Light Commission October 24, 2023 meeting minutes

To: Light Commission: Commissioners
Light Department: J. Kowalik, General Manager
From: Jean-Jacques Yarmoff, Secretary
Date: November 17, 2023
Re: Commission Meeting October 24, 2023: Public Session

A quorum being present, Chair Wolf brought the meeting to order at 4:08 pm. The meeting was held in person and with remote internet access, both available to public participation. A recording of the meeting is made available to the public at the following link.

Participated in meeting:

Commissioners:	Frechette, Hull, Smith, Wolf and Yarmoff participated in person.
Light Department:	General Manager, J. Kowalik; Distribution Manager, Greg Chane and Manager of Technical Operations, C. Coleman. Financial Manager, Matt Barrett participated remotely.

Marblehead Land Acknowledgment declaration was read prior to the start of business.

Comments from the Public

No public comments or questions were made or asked, either by the public present at the meeting or participating remotely.

Outstanding items from previous meetings

Review of the EV charging program

New customers in MMLD EV charging program will receive a free ChargePoint charger and be enrolled into Virtual Peaker's program, no end date specified, but with a minimum participation commitment of 36 months. The program is administered by MMWEC. Customers have an option to buy the charger if their participation is shorter. As part of the program, charging level is curtailed to level 1 between the hours of 5 pm and 9 pm. See slides page 10.

Existing customers who were originally enrolled in a three year contract are being switched over into the Virtual Peaker program by MMWEC. As these changes are implemented, some issues with curtailment to Zero instead of to Level 1 have appeared. This may be true for some customers with JuiceBox chargers or with ChargePoint chargers. These issues are being resolved by MMWEC.

Peak demand reduction

When purchasing electricity, capacity charges account for about a third of MMLD's total power charges. Shifting demand away from the peak will lower the capacity charge MMLD has to pay. One of the cheapest way to accomplish this is by communicating to customers and get their willing participation to change and shift their electricity use during the day. The General Manager has sent Code Red messages immediately preceding times of peak usage. How effective have these been?

The General Manager looked at the impact of Code Red communication, as shown in the spreadsheet captures on page 11. During the month of July 2023, the four Code Red communications correlate with a reduction in demand of about 2,200 kWh over the peak consumption period. This means savings for the department, and for every resident. Following a discussion on communications channel, the General Manager was encouraged to develop a community-based education and communication program (besides Code Red) to further diminish peak demand.

Appropriation for Professional Development and for Legal Counsel

Discussions regarding expenses incurred by Commissioners in the course of their work or for professional development took place in December 2022 and September 2023. There is a lack of transparency with regards to the moneys spent by MMLD on behalf of professional development for Commissioners. In the same way, Commissioners may need help with legal advice while discharging their duty, for which there is no current process or transparency. To facilitate the work of the Commission but also improve on transparency, Commissioner Yarmoff proposed the following texts and motions.

Professional Development funds: Given the complexity and the rapid evolution of the energy landscape, it is important for both staff of MMLD and for Commission Members to continue their Professional Development and participate as appropriate in short courses, institutes, conferences and seminars or become members of associations or subscribe to publications relevant to the energy business.

Motion 1: MMLD will - reserve a budget every year to pay for the expenses for professional dues and subscriptions, and registration, travel and subsistence expenses of Commissioners participating in Professional Development activities, and - make a public disclosure of the amounts spent by Commissioners for Professional Development activities over the course of the year. For 2023, this budget is set at $10,000.

Legal Advice funds: Given the complexity and rapid evolution of the legal and regulatory framework, it is important for Commission Members to have the possibility to receive legal advice from reputable firms well versed in the energy business, including knowledge of MGL Chapter 164, Open Meeting laws, FERC regulations and other legal and regulatory issues that the Commission has to deal with, as needed.

Motion 2: MMLD will – reserve a budget every year to pay for legal advice that Commissioners may need in the course of their work for the Commission, and – make a public disclosure of the amounts spent by Commissioners on legal advice over the course of the year. For 2023, this budget is set at $10,000.

Vote #2023-39 Commissioner Yarmoff moved motion 1 above, seconded by Commissioner Frechette. **Unanimous.**

Vote #2023-40 Commissioner Yarmoff moved motion 2 above, seconded by Commissioner Frechette. Three votes in favor, one abstention, one against. **Motion approved.**

In response to a question with regard to the process to follow, it is proposed that Commissioners respect the following rules, to be made part of the Commission Code of Conduct being drafted: Commissioners seeking Professional Development funds or Legal Advice funds should make a request in writing to either the Chair or the Vice-Chair of the Commission for validation of the proposed activity or advice sought, prior to engaging into such activity or hiring Counsel.

This review will make sure that advice or activity are not engaged in for the benefit of a single person, but rather are important actions of the board. This review and the limits set on the moneys that can be spent on these activities are guardrails to ensure appropriate use of funds of MMLD for the Commission's work. Commissioner Hull reminded the board that individual Commissioners or the Commission as a whole is not able to hire a law firm or consultants. This has to be done by MMLD, on behalf of the Commission: there is jurisprudence on this point by which we must abide. The code of conduct should reflect this point.

Mutual Aid

Chair Wolf acknowledged and thanked both Greg Chane and his team for their response to a Mutual Aid request. In September, Eastern Maine Electric Cooperative was affected by Hurricane Lee: the storm caused a lot of tree damage causing over 1,500 customers to lose power. A Mutual aid request was sent at 4 am Saturday, and Marblehead responded by sending one crew, one bucket truck, and MMLD's distribution manager as supervisor for the mutual aid effort: four public utilities responded to the request (Merrimack, Groveland and Ipswich each sent a crew). Greg supervised and helped coordinate the mutual aid response. The crews worked from Sunday morning until late Sunday, by which time they had helped EMEC restore power to all customers.

