

Light Commission March 28, 2023 meeting minutes

To: Light Commission: Commissioners
Light Department: J. Kowalik, General Manager, M. Barrett, Business Manager
From: Jean-Jacques Yarmoff, Secretary
Date: May 4, 2023
Re: Commission Meeting March 28, 2022

A quorum being present, Light Commission Chair Mike Hull opened the meeting at 4:04 pm, the meeting being held both in person and with remote access available to the public. A recording of the meeting is made available to the public at the following [link](#).

Participated in meeting:

Commissioners: Hull, Frechette, Smith, Wolf and Yarmoff participated in person.
Light Department: General Manager, J. Kowalik and Manager of Tech. Operations, C. Coleman
Invited: Brooks Winner, MAPC, presenting for Green Marblehead Committee

Approval of March 1, 2023 minutes.

Vote #2023-13 Commissioner Wolf moved to approve the minutes of the March 1st, commission meeting, as amended. Seconded by Commissioner Frechette.

Four in favor, Hull voted against approving the minutes because of concerns of possible open meeting law violations and possible Chapter 164 violations.

Public Comments

No comments from the public.

Village 13 upgrade: update

The contracts for procurement of Switch Gear and for Transformers are signed. The site needs to be prepared later this year for installation of the equipment in early 2024, and a contract with the appropriate civil engineering firm needs to be put in place. The team is revisiting the best access to the site by organizing a meeting of the transportation company who know the equipment they need to move a 100,000 lbs piece of equipment, and local engineering firms. So far, access from Westshore drive has been privileged, but the team is revisiting access from Bessom Street. If it were possible, this would avoid widening the right of way and encroaching on wetlands. This might end up being more expeditious and cheaper way to bring the equipment to the site.

Slide 1 on page 6 describes the timeline for installation of switchgear, transformer and connections. Depending on weather in winter of 2024, final work may only be completed in the spring of 2025.

Go Green Now Commercial Rate

The Go Green Rate has been available to residential customers. The General Manager is proposing to extend the program to small commercial and to large commercial customers, under the same terms as the existing residential Go Green Rate. In 2022, 47 participating residential customers will contribute to retire 156 RECs. A commercial customer would like to lower their carbon footprint by accessing a similar

mechanism: if they do participate, in view of the current electricity consumption, they would retire 74 RECs, which would increase the RECs retirement by 50%.

Vote #2023-14 Commissioner Wolf moved to expand the definition of the existing Go Green Now program for residential customers to include customers in the Small Commercial and Large Commercial rate classes, motion seconded by Commissioner Smith. **Unanimous.**

Electric and Building Code changes

Commissioner Hull explained the new Building Code that came into force at the beginning of the year ([225 CMR 22.00](#)) at the same time as the Electrical Code was updated. New buildings over 1,500 square feet or renovations of more than 50% of the building are concerned. The building must be prewired for electric heating, EV charger level 2 and possible solar installation. The additional load must be calculated, and in many situations the existing 200 Amps panel will not suffice and a new 400 Amps service will be necessary. Residents should plan in advance as these new code requirements mean upfront calculation of load, and possibly dealing with supply chain constraints that they might not anticipate. For the Light Department, upgrades to the service lines to the buildings or to the pole transformers might be necessary.

Energy Efficiency and Vulnerable Populations

The General Manager presented information on the population of Marblehead, in the slides attached from page 7, making the point that the programs the Light Department supports should be available to all residents, irrespective of income level. Commissioner Wolf emphasized the necessity of communication around these programs. By benefitting the department financially, they help the whole town and every resident by keeping the rates low at the expense of people who want to take advantage of these technologies; however, this must be better communicated. Commissioner Adam noted that the latest census data show that the distribution of Marblehead residents by income is very different from that presented by the General Manager. Nevertheless, it is clear that there are hundreds of vulnerable households in Marblehead (slide 3 page 7). DOER has programs specifically dedicated to energy efficiency and electrification, with a special focus on low and moderate income. The department is communicating with MMWEC to provide data so that MMWEC can apply for block grants. Details will become clear in the future, but the moneys are substantial (slide 1 page 9).

