



HINGHAM MUNICIPAL LIGHTING PLANT

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Board Members

Laura Burns, Chair
Michael Reive, Vice-Chair
Tyler Herrald, Secretary

MEETING HINGHAM MUNICIPAL LIGHT BOARD

August 13, 2024
Zoom Meeting
<https://us02web.zoom.us/j/89393625908>

Meeting Called to Order

A meeting of the Board of Commissioners of the Hingham Municipal Light Plant (HMLP) was called to order by the Board's Chair, Laura Burns, at approximately 4:30 pm on Tuesday, August 13, 2024, via Zoom.

Present:

Board Members: Laura Burns -Chair
 Michael Reive -Vice-Chair
 Tyler Herrald -Secretary

HMLP: Thomas Morahan -General Manager
 Mark Fahey -Asst. General Manager
 Joan Griffin - Business Manager

Guest: Ken Stambler (Energy New England)
 Laurie Heffron (Energy New England)

Ms. Burns read the following disclaimer into the record:

This meeting is being held remotely as an alternative means of public access pursuant to Chapter 107 of the Act of 2022 and all other applicable laws temporarily amending certain provisions of the Open Meeting Law. You are hereby advised that this meeting and all communications during this meeting may be recorded by the Hingham Municipal Light Plant in accordance with the Open Meeting Law. If any participant wishes to record this meeting, please notify the chair at the start of the meeting in accordance with M.G.L. c. 30A, § 20(f) so that the chair may inform all other participants of said recording.

Power Supply Overview by Energy New England (ENE) - Ken Stambler

Mr. Stambler broke down the overview to five (5) items:

1. Projects updates
2. Overview of market and what to expect for this upcoming winter
3. Hedge position
4. Historical detail on adjusted net and change analysis
5. Greenhouse gas emission standards

Project updates:

- Avangrid - ENE has stopped negotiations with Avangrid.
Price of the project kept changing and it became a “marginal deal at best” so the decision was made to move on from Avangrid.
- Brookfield - ENE is now discussing two hydro facilities in Maine.
Fixed price for 15 years, mid \$60s.
- Moscow Wind - Greenbacker buying project.
LOC (line of credit) in place with ENE as Beneficiary.
- FirstLight Extension - Discussing “Blend and Extend” the current deal through 2040.
There is discussion on a “blend and extend” on the Cabot Turner deal. Ms. Burns questioned what “blend and extend” means and Mr. Stambler stated that ENE is seeking to get to a point where we get an average price for power plus environmental attributes so that the price comes in slightly below \$60 per megawatt hour
- Gravel Pit III - Operational end of October 2024
- Mason Bay - 6-month extension needed for COD.
- Granite Wind - Replacing Chariot Solar. Finalizing negative pricing concerns.
Ms. Burns questioned what the negative pricing concerns were and Mr. Stambler responded (a) certain times of the day there is an excess of intermittent resources that are not dampened down so you could see prices go below zero. ENE does not want to be running a unit at a negative price and paying a high price (ex: \$70) and then having to pay to send it back to the ISO (Independent System Operator). Ms. Burns asked how ENE would resolve this situation and Mr. Stambler stated that it would be structured so that there is a cap on the lower price so if it falls below *negative* \$40 then the unit would be shut off.
- Great River Hydro - Checking to see what they might have available.

Mr. Herrald asked several questions on general contracting.

1. For the next five (5) years or so, peak power in New England is in the sixties. What kind of valuations are run relative to the forward curves?
2. How do we compare those valuations in our contracting? For example, Mr. Herrald stated that he would never expect to buy as produced wind for greater than the peak power price. He stated that it should be well below because of the unit contingent nature of it and the congestion risk. He would like to understand how a price of \$90 makes sense.