Distribution Manager Report

Update on Distribution system repairs. The list of priority repairs shared previously had a preliminary timeline of 2023 to 2025. This timing is probably optimistic and the repairs will probably stretch further. As further review of the work takes place, the timeline will be updated. See slides on page 11 and 12.

High voltage line from the Village Street to the Beacon Street Substations (line 1304) is 50+ year old, and needs to be replaced as are the 50-some poles. Several large trees have grown since the line was installed. Discussion with the select board is needed to remove the trees as appropriate. Installing several thousand feet of wire mean scheduling 8 or 9 people, which becomes a scheduling issue in view of all the constraints. A "mutual aid" equivalent exists for this kind of work as well and MMLD can ask for support from other municipal light plants if necessary. (In the same way, Munis help each other with equipment when needed as we just did with a transformer. The backlog to order transformers has not eased. Greg was able to procure a couple of dozen of transformers from another Muni which was upgrading from 4 kV to 13 kV, by networking during a NEPPA training session showing the multiple benefits of professional development.)

Verizon Poles. Osmose, is a company testing all the Verizon poles in town. A preliminary estimate is that 400 poles (out of a fraction of the total 2000 Verizon poles) have to be replaced. This is a large fraction of the Verizon poles, and the work to install new poles may stretch well over a year. Verizon is looking to set up a lay-down yard where they can store 50-80 poles ahead of the replacement work, possibly at the transfer station, as well as a coordination site. MMLD crews will transfer the electrical equipment onto the new poles once installed. Equipment and lines are upgraded as necessary during this transfer. At this stage, we have no knowledge of the timeline at which Verizon will set the new poles.

MMLD Poles. MMLD is also contracting with Osmose to inspect MMLD-owned poles: we can only expect a similar amount of replacement, 20% or more. We are trying to catch up after 25 years of no maintenance, and this catch up will not happen overnight.

Village 13 upgrade is the priority, equipment will arrive soon and the site needs to be prepared. This work will be prioritized over other maintenance.

Scope of work and resources. As the distribution team puts in place the plan to catch-up on 25 years of no maintenance, what was initially thought might be covered in a couple of years might stretch into much longer. At this stage, there is so much work that the team has to look for options: creating more hours

(overtime), hiring more people or sub-contracting out some work. While there is no history of sub-contracting line work, MMLD has to think creatively for solutions. Hiring new staff is a must: we know that some crew members will retire soon. Meanwhile, it takes 5 years from time of hire for an apprentice to become rated to work independently. We recently hired a person already rated: this was the first time in 18 years this happened in Marblehead. There is competition for talent and the distribution manager is trying to position Marblehead as "the place to work" to be able to attract good staff members: our reputation is excellent, the pay is excellent. We ask that staff members be able to respond in 30 minutes time from their residence, price of housing is an issue. Would it make sense for MMLD to own or rent long term some apartments for staff members and make this part of the benefit package?

Underground lines. There are two areas in town with very old buried lines, in crumbling clay pipes that need to be dealt with. They are not the only ones, Schooner Ridge is another example where the service has always been underground from the time the houses were built. Where service is underground, it is mainly for esthetics reasons. A case in point is Ocean Ave, where residents organized to pay for burying the service purely for esthetic reasons.

The General Manager pointed out that how we deal with replacing these lines, and buried lines generally, is a question of policy, economics and equity. If only for esthetic reasons, it seems logical that beneficiaries should pay more for underground service, which may cost 10x more to install than overhead service. But there is no record that this has been the case in the past. Massachusetts General Law Chapter 23L covers Local Infrastructure Development Programs. MMLD is exploring using the provisions of this law to deal with this issue. Commissioner Yarmoff encouraged MMLD to keep the option of burying some lines at its own initiative for reasons (which can include reliability, safety, etc.) to be defined as part of its policy.

Improving Distribution System Resiliency

The General Manager reviewed the overall plan for the distribution system maintenance and upgrade, see slide page 12. The actions taken and needed are as follows:

- Tree and vegetation control. MMLD has contracted with Mayer Tree Service.
- Utility poles inspection. Proposing to use Osmose Utility Services, see below.
- Distribution transformers, load analysis: MMLD could use Nexgrid, or other software/vendor, tbd.
- Conductors and distribution assets: MMLD evaluation and work on-going, to be documented in GIS.
- Meter data management: MMLD is working with Nexgrid to optimize communication with the meters. We may be asking Nexgrid and our staff to do too much, and we may need a Network Monitoring and Management company to take over and manage the communication system.

Contract for MMLD Poles inspection. With regards to the inspection of poles, the General Manager would like to contract with Osmose to evaluate the poles owned by MMLD. Commissioner Smith moved the following motion:

Motion 3: MMLD will proceed to enter into a contract with Osmose Utility Services to inspect and treat the 2,000 utility poles owned by MMLD in 2024. The estimate expense is not to exceed $145,000. The work is expected to take 10-12 weeks to complete.