Light Commissioners' Association

Commissioner Yarmoff reported that a number of Light Commissions are organizing a network of commissioners to exchange information. Commissioners, with elected terms of a few years change frequently, will more efficiently be able to learn their job. Currently 17 of the 41 systems are participating, and there is an outreach effort so that all light commissioners in the State are aware that they can participate. The Massachusetts Municipal Association has been approached and may recognize this group, as it recognizes the Select Board Association. Open Meeting Law applies, and if a majority of the commissioners of one system participate in a meeting, then some must remain "silent participants". Marblehead Commissioners are aware and have been invited to the meetings (the next one taking place on May 11). The proposal is for the Marblehead Light Commission to support the effort of a group of commissioners to create a state-wide association of commissioners of Municipal Light Plants. The goal of this association is to support and assist commissioners in their task.

Vote #2023-15 Commissioner Yarmoff proposed a motion: that the Marblehead Light Commission support the effort of a group of commissioners to create a state-wide association of commissioners of Municipal Light Plants. The goal of this association is to support and assist commissioners in their task. Motion seconded by Commissioner Frechette.
Unanimous.

Green Marblehead Committee

Brooks Winner of MAPC presented the Marblehead Green Committee Road Map (Slides from page 9: the town adopted a document “Climate Vision” in 2020, which established 2040 as a target date for the town to reach Net Zero emissions, and the Marblehead Green Committee was established by the Select Board to implement that vision. This work was supported by a grant from the State, to put in place the planning process and the Road Map itself. The latest IPCC report published this March highlights the need for urgency on these actions: while the Commonwealth is working under legal requirements to reach Net Zero by 2050, the IPCC report highlights the fact that developed nations need to reach that goal as early as possible and as close to 2040 as possible; hence Marblehead’s goal.

The road map highlights that electrification is the key to reaching the goals: electrification of heating, of transportation. And the cleaner the electric portfolio of MMLD, the more reductions from electrification we achieve. The Marblehead Green Committee made the point that Marblehead cannot reach its goal without a carbon-free MMLD portfolio by 2040.

There are many actions that MMLD can take to help Marblehead meet its climate goals but the key action that the Marblehead Green Committee would like the Commission to consider is:

Transition MMLD electricity supply to 100% clean energy by 2040.

The general manager made the point that whatever the target is, from a practical perspective, to increase the ratio of clean energy in our portfolio, we need to consider both the technologies, and the projects. There are some proven technologies, developed at scale, that are or will be available in principle: the question is both the timing and the projects availability for Marblehead. Some projects are a bird in the hand, like 2023A, others are more elusive.

Commissioner Yarmoff reviewed the likely major projects and technologies that may become available in the next 5 years.

- Off-shore wind:
 - One 800 MW project is coming on-line at the end of the year. However, MMWEC and Marblehead have not been able to get a supply contract from this project.
 - There are 4,800 MW of additional off-shore wind projects at various stages of permitting, contract negotiations and development: the earliest project MMLD could have participated in would have provided electricity by 2028, but this project is now delayed and we may not get any until 2030.
- Hydroelectricity:
 - The New England Clean Energy Connect, the transmission line to bring 1,200 MW of hydroelectricity from Quebec to Massachusetts through Maine, is uncertain, wrapped up in a legal battle in the Maine courts.

Which leaves us, in terms of opportunities for proven technologies and available projects, with MMWEC’s project 2023A with non-emitting electricity proposed by NextEra, based on the Seabrook nuclear power plant.

Project 2023A (See slides on page 11) MMWEC has been discussing with NextEra Energy a long term bilateral contract (Power Purchase Agreement between MMLD and NextEra Energy) for firm delivery of non-intermittent carbon-free energy, sourced from the Seabrook Nuclear Station. This energy comes with associated environmental credits that MMLD needs from a regulatory perspective. Should energy from Seabrook not be available during the firm contract, NextEra will make best efforts to replace the electricity from one of its many non-emitting generating facilities. The contract is long term, 20 years from 2030, with an early option to start, which MMLD would like to adopt (2028). Delivery point is at Mass Hub, and the price is competitive.