Mr. Stambler responded that there are several components to the calculation. Energy is at approximately \$60 and then there are the environmental attributes. There is a class 1 REC, with long-term prices of anywhere from \$30 to \$36 so that brings the valuation to \$90 to \$96. In addition, if there is no historical data, ENE takes the “probability 50 data” that the developers come up with based on, for a wind farm, meteorological data to determine whether it is a good place for a wind turbine. Based on the data, a “probability 50” type of curve is created and historical data is run through that to come up with a relationship to the “on peak” and “off peak” prices. In

addition, ENE evaluates the bus prices at the generation bus versus the mass hub to get the basis differential. All of these factors go into determining what is a fair market value for a project. ENE does have models and projections for forward curves and they reach out to other trading companies to compare curves and ensure they are in line with each other. An adjustment is made on our forward curve relative to what the rest of the market is showing and how the price is determined including the value of the environmental attributes.

Mr. Stambler went on to explain that Class 2 RECs, which are typically hydro facilities that are using between three (3) and four (4) megawatt hours, have an alternative compliance cap payment in Maine. The cap in Maine is \$5 on a regulatory basis and as high as \$10 on legislative basis, so ENE is using \$4 or \$5 for their valuation saying about 80% of the cap is what we will see long term.

Mr. Herrald asked if when looking at contracting, is the price that power is trading at now considered “firm power”? He also questioned if when we are contracting for “as produced” are we getting a discount on the firm price? Mr. Stambler responded that we do not get a noticeable discount but ENE does use historical data to come up with an evaluation of what the curve would look like relative to the forward curve. He explained that wind developers are different from solar developers and hydro developers because wind is more uncertain. ENE makes an assessment as far as the intermittency of that resource, regardless of whether or not we get the full value of the intermittency, to come up with a fair market value price.

Mr. Herrald asked if in that intermittency, is there some expectation of forced outage rate or maintenance? Mr. Stambler responded that he does not particularly see that ENE puts an outage rate into play because how would you figure out the outage rate during a low-price season.

Mr. Herrald asked with respect to engineering studies that were referenced on the P50 scenarios for wind expectations, do those engineering studies come from the developer or a third party that does it? Mr. Stambler responded that they come from a third party that does it for the developer.

Overview of market and what to expect for this upcoming winter

Mr. Stambler explained that natural gas basically drives the New England market, especially during the winter time. Natural gas represents the “lion's share” of the year-round generation and on cold days, we will max out the gas/fire generation and the oil/fire generation to meet the peak load. When we max out the gas/fire generation we are maxing out the ability to put gas through the pipeline. The normal direction of the flow of gas in the pipeline is south and west to Boston (east). On cold days we rely heavily on liquid natural gas (LNG). As shown in the presentation, in Winter 2022/2023 there was much concern about gas in Europe because of the disruptions in Russia and the coal plant closures. For Winter 2023/2024, gas storage across Europe is 98% full so the demand for incremental LNG into Europe is not going to be driving the market as it did in past winters. We predict that this situation will drive up the winter prices in New England to roughly \$130 for “on peak” power for January and February 2025 on the United States side. Mr. Stambler stated that “the US came out of this past winter with fairly strong inventory levels and we continue to maintain that strength heading into the winter season. We are looking at hitting about four TCF (trillion cubic feet) in storage heading into the winter season. This means that ENE is starting to see softer Henry Hub prices that may be offset by the production companies trying to curtail the production to keep prices firmer. Henry Hub is a centralized location in Louisiana that is the primary pricing point for natural gas on the New York Stock Exchange. The price is currently around \$2.20 but there is increased conversation about production companies cutting the production which would cause the Henry Hub to increase prices as we head into the fall season.

Mr. Stambler stated that on the ***Energy New England historical forward power price movement graph***, we are looking at when is it a good time to buy and what are the current trends, based on