Vote #2023-41 Motion 3 was seconded by Commissioner by Commissioner Frechette. **Unanimous.**

Goals of the department

When reviewing the goals of the department, it is clear that a number of actions depend on MMLD recruiting new hires as authorized in the 2023 budget. About a third of MMLD goals could fall under the purview of new hires. In a previous meeting of March 2022 (19 months ago), the Commission voted to

approve a proposal to have MMLD retain a recruiting firm "to help create the job descriptions and guide MMLD through the process of hiring for the new positions" as stated in the minutes. Given the amount of work on the plate of MMLD it is really important that the empty positions be filled as promptly and as best as possible, and the services of a recruiting firm specialized in these matters will help expedite the hiring of the three open positions. Commissioner Frechette remarked that the money to pay for the services of the recruiting firm is in the existing 2023 budget. Commissioner Hull thought that MMLD had other priorities than hiring a recruiting firm. Commissioner Wolf reminded us that many of the priority goals of MMLD are dependent on staff being hired and the work load is increasing, not diminishing. The General Manager stated that he was very much in favor of this proposal. Commissioner Wolf remarked that the firm Stanton Chase has recent experience recruiting and already a qualified pools of candidate for some of MMLD's positions which would accelerate the search. The goas is to have the positions filled in 2023.

Motion 4: In view of the recruiting needs of MMLD, the Commission encourages and expressely authorizes the General Manager to use the services of a recruiting firm to fill the open staff positions of MMLD and to pay the firm the customary fees. The General Manager could use the services of the firm Stanton Chase which has experience in the utility field or other similarly qualified recruiting firm.

Vote #2023-42 Motion 4 was moved by Commissioner Yarmoff, seconded by Commissioner Frechette. Four votes in favor, one against. **Motion approved.**

Commissioner Yarmoff suggested that we should invite the retained firm to the next board meeting to discuss their approach and progress.

Time of Use implementation strategy

[***Post meeting note:*** *The following paragraphs memorialize the subjects that the Light Commission discussed during the meeting. They have been re-organized to facilitate understanding of the conversation. Headings have been added for clarity, they were not part of the discussion. Readers interested in the actual discussions are invited to refer to the recording from recording time 1h33, to listen to the actual interventions of participants in the meeting.*]

The design and implementation of Time of Use charges is complex. See slides page 13. A discussion showed that the Department has (or will soon have) the *Capability* to introduce consumption and time-based billing, but that *Goals* have to be clarified, *Design* has to be well thought through as well as *Implementation and Communication Planning*. Not all designs will support all goals, and some will be more effective than others. Some of the ongoing activities of MMLD will also interact with these goals. How they reinforce each other needs to be assessed.
As Next Step, the Commission and MMLD will need external help to work through the options and benefit from studying on-going work in other places.

Capability. The Department has worked with Nexgrid and updated its systems to allow time-based load measurements which now allows MMLD to reach 99.97% accurate meter reads, a high number. Having the capability to measure consumption at 15-minute intervals during the day will allow MMLD to implement time-based as well as energy-based billing. This can be differential Energy charges at different times, or it can be Demand Charges when energy consumption exceed a certain threshold over a set time period.

Goals. A discussion showed that multiple goals can be sought which can include:
- Savings for MMLD and residents from demand management;
- Accurate recovery of MMLD's energy costs;

- Changing customer's habits with regards to electricity consumption;
- Equity with regards to bill burden.
- Minimizing stress on distribution system;
- Lower peak consumption and transmission and capacity charges.

Rate design means considering many possible variables:

- Hours of day with different energy rates; Differential in energy rates between low and high rates; Does the differential rate apply at the first kWh consumed or above a threshold?
- Numbers of periods with different rates and evolution during the year: two periods, three periods? Do period differ in winter and in summer?
- Do variable rates apply for residential rates only or all rate classes? Marblehead's electricity consumption is largely driven by residents, as opposed to commercial or industrial customers.
- Impact of ToU is largely dependent on customer behavior modification. Simplicity is key for adoption. Which design will facilitate changes in behavior of residents?
- Which design ensures equity for residents?
- Is a Distribution Charge part of the new system? Under what conditions (what energy threshold, what duration), how large would the charge have to be for it to be effective? All customer classes?
- How can a possible Distribution Charge be structured to encourage the transition to electric heating/transportation?

Implementation and Communication Planning also means reviewing a range of options.

- Should there be a pilot program before town-wide implementation? How long, how broad?
- Will shadow billing be available before implementation, for how long?
- Is the program Opt-in, Opt-out, or no option?
- Communication will be critical: how do we communicate? Is it limited to Code Red messages?
- What are neighboring communities doing and will their communications reinforce or distract from our own efforts?
- What action can residents take to lower their energy bills under a new billing system?

ToU rates interaction with other on-going efforts of MMLD

EV Charging program. The large electric loads of residential customers are AC cooling, EV charging, electric hot water heaters and electric dryers. These are relatively easy to shift during the day. Electric heating of houses is weather dependent and more difficult to shift. Given its impact on MMLD, EV charging is the load that should be managed most actively. MMLD's EV charging program and the curtailment period (5 pm to 9 pm) was discussed above (page 1). This time period should be aligned with a two-tiered rate period system for consistency and reinforcement, if ToU is introduced: only a few car chargers participate in the EV Charging Program.

BESS. The price at which Marblehead buys electricity is variable during the day; the electricity produced in town or in the Commonwealth from solar arrays of wind farms is intermittent. Batteries would help manage these issues and lower residents' and MMLD's energy bills. BESS can be residential batteries (individually owned or utility-owned or facilitated) or Utility-scale. MMLD is working on implementing and facilitating both aspects.