MMWEC is negotiating on behalf of its members and does not know exactly how much power MMLD can get under this contract: MMWEC has proposed an allocation for each member interested in participating, which MMLD has pushed to increase up to 3 MW of power capacity. If MMLD were able to get its full request, the chart on page 11 shows the evolution of carbon free power in MMLD's portfolio, with MMWEC's assumptions of growth and state level legal constraints. The graph shows visually that Project 2023A would allow us to meet our 2030 obligations. Comments on this chart:

- The cliff decreases on this chart show contracts expiring, which can be extended: the cliff decreases are not a cause of concern.
- MMWEC is using ISO-NE projection for load growth of 1.3% per year, while our projections for load increase with transportation electrification alone is 1.7%. This does not take into account the building electrification mandated by the new building codes. Marblehead load growth over time will likely be higher than that shown on this graph.

In the General Manager's opinion, any attempt to meet the Marblehead Green Committee's goal of Net Zero by 2040 means that we cannot pass on project 2023A.

The Commission discussed the appropriate amount of energy to request (asking for a higher amount of energy is not guaranteed to succeed in any case; there could be a risk of having too much power in the night-time trough consumption that can be mitigated by increased load of EV charging – not yet modeled). It was also discussed that this contract does not increase "nuclear production" or "nuclear waste" in any way. This is about optimizing an existing asset and Marblehead benefitting from this optimization.

The General Manager distributed a motion that states that the Light Commission:

- intends to have MMLD participate in project 2023A and pay its share of the budget in order to get an agreement with NextEra Energy;
- directs the General Manager to execute a Participation Acknowledgement.

Vote #2023-16 The above motion was moved by Commissioner Hull, seconded by Commissioner Smith.
Unanimous.

Vote #2023-17 A motion to have MMLD participation in project 2023A start in 2028 rather than 2030 was moved by Commissioner Wolf, seconded by Commissioner Frechette. **Unanimous.**

The Secretary of the Commission will send to MMWEC a Certificate of Vote to memorialize the Light Commission intent with regards to project 2023A, and the General Manager will send to MMWEC a Participation Acknowledgement stating the power level and the start date expected.

Resiliency of Supply

The General Manager reviewed actions taken to have a more secure supply of electricity. As our electricity comes into town through one single point (double connector) 23 kV line, there is an inherent risk associated with that single line. But actions have been taken to minimize the risk, described on the slide page 12. Hardening our existing line is important work that the Department is doing. The Village 13 substation upgrade will also be a critical equipment with new capabilities that will add to our resiliency.

Commissioner Yarmoff explained that the reason this subject is regularly put on the agenda of the board is that a well-known vulnerability for MMLD is having a single line for sourcing power into Marblehead. At this stage we have no plan to address this vulnerability. The longer we wait to start on this project, the longer it will take to complete. From an engineering perspective, any system with a critical piece – in our case, one single line bringing energy into the town – without redundancies built in, is an accident waiting to happen.

One way to address this vulnerability would be to have a second line provide power to the town. To put in place a plan, we need to know the cost for a new line connecting to the New England grid, a line going through Swampscott being one option. Conversations with National Grid are a necessary first step to generate options for the board to consider, the last discussions took place in 2020. Even if a second line goes to the Swampscott grid, it eventually links back to the same National Grid substation “Railyard #49” located 97 Margin Street in Salem. Other options will need to be evaluated to remedy this vulnerability. One such option is having the supply line buried along the Right of Way. Commissioner Adams reminded the board that grants are available to increase the resiliency of the distribution system. Among the issues we need to consider is whether an additional supply line is for emergency use only, or for regular use. The General Manager mentioned that we can engage with the National Grid team but we need to be ready with some answers to the questions that National Grid is going to ask us.