the last 365 days and the last 30 days. Based on this chart one can see that over the past year and relative to the past 30 days, that most of the price volatility/price movement is in December, January and February. The *Energy New England forward gas price movement* slide shows that we are trending down towards the bottom of the curve because the delivered cost of gas on the basis between the Henry Hub and the Algonquin City Gate is very tightly tied to the price of liquid natural gas in Europe. The Algonquin City Gate is the primary pipeline in New England. Ms. Burns clarified that because the price for LNG is better in Europe, that is why they receive the resource. Mr. Stambler stated that LNG is a part of the global marketplace and the United States is competing for the same LNG that Europe and Asia are competing for. However, we can't compete for the LNG produced in the United States because there are no flagged LNG ships that could bring the LNG from Louisiana up to New England, instead we have to compete with Trinidad and Africa for those sources. Mr. Herrald questioned if there is any current political talk about repealing the Jones Act. The Jones Act is a 1920 law that requires goods shipped between U.S. ports to be transported on American-owned ships. Mr. Stambler explained that it is not the priority for legislators in New England and they are just not aggressive as far as fossil fuels and since liquid natural gas is a fossil fuel, so there is no hard push to get it to New England. The **Weather is King** slide is stating the frequency distribution of pricing in hours, rather than days. It shows that there were very few days or hours that were really high priced because of the record warmth last winter. There were only 17 hours that were above \$200, which is probably when we were relying on oil/fire generation or we were requiring a lot of LNG to run through the system. The upcoming winter is forecasted to be above normal temperatures in New England so we may average around \$104.

Mr. Reive questioned how the engineering p50 value was prepared. Mr. Reive asked if the independent contractor provided their predictions to more than the developers, are the ISOs getting those results, and does Energy New England independently monitor that their data is good? Mr. Stambler responded that although it is hard to compare one location to another, they do look at the sanity of it. Typically, ENE looks for a 30% capacity factor on a wind project, so if the p50 data comes between 28% and 33%, then that would be what they "true up against". ENE also looks on a monthly basis to see during certain months of the year that there are better load factors and then they make sure that those load factors correspond to the share of a fairly similar site in New England. ENE definitely looks at the validation of the data and compares the results to other resources, but they do not have the expertise to validate the specific data for a location or the mathematics on the meteorological data that these third parties come up with. Comparing results.

Mr. Reive asked what Mr. Stambler sees in the future of wind procurement. Mr. Stambler stated that they view everything they can about onshore and offshore wind projects. He said that ultimately one wants to have a diverse portfolio of wind, hydro and solar. Ms. Burns asked if we ever get an opportunity to buy more nuclear power, or is it all "sewn up"? Mr. Stambler responded that ENE did buy more nuclear power last year and they are trying to start conversations with Dominion, who own Millstone, about possibly contracting more with them for between 50 to 70 megawatts of nuclear power for various municipalities. Ms. Burns stated that she felt that increasing the amount of base load in our portfolio could possibly allow HMLP to push a bit further with some of the renewables and perhaps we would not have to hedge as much. Mr. Stambler stated that HMLP is at roughly 40% nuclear and he feels that is a good spot to be in. He explained that since the majority of your nuclear backing is not on a unit entitlement which is ok, but if Seabrook goes down for an extended period of time, it would be nice to have some diversity with the nuclear power. Ms. Burns said that she learned at last year's NEPPA conference that Dominion was looking at putting in some of those new smaller package plants where their old reactors have gone offline so maybe there will be an opportunity. Mr. Herrald then asked if any of the upstate New York nuclear units would be interested in selling power into New England. Mr. Stambler responded that it is not a problem getting the power, it is getting the power with the environmental attribute being counted that we are aiming to get. Mr. Stambler said that currently New York RECs

for hydro power are significantly above the main class 2 REC prices which are \$21 and the main class 2's are at \$5 so there is discussion from some hydro producers to move hydro out of New England to take advantage of the \$15 spread. Mr. Reive questioned whether SMRs (small modular reactors) are being developed in our region. Mr. Stambler stated that he did not know the answer to that question.

Hedge position:

The **HMLP Position Report** is provided to HMLP weekly and it is based on your forecasted load and the forecast of the resource generation. This report depicts the winter position as it is most volatile in price. Ms. Heffron stated that Hingham is well hedged over the next four years. The **Portfolio** slide represents our contracts and the forecasted load compared to the actual load.