Peak demand reduction. There are about 20 days during the year when maximal consumption translates into higher bills for Marblehead, either through the transmission charge (one peak per month) or the capacity charge (one peak per year). Getting residents to modify their consumption during these peak events ("muscle memory") is the goal of the Red Alerts communications. This can be reinforced by a differential energy rate coinciding with peak consumption times.

Discussion and Next steps

Over decades, utilities have let electricity users believe that "flat rates are good". However, they do not reflect the real cost of electricity, this is a problem that all utilities have. Marblehead is better placed than many as our meters allow frequent measurements. Several Municipal Light Plants have implemented ToU rates: all are different, and have had varying degrees of success. Commission members have experience in other geographies: Europe, Australia and California. What has worked or not worked elsewhere?

UFS. MMLD has worked with UFS to review the rates in Marblehead. They are familiar with our operations and our data sets. Their work has given them visibility of other ToU rates nation-wide. They have already made preliminary recommendations about ToU and Demand Charge rate possibilities in Marblehead. The General Manager intends to work with UFS to have a more up-to-date proposal on ToU rate design.

MMWEC. Given the universal nature of the problem, MMWEC is launching a program for its members to study the implementation of time-based rates, working with the firm RenwAI. General Manager Kowalik suggested that MMLD should participate in the program when it becomes available to its members. MMWEC has intimate experience of Massachusetts stakeholders (including relationships with DOER and DPU) and ISO-NE.

Information: Load variation in Marblehead

The slide on page 14 shows the electric load (measured MWh) for each hour of the day in July of 2023. The three values plotted represent the highest consumption at that hour (for a day in July), the average for that hour period, or the lowest consumption.

The highest load was reached for the period 3:00 to 4:00 pm with 26.6 MWh. This is also the hourly period with the widest range: the lowest load from 3 to 4 during that month was half that amount, at 13.7 MWh. The lowest usage is for the period 3:00 am to 5:00 am in July. At that period, the lowest load is only one third of the highest load, all in the same month. This illustrates why tools to manage the load, including Time of Use rates would be particularly important.

Rate adjustment

On January 1st 2023, MMLD implemented a rate adjustment where lowered the variable energy rate, while increased the fixed base rate, to better match the fixed and variable charges of MMLD. This was part of a two-step adjustment at constant revenue for MMLD, with the second adjustment to take place at the beginning of 2024. The question is whether the Commission definitively voted in favor of the 2024 rate increase?

Answer: At the Commission meeting of September 8, 2022, the Board clarified whether the Commission had voted for just one rate increase, or for the two adjustments. We referred back to the August 20, 2022 meeting, where we had agreed to this two-step rate adjustment, approving then the base rate adjustments mentioned in the slides on pages 14 and 15, the base rates increasing to $11.25 as of 1/1/2023, and to $18.50 as of 1/1/2024, while simultaneously decreasing the kWh rate. At the time, we voted for the energy rate to go down by 8 mils. The General Manager is currently proposing for the energy rate to go down by 7.4 mils, from $0.1969 to $0.1895 per kWh. However, MMLD publicly disclosed the 7.4 mils decrease at the December 15, 2022 public meeting dedicated to an explanation of this rate adjustment.

Should January 1st be the timing of the adjustment? This is what has been publicly stated in the past, there is no reason not to stick with the changes as planned. Communication about the second phase of this rate adjustment could be done in a specific public meeting, or by a communication through the local press.

The General Manager will review the proposed energy rate with UFS in view of the current forecast for energy costs, the proposed PPA level. This final determination of the rate will be reviewed at next board's meeting before filing with DPU before implementation.

Commissioner Smith left the meeting physically but continued to participate remotely from 6:03 to 6:15 at which point he definitively left the meeting.

General Manager Items

Aid to Navajo Nation. MMLD is planning to accede in 2024 to a request from the Navajo Territory Utility Authority covering AZ/NM/UT, where the Navajo nation has very little access to electricity. While it is under the same spirit as the Mutual Aid program, it differs in that MMLD would not be reimbursed for the time, which would be a donation to help Native Americans get access to electricity. An insurance issue prevented MMLD to participate in previous years. This has now been resolved. The question is: is the board in favor of spending the fudns related to travel and insurance of MMLD crew (MMLD anticipates 2 people to participate). A further, later question will be to ask staff members whether they want to participate in the program. Commissioner Yarmoff remarked that the participants at the NEPPA meeting (Chair Wolf, GM Kowalik and Commissioner Yarmoff) were able to hear the GM of the NTUA and see the film depicting the impact this donation has on people's life (ability to light the house at night, to have refrigerators), but also to hear the testimony from crews who had gone in previous years. Participation is transformative, and not just for the donation of time and impact for the Navajo Nation, but also in terms of personal professional development of the crews who participate. Clearly, participating Munis in previous years thought this was a very worthwhile investment.
The proposed amount of $12K to $15K for travel and insurance would cover also pre-shipment of equipment, travel and hotel to arrive potentially a day earlier and/or leave a day after completion of the assignment, given the travel duration. Commissioner Hull agreed that the program was a great idea but in view of the workload that Greg Chane has described, can MMLD afford to send a crew away for a week? The General Manager explained that in the long run, we want to be an attractive place to work. A transformative experience such as this will contribute to setting the tone for MMLD staff.

Motion 5: to authorize MMLD to spend up to $15,000 to send a 2-person crew to support the NTUA.