Rates discussions

The commission decided to postpone this discussion in view of time and the upcoming executive session. The document prepared by Commissioner Smith “MMLD Distributed Generation Policy” was distributed to Commissioners ahead of time. While the document has not been reviewed by the Commission at this time, it was discussed and agreed that this document be made part of this meeting and included in the minutes for possible public comments. This proposed policy document can be found from page 13.

Executive session

Chair Mike Hull proposed a motion to go into Executive Session in order to conduct strategy sessions in preparation for negotiations with non-union personnel General Manager Joe Kowalik.

Vote #2023-18 Motion proposed by Chair Hull. Frechette: yes; Hull: yes; Smith: yes; Wolf: yes; Yarmoff: yes.

The Light Commission entered into Executive Session at 5:48 pm. The Executive Session concluded at 6:15 pm after a roll call of commissioners voted to return to open session at which point a motion to adjourn was proposed, seconded and unanimously adopted.

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Documents shown during the March 28 Light Commission meeting



Village 13 upgrade schedule

- Late 2023- Award contract for site construction
- Early 2024 –Village 13 Site construction begins with frost breaks.
- By April 2024 - Widened Salem ROW access must be ready for use.
- April 2024 -Switchgear current planned delivery
- June 2024 – Transformers current planned delivery
- Fall 2024 – Existing 13 kV feeders will move over to the new switchgear
- Fall/Winter 2024 – Move 23 kV feeders to new transformers
- Fall/Winter - Make all remaining connections
- Depending on weather, final work may move into spring 2025.



Go Green Now for Commercial Customers

- Design and implement the rate exactly the same as Residential customers.
- 47 participating Residential Customers in 2022 – 156 Recs retired Avg customer, full year =4.8 RECs/yr
- First Commercial Enrollment is QBE (Queensland Bank & Equitable, Australia) – insurance company with office on Pleasant St.
- QBE 2022 annual electric consumption yield 74 RECs



Expand Go Green Now rate

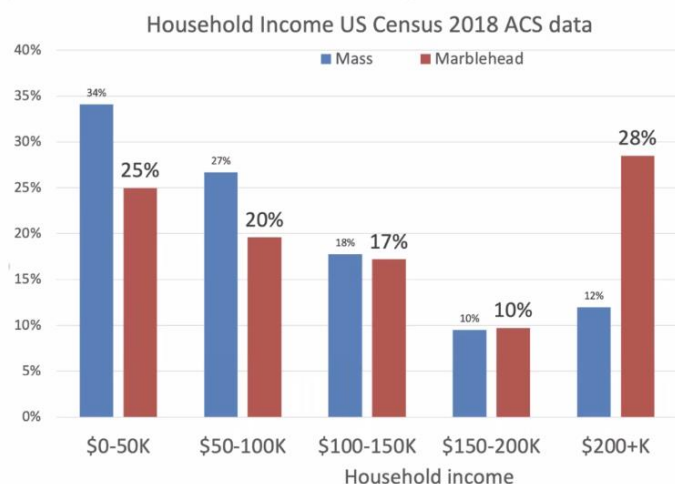
Go Green Now for Small Commercial and Large Commercial rate customers

Motion: ...to expand the definition of the existing Go Green Now program for residential customers to include customers in the Small Commercial and Large Commercial rate classes. I



