, or TOU rates. We're not having to explain to them we don't even have the system that we had before.


**Pamela Dritt** - We want to be fair, but all prices are behavioral incentives. We want to make sure that the behavior that we're incentivizing is behavior that we want to incentivize. And equally, that we're not disincentivizing behavior that we want to incentivize like residents putting in solar and switching to EVs. We've got to incentivize the only way we can, which is with prices. The premium for opting-out is not enough. It should be doubled or tripled. I don't think you should allow people to have a choice that only benefits them unless it benefits the whole system as well. For analog meters yes, a separate rate for them because we must, but not for people who are using smart meters. Are the meters going to have the information and technology to develop a local virtual power plant?

**Mr. Leon moved to adjourn. Ms. Hill provided the second and with a unanimous vote the meeting was adjourned at 8:45.**

Respectfully submitted,  
Pam Hill, Clerk

**Addendum A: Winter 21-22 HP TOU vs R-7 Study**



Date: September 30, 2022 (updated 1/4/2023)  
To: Concord Municipal Light Board  
Via: David Wood, Light Plant Director  
From: Laura Scott, Power Supply & Rates Administrator   
Subject: The Effect of Time of Use Pricing on Heat Pump Customers

In order for you to consider whether to eliminate the Residential Service – Electric Resistance & Heat Pump Heating Systems rate (R-7) in favor of a Time of Use structure, it would be helpful to understand the potential economic impact of such a move on the R-7 customers. The following study has been prepared to quantify those impacts.

There are 36 customers who take service under the R-7 rate schedule as of 9/1/2022. Of those, 22 customers have AMI meters that store hourly usage data. The remaining 14 have AMR meters that record only monthly total usage. Hourly usage data is needed to quantify the impact of the TOU rate on R-7 customers.

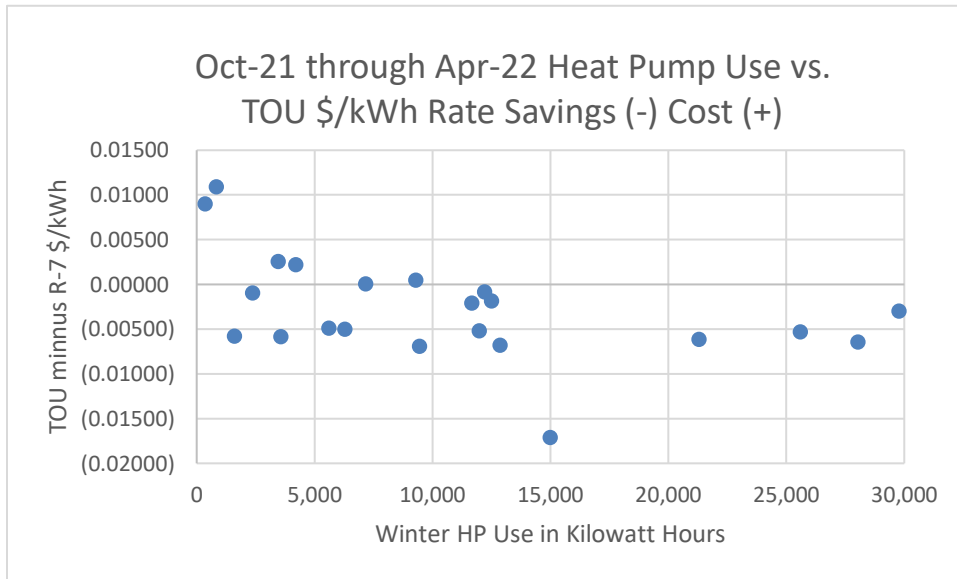
Hourly usage data was gathered for the 22 customers with AMI meters over the study period October 1, 2021 through April 30, 2022. Those are the months when R-7 customers pay the lowest tier pricing for all of the electricity usage recorded on their heat pump(s) and is also the time period when most heat pump usage occurs. From May 1 through September 30, any usage recorded on the heat pump meter is added to the usage recorded by the house meter and billed under the Rate R-1 according to the tier pricing.

By applying the appropriate TOU rate to each hour of actual usage by each of the 22 customers over the last winter, we can determine what those customers would have paid under the TOU rate and compare that against what they paid under the existing R-7 rate.