Mr. Herrald said that it appears from this slide that we are 20% to 27% unhedged in the summertime and 12% in the winter which is a significant amount to be going to the spot market at one of the most expensive times. Mr. Herrald questioned (1) how we are thinking about short term contracts if we consider those to hedge those exposures ahead of the peak season and (2) how do we make the decision on whether or not it is a good idea to maintain a large or small unhedged position going into a peak season? Ms. Heffron stated that the Position Report was also broken down by "Peak" and "Off Peak". She explained that ENE keeps the load forecasts updated yearly along with the generation. In addition, they keep pricing so that they are continually looking forward to prices on a daily basis. Based on this reporting, ENE can see where Hingham is open or exposed. Ms. Heffron explained that in July and August it is a little higher but she would rather be procuring strips of power in July and August versus December, January and February. Ms. Heffron explained that the report provides you with the total open position and takes all your purchases divided by your total load or forecasted load and gives you the remainder each month. Ms. Burns questioned what is the peak and off-peak time periods. Ms. Heffron responded that the peak is five days a week (Monday-Friday) for 16 hours (7:00 am to 11:00 pm). Off peak is considered nights (11:00 pm to 7:00 am), weekends, and holidays. Mr. Herrald questioned whether there is hourly reporting to show whether we are short or long in the peak periods. Ms. Heffron stated that they do not have an hourly report but ENE is constantly monitoring our load and resources and even though Hingham may fall short of our load we could still be buying from the spot at an advantageous price so you do not necessarily get hurt by the market. In addition, Ms. Heffron stated that ENE is continually looking at the trending in the market prices to see what might happen. Ms. Burns asked who generates the forward prices. Mr. Stambler stated that it is the marketplace or ICE (International Continental Exchange) which is composed of trading companies and brokers that come up with the prices. Mr. Herrald added that these prices are just like the stock market in that they change every day based on what the market perceives the supply and demand fundamentals of the month to be. Ms. Heffron added that ENE is always considering Hingham's overall energy cost and quantifying the effect that the purchase will make on the portfolio and overall cost of power.

Historical detail on adjusted net and change analysis

The **Net ANI Analysis Summary** slide shows data from December 2022 through February 2024. The slide demonstrates the favorable power supply portfolio position, with hedged positions between 85% - 94% and spot market purchases totaling \$42.21/MWh over the 14-month term of the analysis. Ms. Heffron offered to do a "deeper dive" into any of the data to ensure that HMLP understands their load function and net position.

Mr. Reive asked how our hedging and our potential exposure to high prices would be affected if one of our nuclear portfolios goes down. Mr. Stambler explained that there is a difference between bilateral and entitlements. Hingham is 40% nuclear - 28% Seabrook and 12% Millbrook. We

have entitlements through Seabrook so we would lose all 28% for the time they are offline; however, Millbrook is backed by NextEra as a bilateral so they will still deliver the power and provide us with the environmental attributes. Ms. Heffron added that if it was determined to be a long-term outage then ENE would go out and contract for a fixed price for a period of time.

Mr. Reive asked how time of use (TOU) would impact the load curves and power purchases. Both Ms. Heffron and Mr. Stambler stated that ENE would need a period of learning to learn how to react to the new rate. ENE would have to understand HMLPs elasticity, demand, and pricing. Ms. Burns stated that we would expect to run a pilot program but it would also be voluntary and that would skew the results for any ENE analysis. Ms. Heffron said that a time of use program would “depend heavily on the marketing and how damaging you make that price.” ENE would expect that the load curve would flatten out without large jumps from 5:00 pm to 8:00 pm.

Greenhouse gas emission standards

Ms. Burns asked Ms. Heffron if she could have an offline conversation with Brianna Bennett and herself regarding the best way to present our power portfolio to the public. Ms. Stambler stated that this is a very simple request and ENE can certainly do that. Based on the **GGES** slide, Hingham is about 77% non-carbon/non-emitting, according to greenhouse gas standards and that includes nuclear, hydro, wind, and solar. Mr. Stambler went on to clarify that it is only non-emitting when you retire the RECs and currently HMLP is not retiring the RECS; therefore, the non-emitting is closer to 35%. Mr. Stambler stated that “Hingham is in excellent shape through the mid-2030s based on the current portfolio.” The current portfolio does not even include other projects such as Granite, which would provide a piece of Chariot solar, any sort of “blend and extend” from Cabot Turner for hydroelectric, or additional nuclear with Dominion.