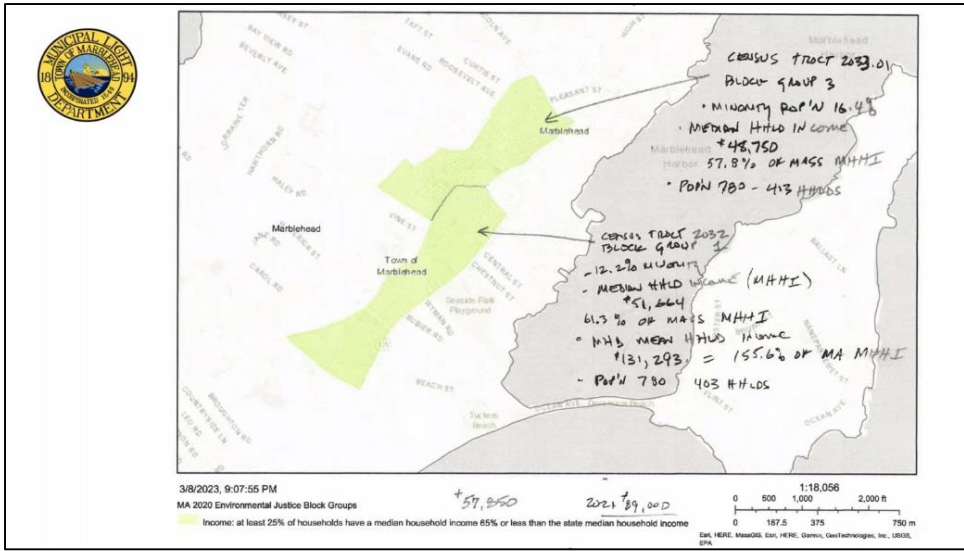
Energy Efficiency & Decarbonization Programs for the Marblehead's Vulnerable Populations

- Why?
 - Recognize the unique distribution of household incomes in Marblehead
 - Ensure all households have access to all MMLD programs for all households, regardless of HHLI income levels
 - Put a special emphasis on programs and grants that focus on vulnerable households



Who are Vulnerable Households?

- 500+ Mhd households in the Federal Low Income Heating Assistance Program (LIHEAP) managed by the North Shore Community Action Program
- 307 household units: elderly, veterans and families in Marblehead Housing Authority units
- 200+ households in the two Comm of Mass Environmental Justice Census Block groups with incomes



What Programs are available?

DOER Low and Moderate Income Housing Decarbonization Grant Program

- Energy efficiency including building envelope improvements and other measures resulting in electric load reduction, peak demand reduction, and demand management.
- Electrification (e.g. air or ground source heat pumps for space heating, air source heat pumps for water heating, induction cooking equipment).
- On-site renewable energy generation technologies (i.e., solar pv).
- The removal or mitigation of barriers (e.g., roof repairs, electrical upgrades, knob and tube remediation, and vermiculite and asbestos removal) that result in installation of energy efficiency, electrification, and/or on-site renewable energy generation technologies.



What Programs are available?

DOER Low and Moderate Income Housing Decarbonization Grant Program

- Expects applicants' requests to be for grant funds of not less than two hundred and forty thousand dollars (\$240,000)
- Buildings with 6+ units – maximum grant not to exceed \$40,000
- Buildings with 5 and under units – max grant not to exceed \$50,000



Marblehead Net Zero Roadmap

Marblehead
Municipal Light
Board Update
March 28, 2023



Project background



- Builds on the Marblehead Climate Vision adopted in 2020 which identified 2040 as the target date for net zero emissions
- Grant funding from the MA Executive Office of Energy and Environmental Affairs
- Cohort of four MLP communities – Marblehead, Peabody, Ipswich, Belmont
- Products: GHG inventory, net zero planning process, and net zero roadmap
- MAPC leading community engagement and roadmap development



The Boston Globe

Following a dismal global climate report, could Massachusetts push up its net-zero goal?

By Sabrina Shankman and Emma Plattoff Globe Staff, Updated March 21, 2023, 8:20 p.m.



“On Monday, as he announced the release of the most recent UN report on climate change, Secretary General António Guterres called on developed nations to achieve net-zero emissions by as close to 2040 as possible. Like many states and countries, Massachusetts for years has been working toward a deadline of 2050, a date that grew out of international agreements to limit warming to 1.5 degrees.”