## Results

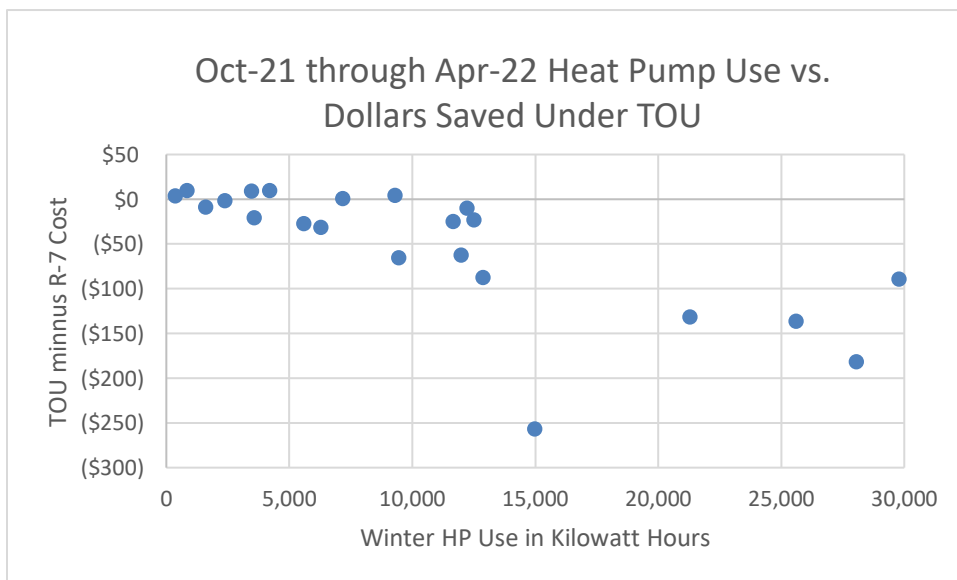
On average the 22 customers saved \$0.0050/kWh under the TOU rate, although the financial impact ranged from a savings of \$0.0172 to a cost of \$0.0109/kWh. The customers for whom TOU was more expensive tended to be the smaller volume users. So, for even the worst-off customer, who paid \$0.0109/kWh more, the cost in dollars was only \$9 for the whole winter.

In the chart below the 22 customers' financial impact in \$/kWh is plotted against the total use by each customer for the winter in kWh. A positive \$/kWh means that TOU was more expensive for the customer. A negative \$/kWh means that TOU was cheaper for the customer.



All customers using more than 10,000 kWh saw a savings.

In the chart below the 22 customers' financial impact in dollars is plotted against the total use by each customer for the winter in kWh.



The list below shows the most amount of money saved was \$257 by a customer who used 14,989 kWh. The largest bill savings resulted from the largest kWh users. The worst financial impact was a \$9 cost borne by the smaller users.

### Customer Savings (-)/Cost (+) from TOU

Cust #	kWh	\$ TOU- R7
11	14,989	(\$257)
6	28,055	(\$182)
8	25,602	(\$137)
16	21,301	(\$132)
5	29,798	(\$90)
22	12,883	(\$88)
4	9,456	(\$66)
20	11,987	(\$63)
14	6,295	(\$32)
10	5,609	(\$28)
12	11,676	(\$25)
7	12,510	(\$24)
17	3,583	(\$21)
15	12,224	(\$11)
2	1,614	(\$9)
1	2,388	(\$2)
13	7,174	\$0
19	365	\$3
18	9,297	\$4
3	3,474	\$9
9	841	\$9
21	4,214	\$9

### Study Assumptions

The default R-7 rate used in the study was \$0.16131/kWh. There were 2 billing periods for the TOU rate. An off-peak price of \$0.13495 was applied between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and during all hours on weekends. All other hours were charged a rate of \$0.19023/kWh.

There are 5,088 hours between midnight on October 1<sup>st</sup> 2021 and midnight on May 1<sup>st</sup> 2022. None of the 22 AMI data sets had meter readings for all 5,088 hours. The meter with the greatest number of readings was missing 3 hours, or .1%. The meter with the most missing hours was missing 696 hours, or 14%.

<b>Customer #</b>	<b>Missing Hours (10/1/21- 4/30/22)</b>	<b>Missing % (10/1/21- 4/30/22)</b>
19	3	0.1%
6	4	0%
18	6	0%
13	16	0%
16	21	0%
15	46	1%
7	67	1%
4	71	1%
2	76	1%
14	77	2%
1	79	2%
22	93	2%
12	115	2%
3	126	2%
5	129	3%
9	162	3%
10	177	3%
11	179	4%
17	204	4%
20	218	4%
8	287	6%
21	696	14%

Statistical methods were used to “fill in” the missing hours with data so that all 22 customer data sets contained 5088 values.