Vote #2023-42 Motion 5 was moved by Commissioner Yarmoff, seconded by Commissioner Frechette. Four votes in favor. (Commissioner Smith had left the meeting). **Motion approved.**

Monthly Financial Statement review – August 2023

The monthly financial statement for August is shown on page 15: MMLD is in a healthy financial situation with an Operational Cash balance of $6.7M and a Capital Account balance of $7.1M.
The General Manager pointed out that Energy Usage is down, as we have had a mild summer to date. We had budgeted a 2.5% increase, but we are actually down Year on year by 4.6%. This is driving the financial statements. There is still plenty of time to have a harsh winter, which might change the situation.

Village 13 update. The General Manager reviewed the map shown on page 16, showing the location of the forced sewer pipe and of the buried electrical conduits, located using Ground Penetrating Radar and positioned on this chart. The concrete box that needs to be built to protect this infrastructure during the transportation of the loads is bigger than thought (and therefore more expensive), as it needs to cover both utilities, but it is doable and is one of the next steps to prepare for the arrival of the equipment

(100,000 lbs loads). A construction proposal should be received by MMLD by Thanksgiving, which will be followed by requests for bids. Completion is needed by 2Q24 given the project schedule.

The next slide shows the **Revised project Schedule, as of 10/23.** See page 16. Switchgear manufacturing is three months behind schedule, and delivery is now planned for September 2024. Transformers are likely to be delivered earlier and must be stored until the switchgear is delivered and installed. The transformers will be stored on temporary pads within the Village 13 substation footprint. Once the switchgear is installed, the existing 23 kV lines will be moved over to the new switchgear, in October. If, as is quite possible, the conditions in the winter of 2024-25 are harsh and force site work to be put on hold, it is possible that the final installation of the new Village 13 substation only take place in the summer of 2025. That is later than the August 2024 completion date anticipated when we started planning the project. The slippage comes from the 3 months delay of the Switchgear delivery, and the possible impact of winter.

Solar on schools

See slides on page 17. Incorporating batteries in the design of the project significantly improves the economic benefit. Initially, the project might plan for, but not implement, a battery install. The solar project may then be launched as a PPA with Solect building, managing and operating the array. At a later stage, MMLD can add (and own) a battery to the project. The interconnection design would allow for a battery to be installed. MMLD will move forward with this vendor-relationship proposal and present this to the school.

Technical assistance for grants for Village 13.

The firm Baker Tilly can help MMLD determine how Village 13 may qualify for any assistance from grants from either the IRA or the IIJA. These grants may be available to us and represent a significant part of the expense to rebuild Village 13. The first phase of the Baker Tilly project will help us figure out if this is possible or not. Commissioner Yarmoff remarked that the board has approved the Village 13 project, and the project is on-going. In other legal environments, this might preclude any state or federal support as the decisions to move forward have been taken and are not dependent on grant support. Do we know that the situation is different here, and that there is a good reason to even proceed with the first stage of this Baker Tilly proposal? Answer: part of the complexity is that the answer depends on the specific program within the IRA and the IIJA, each of which has slightly different conditions. The perimeter of the project might also evolve to include a BESS or line 1304, adding to the complexity of the evaluation. The first phase of the Baker Tilly proposal will help address what in the Village 13 proposal may be eligible for grants or support, if any.

Motion 6: to authorize MMLD to spend up to $30,000 to engage Baker Tilly consulting firm to assist MMMLD determine the eligibility of the Village 13 project to grants under the IRA or the IIJA.

Vote #2023-43. Motion 6 was moved by Commissioner Yarmoff, seconded by Commissioner Hull. Four votes in favor. **Motion approved.**

<u>Executive Session – Off-shore wind</u>

During the October 24, 2023 Light Commission meeting, Chair Lisa Wolf proposed a motion to enter Executive Session Motion to discuss trade secrets or confidential or proprietary information regarding activities of a governmental body as energy supplier, municipal aggregator or energy cooperative, if an Open Session will adversely affect conducting business relative to other entities making, selling or

distributing energy. Not to return to Open Session. Seconded by Commissioner Frechette. Votes: Simon Frechette: Yes; Mike Hull: Yes; Lisa Wolf: Yes; Jean-Jacques Yarmoff: Yes.

Executive Session started at 6:49 pm.

The **Executive Session concluded** at 7:08 pm at which point a motion to adjourn was proposed, seconded and after a roll call of the four commissioners present voting unanimously in favor, adopted.

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Documents presented during October 24 Light Commission Meeting

MMLD Scheduled EV Charging Program Changes (MMLD Free EV Charger Program)

For New Customers

1. Receive a Free ChargePoint Flex EV Charger ($550 value) - No termination of enrollment period.
2. During 5-9 pm peak hours the charger drops to level 1 charging, not 0.
3. Minimum participation commitment is for 36 months, with option to buy the unit if participation is shorter.

Existing Customers

1. After 3 years can continue or ask to switch to Connected Homes program
2. Case-by-case review of Juicebox customers unwilling to accept EV charging power-off during peak hours.