Trying to switch the state away from oil and other fossil fuels by 2050 is already a daunting prospect for Massachusetts. 2040 would be even harder. ROBERT F. BUONATY/ASSOCIATED PRESS

Electrification is key to achieving net zero emissions

- From heating to cooking to transportation, electrifying end uses is a core strategy in the net zero roadmap
- The cleaner MMLD's portfolio is, the more emissions reductions we get from electrification
- Simply put, Marblehead can't meet its goals without a carbon-free MMLD portfolio by 2040

Key Actions for Consideration



Transition MMLD electricity supply to 100% clean energy

MMLD is working with MMWEC to develop a plan for transitioning to 100% carbon-free electricity by 2050 in compliance with *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy*, the climate law passed in March 2021. This plan will outline MMLD's plans for procuring power from renewable energy projects and other non-emitting sources. MMLD will also evaluate its current supply contracts to identify ways to reduce emissions and reduce exposure to price volatility from natural gas and other sources.

Implement public housing solar program

The town and MMLD will work with the Marblehead Housing Authority to explore the potential for installing solar PV at its properties to benefit residents. Housing authority residents could also participate in the community solar program referenced above, especially if solar is not feasible at some properties.

Encourage residential batteries by allowing interconnectivity permits

Battery storage for homes can help increase climate resiliency, and residential batteries can also be used as demand response resources to help reduce emissions by reducing the need for fossil fuel power generation during peak demand events. MMLD will work to enable residents to install residential-scale battery storage systems by creating a streamlined process for connecting such systems to the grid. MMLD will also encourage residents with battery systems to participate in its Connected Homes program.



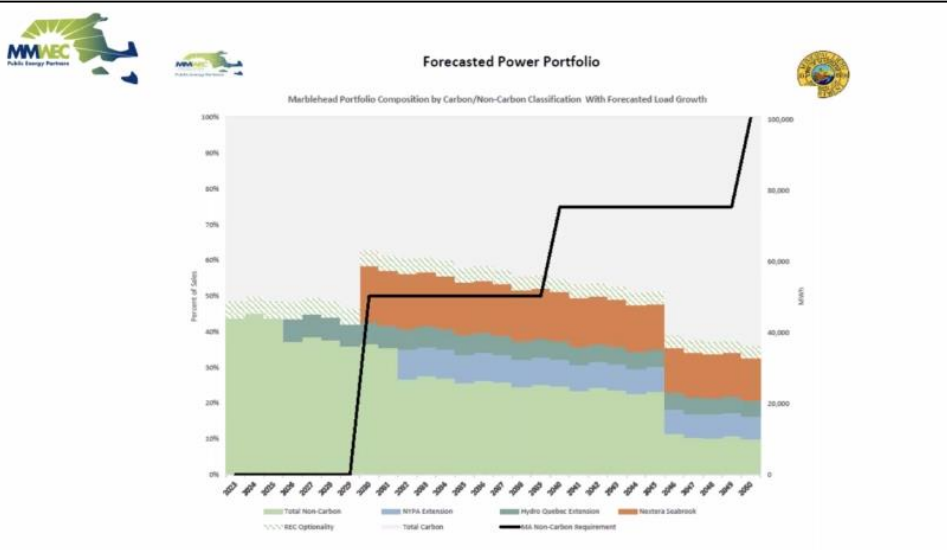
Executive Summary

- Special Project 2023A is long term Bilateral Contract that delivers firm (non-intermittent) carbon-free energy and associated environmental attributes ultimately sourced from the Seabrook Nuclear Generating Station.



Commercial Terms

Product	Firm ATC Carbon Free Energy and Emission Free Energy Credit
Term	2030 – 2050, with earlier start option beginning 2028
Volume	10% of Expected Annual Portfolio Needs (Up to 3MW capacity)
Delivery Point	Mass Hub
Price	Commercially Sensitive





Recent Resiliency Measures

Recognizing MMLD's electric supply is from a single source...

- Hardened the Lead Mills berm with rip-rap
- Removed trees and trimmed others on Mhd ROWs from Lead Mills (Salem line) to Swampscott line
- Pre-stage Mayer Tree Service tree crew(s) and equipment, to shorten our response time to any threat from vegetation on our distribution system

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Marblehead Municipal Light Department Distributed Generation Policy

MMLD's Distributed Generation Policy aims to facilitate the growth of local renewable energy sources. This will improve price stability, enhance system resiliency and increase local control while supporting the best interest of MMLD's engineering, economic and environmental requirements.