Mr. Stambler stated that we do not know if the requirements will change come 2040 as people come to the realization that we can’t get to 100% non-emitting because the cost would be prohibitive and it would drive business out of New England. He believes there will be a compromise or perhaps a “cosmic change in how we produce a non-emitting generation.”

The **Renewable Energy Credit Market** slide, explains the three types of RECs, Class 1, ME Class II, and CES-E.

- Class I RECs
 - Renewable resource installed after 12/31/1997
 - Eligible resources include - solar (PV), wind, fuel cells, landfill gas, hydroelectric, low emission, biomass
 - For 2024 - 24% of retail sales
 - Current prices around \$39.65. Alternate compliance payment is \$40.
- ME Class II RECs
 - Can be renewable or an efficient resource
 - Hydroelectric resources must be less than 50 MW in size
 - Current prices around \$2.50 - Legislative price cap of \$10/REC, Maine PUC capped it at \$5/REC
- MA CES-E
 - Covers large hydroelectric generators importing power into New England as well as Millstone and Seabrook
 - Limits CES-E production to 2,500,000 RECs per facility
 - Current prices around \$9.00/REC - Alternative Compliance Payment is \$10.00

Ms. Burns stated that she may be following up this presentation with additional questions.

Approval of Meeting Minutes

The meeting minutes for June 11, 2024 were approved.

There was a motion to approve all meetings.

Vote:

Mr. Herrald -Aye

Mr. Reive - Aye

Ms. Burns - Aye

Financials

month/year	kwh sold	revenue	expenses	net income
Jun-24	15,223,555	2,953,991	2,635,130	318,862
Jun-23	14,772,548	2,810,015	2,189,947	620,068
Jun-22	16,078,636	2,764,091	2,398,583	365,508
YTD/year				
Jun-24	88,486,368	16,826,021	14,588,167	2,237,854
Jun-23	87,260,519	16,883,739	14,971,994	1,911,745
Jun-22	89,556,794	14,877,779	14,654,395	223,384

Mr. Morahan started the following:

- Kilowatt sales, revenue and expenses were all slightly higher in June 2024 than 2023.
- 80% of our expenses are related to our power costs.
- Net income includes the sale of RECs when they happen. The PCA (power cost adjustment) was lowered in June 2024 and will be monitored closely to ensure we come in under the 8%.

Ms. Griffin stated that the REC revenue that we have is because we spent the money, the green fund money, and when we do that, we have to recognize it as revenue. We spent \$250,000 that we brought in from income for this June so we are recognizing that amount in revenue.

Updates

- *Transmission Line Project:* HMLP has submitted our filing to Eversource and Eversource has 60 days to review the filing and make comments. Expect to have the filing back by end of August and our plan is to file in September with the Siting Board.
- *HMLP Solar:* skip this item
- *Municipal Solar:* Solar task force has met with Joe Fischer (Select Board) and Art Robert (Town Administrator's Office) and they expressed willingness and interest in doing some projects on municipal buildings that will be owned by the town. The task force will possibly be taking some projects to town meeting in the Spring for bonding. Ms. Burns stated that it is not very often that one can take a project to town meeting that will pay for

itself and generate revenue. The task force will be working to develop an RFP. In addition, the town may be doing a facility study on all buildings to determine their state.

- *Capital Projects:*
 - Circuit 9 - work continues
 - Transmission line - replacing insulators. We have to work with the MBTA and they have to approve the plan. We submitted the plan to the MBTA and they have 90 days to respond with comments and conditions. Since the 90-day window will bring us into the winter months, this project will have to be pushed to next spring.
 - Demand response program - Rollout and advertising has begun. Approximately 15 customers have signed up.

Planning for Upcoming Meetings:

September meeting: Conversation about PILOT program. Tyler to speak about the history and the current landscape.

October meeting: Questions regarding proposed study on power supply going forward into the future. Also, Mr. Reive asked that Abode be invited to speak about their rebate program.

Mr. Herrald can no longer participate in morning meetings.

Motion to adjourn the meeting.

Mr. Reive - Aye

Mr. Herrald -Aye

Ms. Burns - Aye

Meeting adjourned at 6:02 pm