CP Flex Power Drop During Peak Hours

Circuit Breaker Rating (amps)	Amperage Setting (amps)	Amps	Voltage (Volts)	Maximum Output Power (kw)	Estimated Range Per Hour (miles)	Power drop to Level 1 Charging (kw)
70 /80	50	50	240	12.0	37	10.1
60	48	48	240	11.5	36	9.6
50	40	40	240	9.6	30	7.7
40	32	32	240	7.7	25	5.8
30	24	24	240	5.8	18	3.9
20	16	16	240	3.8	12	2.0
Level 1 charging:				1.875	6 (?)	0.0

ead Net System Load kWh - July 2023

	5-Jul		6-Jul	Houly change	7-Jul		11-Jul		12-Jul		13-Jul		14-Jul		15-Jul
13 12 noon -1 pm	19,125		22,464		21,060		17,541		22,878		22,050		17,613		20,700
14 1-2 pm	20,043		23,112		21,402		18,567		23,760		23,202		17,802		21,375
15 2-3 pm	20,601	558	23,770	658	21,834	-306	19,746	1,179	24,246	486	23,562	360	17,901	99	22,041
16 3-4 pm	20,979	378	26,590	2,820	22,086	9	20,889	1,143	24,804	558	24,111	549	18,063	162	22,464
17 4-5 pm	21,168	189	24,425	-2,165	22,194	90	22,023	1,134	24,831	27	24,687	576	19,494	1,431	22,644
18 5-6 pm	21,510	342	23,981	-444	22,032	792	22,851	828	24,030	-801	24,057	-630	20,313	819	22,842
19 6-7 pm	21,411	-99	23,264	-717	21,330	477	22,986	135	23,751	-279	23,490	-567	20,016	-297	22,302
20 7-8 pm	20,160	-1,251	20,357	-2,907	19,854	-315	22,401	-585	23,256	-495	22,257	-1,233	18,990	-1,026	21,384
21 8-9 pm	19,611	-549	22,347	1,990	19,062	-405	21,897	-504	23,157	-99	21,303	-954	18,477	-513	20,772
22	18,918	-693	21,771	-576	18,855	-549	20,952	-945	22,590	-567	20,619	-684	18,027	-450	20,205
23	17,370		19,557		17,262	-1,242	18,576	-2,376	19,998	-2,592	18,495	-2,124	16,407	-1,620	18,531
24	15,255		17,037		15,201		16,272		17,271		16,272		14,706		16,623
	379,980		441,952		420,813		381,186		451,395		442,147		384,993		416,862
rs post peak hour		-2,592				-2,511		-4,410		-1,674		-3,384		-2,286	
d fours hours post peak				-6,233											

25-Jul		26-Jul		27-Jul		28-Jul		29-Jul				
21,465		20,403		19,746		22,527		22,788				
22,275		21,555		21,006		23,103		22,239				
22,743	468	22,617	1,062	22,230	1,224	23,742	639	21,150	-1,089			
21,996	-747	23,877	1,260	23,220	990	26,636	2,894	20,475	-675			
20,475	-1,521	24,723	846	24,822	1,602	23,850	-2,786	21,150	675			
19,881	-594	25,263	540	24,777	-45	23,680	-170	21,114	-36			
19,305	-576	24,750	-513	24,777	0	22,621	-1,059	20,286	-828			
18,234	-1,071	23,814	-936	23,247	-1,530	18,971	-3,650	19,134	-1,152			
17,676	-558	22,995	-819	21,555	-1,692	20,070	1,099	18,270	-864			
16,632	-1,044	21,933	-1,062	20,358	-1,197	20,412	342	17,082	-1,188			
14,913	-1,719	19,332	-2,601	18,396	-1,962	18,981	-1,431	14,877	-2,205			
12,987		16,794		16,326		17,253		13,041				
											Average kWh 4 hour drop	Number of Occurances
395,865		421,056		433,629		448,110		413,829				
	-3,762		-3,330						-2,880		-2,620	15
					-3,267		-7,665				-4,820	4
										Difference kWh	2,200	
								Average NEMA July 2023 Monthly LMP price/kwh			$0.04974	
											$109.45	

Distribution Manager – 2023-25 Priority Projects

1. Continue replacing the 1304 line from Village substation to the Beacon substation.
2. *Transfer MMLD equipment on ~400 Verizon pole replacements.*
3. Move poles and wires at Village 13 substation
4. Replace poles, transformers and open wire on Jersey St. from Guernsey St. to West Shore Drive.
5. Replace poles, transformers and open wire on Gregory St, Lee St. and Front St.
6. Replace poles, transformers and wire on Dodge Rd. from West Shore Drive.

Distribution Manager – 2023-25 Priority Projects

7. Replace underground lines on Crowninshield Rd.
8. Replace underground lines on Foster St.
9. Replace poles, transformers and open wire on Bradlee Rd. Renew the underground section.
10. Replace known/reported poles, transformers and wire that have aged out.
11. Replace rotted padmount transformers.

Plan for Improving Distribution System Resiliency

- Wires and Poles – Tree Trimming – Mayer Tree Service
- Utility Poles – Pole Inspections – Osmose Utility Services
- Distribution Transformers – Load Analysis - Nexgrid and/or GIS
- Electric Conductors (wire)– MMLD & GIS
- Other Distribution Assets- closers, capacitors, fuses – MMLD & GIS
- Meter Data Management & Communications – Nexgrid, MMLD & Network Monitoring & Management Co.

Board Vote: Proceed with Osmose Pole Inspections

- **Motion:** Proceed to enter into a contract with Osmose Utility Services to inspect and treat the 2,000 utility poles owned by MMLD in 2024. The estimate expense is not to exceed $145,000. and take 10-12 weeks to complete.