Distributed Generation Customer Definition

A distributed generation customer is a MMLD retail customer in good standing that uses onsite solar or solar + battery to generate electric power for a building already connected to the MMLD distribution system.

The renewable DG system, which must be used for the customer's own consumption, and which must operate in parallel with MLP's existing transmission and distribution facilities, must be located on the customer's property.

The customer must own or lease their renewable DG system with the primary intent of the system being used to offset all or part of the net metering customer's own on-site electric power requirements.

Lease or financial arrangements involving power purchase and sales transactions or kWh sales between the customer and a third party are not permitted. The use of a renewable DG system for providing service to a third party is strictly prohibited. Under no circumstances shall output from the renewable DG system be provided or credited to any third party.

Power Purchase Agreements

Customers interested in developing a larger system must submit a proposal for a power purchase agreement (PPA). The MMLD General Manager has the discretion to accept or deny any PPA proposals and to negotiate their terms. Each PPA proposal will be evaluated on a case-by-case basis.

System Capacity

Expected production cannot exceed 90% of average load determined by most recent 12 months of billing history. Where the most recent 12 months of billing history does not reflect average

load because building was unoccupied or because load is expected to increase (i.e. due to purchase of EV or installation of heat pump), a proforma load estimate completed by a certified electrician may be submitted.

Solar Credits & Billing

MMLD will compensate for any excess electricity that is fed into the grid at a rate based on the actual costs of delivering the electric service. The current credit is \$.0917 kw/h and will be revisited annually based on the previous year's data derived from ISO New England and the National Renewable Energy Lab.

At the end of the monthly billing period, the customer-generator will be billed for the electricity consumed at the designated service rate. At the end of the monthly billing period, the customer-generator's account will be credited for the electricity provided into the MMLD's system at an amount equal to the then current annual rate.

For the billing period ending in March of each year (or at the termination of service), any remaining credit balance in a customer-generator's account will be returned to the MMLD's Sustainability Fund.

Customer-generators will not receive any cash payments for unused credit balances remaining at the end of this annual cycle. Any customer charge or minimum charge associated with a customer-generator's class of service will still apply.

Existing Net Metering Customers

Customer generators with net metering agreements authorized by the MMLD will retain their legacy rates under the previous crediting structure until April 1, 2025. If desired, existing customer-generators may elect to preemptively transition to the new structure, ahead of the April 1, 2025 deadline

Interconnection

Customers must sign the interconnection agreement.

The customer-generator must complete and sign the MMLD's Interconnection Application & Agreement. The customer generator will be required to pay all applicable application fees and electrical permitting fees.

The customer-generator shall build, operate, and maintain the net metering facility so that it meets or exceeds all applicable safety and performance standards established by the

Massachusetts State Building Codes, the Massachusetts DTE, the National Electric Code, the Institute of Electrical and Electronics Engineers, and Underwriters Laboratories.

The net metering facility must operate in parallel with the MMLD's existing transmission and distribution facilities. The customer-generator shall provide a safety disconnect device located adjacent to the ELD's metering equipment and shall be accessible to the MMLD's personnel at all times.

The MMLD shall have the option of requiring ongoing testing of the disconnect equipment. The MMLD may disconnect the customer-generator's net metering facility from the MMLD's distribution system at any time if it deems the safety and stability of the system could be compromised. The MMLD reserves the right to inspect net metering facilities at any time with proper notice to the customer

Batteries

MMLD supports the installation of in home batteries in line with current State of MA safety regulations and via applicable town permits.

Customers may choose to enroll the battery in the MMLD NextZero demand response program that compensates billing credits when dispatched. All battery storage discharge, when dispatched is considered demand response. The NextZero program is managed separately as an overall monthly incentive for allowing remote demand management during peak demand.