Osmose Utility Services - per pole prices

Line	Item		Price
1	VISUAL	$	13.34
2	SOUND AND BORE	$	19.84
3	PARTIAL EXCAVATE	$	26.34
4	EXTERNAL TREAT	$	64.00
5	REJECT WITH EXTERNAL TREAT	$	65.15
6	EXCAVATED REJECT	$	60.20
7	OSMOFUME - PER POLE	$	42.08
8	INTERNAL TREAT	$	21.62
9	GPS READING 1-10 METER	$	N/C
10	DIGITAL IMAGE - EACH	$	2.02
11	HOURLY RATE - FOREMAN & TRUCK	$	135.70
12	HOURLY RATE - EACH CREW MEMBER	$	63.83

New Rates Discussion

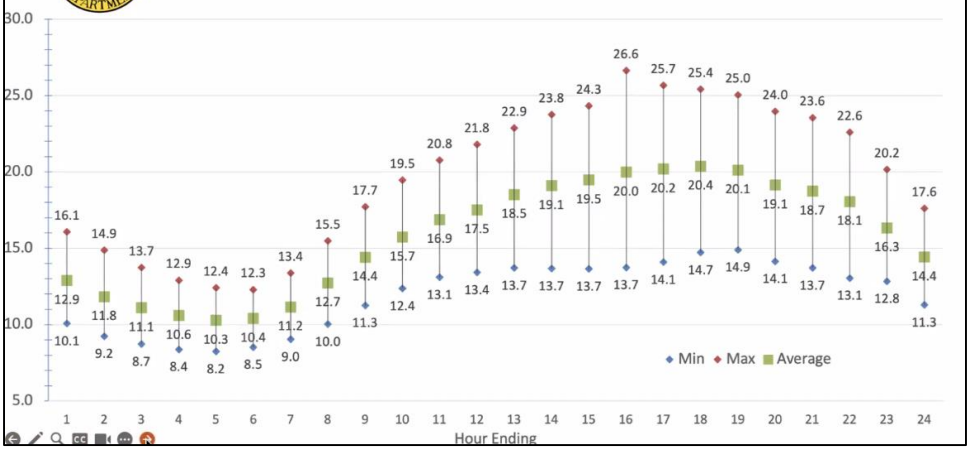
- TOU Goal: *electric rates that accurately reflect actual our wholesale power costs, based on reliably recorded and communicated data, that is reliably processed in our billing system, and easily communicated to and understood by our customers*
- Time of Use- Design considerations
  - Fixed hours, per weekday – track to ISO or MMLD peak hours (e.g.3-7 pm)
  - Or Critical peak days only, based on ISO/MMWEC/MAPC forecasts, and communicated to customers in advance

New Rates Discussion

Implementation Considerations

- Begin sending shadow bills when ready
- Decide if customers will opt-in or opt out
- Determine the peak/non-peak price differential (a Groton 10X or something less dramatic)
- For consideration? a peak rate that does not start at the first kwh used during peak hours, but only the difference between an average use and higher than average use.

MMLD Hourly Electric Load (MWh) - July 2023



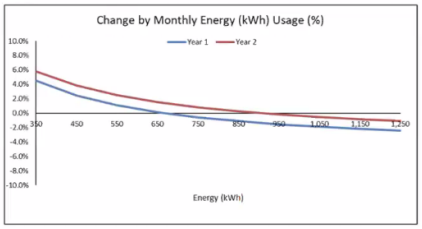
Hour Ending	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Max	16.1	14.9	13.7	12.9	12.4	12.3	13.4	15.5	17.7	19.5	20.8	21.8	22.9	23.8	24.3	26.6	25.7	25.4	25.0	24.0	23.6	22.6	20.2	17.6
Average	12.9	11.8	11.1	10.6	10.3	10.4	11.2	12.7	14.4	15.7	16.9	17.5	18.5	19.1	19.5	20.0	20.2	20.4	20.1	19.1	18.7	18.1	16.3	14.4
Min	10.1	9.2	8.7	8.4	8.2	8.5	9.0	10.0	11.3	12.4	13.1	13.4	13.7	13.7	13.7	13.7	14.1	14.7	14.9	14.1	13.7	13.1	12.8	11.3

Board Ratification of Jan 2024 rate changes

- Is the Board's intent to implement the Jan 2024 base rate increases, as discussed in Dec 2022, with a corresponding decrease in electric rate.
- *Question: was a definitive vote for 2024 rate increase approved in late 2022?*
- Residential base rate to increase from $11.25 to $18.50 and electric kwh rate reduction from $0.1969 to $.1895

Residential Rate Design

Residential (A)		cents per kWh Energy Charge + Power Cost Adjustment Change from Current	
		$ (1.1)	$ (1.8)
Energy Charge + Power Cost Adjustment	$ 0.23250	$ 0.22190	$ 0.21450
Rates	Current	Year 1	Year 2
Monthly Facilities Charge:			
Monthly Charge	$ 4.25	$ 11.25	$ 18.50
Energy Charge:			
All Energy	$ 0.1425	$ 0.1969	$ 0.1895
Hydro Credit			
Annual Credit	$ (360,787)	$ (360,787)	$ (360,787)
Power Cost Adjustment:			
All Energy	$ 0.0900	$ 0.0250	$ 0.0250
Revenue from Rate	$ 16,492,822	$ 16,490,924	$16,741,393
Change from Previous		0.0%	1.5%



Average Usage	662
Monthly Customers	8,879
Current Average Bill	$ 154.79
Year 1 Average Bill	$ 154.77
Average % Change	0.0%
Monthly Change	$ (0.02)

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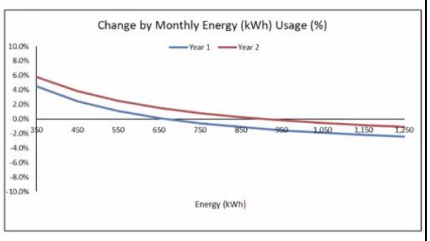
Residential Rate Design

Residential (A)			cents per kWh Energy Charge + Power Cost Adjustment Change from Current	
			$ (1.1)	$ (1.8)
Energy Charge + Power Cost Adjustment	$ 0.23250		$ 0.22190	$ 0.21450
Rates	Current		Year 1	Year 2
Monthly Facilities Charge:				
Monthly Charge	$ 4.25		$ 11.25	$ 18.50
Energy Charge:				
All Energy	$ 0.1425		$ 0.1969	$ 0.1895
Hydro Credit				
Annual Credit	$ (360,787)		$ (360,787)	$ (360,787)
Power Cost Adjustment:				
All Energy	$ 0.0900		$ 0.0250	$ 0.0250
Revenue from Rate	$ 16,492,822		$ 16,490,924	$16,741,393
Change from Previous			0.0%	1.5%



Average Usage	662
Monthly Customers	8,879
Current Average Bill	$ 154.79
Year 1 Average Bill	$ 154.77
Average % Change	0.0%
Monthly Change	$ (0.02)

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Agenda - General Manager Items

5:40 General Manager Items

1. Mutual Aid
   - Sept 2023- MMLD to Eastern Maine Electric Co-op – Calais, Maine
   - Plan 4/2024 - MMLD to Navajo Territory Utility Authority – AZ/NM/UT
     - **Board vote** – $12,000-15,000 travel and insurance expense – 2 people
2. Monthly financial statement review - August
3. Village 13 substation update
4. Solar on Schools
   - Alternative financing models: Power Purchase or Solar PV array ownership?
   - Memo of Understanding with School Committee/Select Board

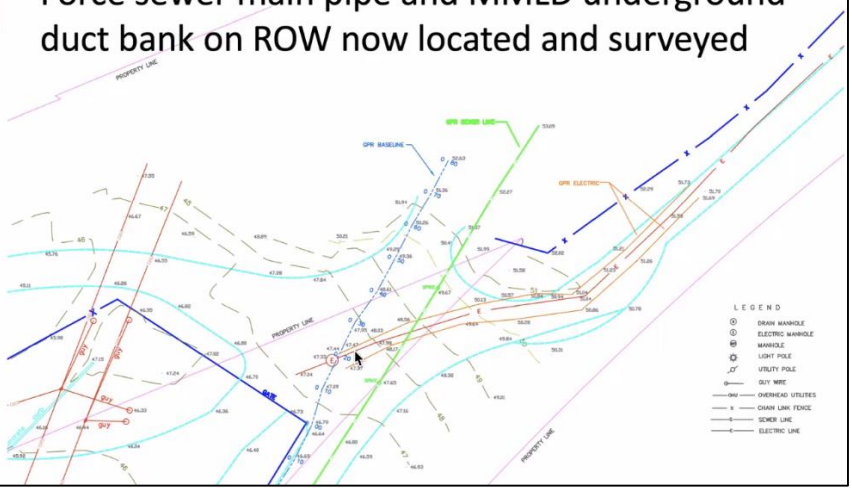
Marblehead Municipal Light Department
Operating Statement AUGUST 2023

Current Month			(000's)	Year To Date		
Actual	Budget	Variance	Item	Actual	Budget	Variance
10.2	11.1	(0.9)	KWH Sales-Millons	65.3	68.9	(3.6)
2,158.0	2,552.4	(394.4)	Sales Revenue	14,784.0	15,919.0	(1,135.0)
945.0	1,220.0	(275.0)	Power costs	8,220.0	10,403.0	(2,183.0)
1,213.0	**1,332.4**	**(119.4)**	**Net**	**6,564.0**	**5,516.0**	**1,048.0**
			Operating Costs			
213.0	244.0	(31.0)	Payroll	1,374.0	1,649.0	(275.0)
176.0	175.7	0.3	Depreciation	1,406.0	1,405.4	0.6
51.0	52.0	(1.0)	Benefits	387.0	416.0	(29.0)
25.0	25.0	0.0	OPEB	200.0	200.0	0.0
68.0	68.0	0.0	Pensions	544.0	544.0	0.0
28.0	64.5	(36.5)	Maint. Supplies	297.0	516.0	(219.0)
23.0	23.0	0.0	Office Supplies	202.0	184.0	18.0
25.0	21.0	4.0	Outside Services	128.0	168.0	(40.0)
0.0	2.5	(2.5)	Fuel	31.0	20.0	11.0
0.0	5.0	(5.0)	Insurance	28.0	40.0	(12.0)
3.0	3.0	0.0	Bad Debts	24.0	24.0	0.0
68.0	25.0	43.0	All Other	200.0	200.0	0.0
35.0	35.7	(0.7)	Bonds Payable Interest	285.0	285.3	(0.3)
715.0	**744.4**	**(29.4)**	**Total Operat. Costs**	**5,106.0**	**5,651.7**	**(545.7)**
498.0	**588.0**	**(90.0)**	**Operating Income**	**1,458.0**	**(135.7)**	**1,593.7**
53.0	4.0	49.0	Int.Inc./(Exp.)	208.0	32.0	176.0
551.0	**592.0**	**(41.0)**	**Net Income/(Loss)**	**1,666.0**	**(103.7)**	**1,769.7**

YTD 2023- Energy Usage is Down

MMLD Retail Sales (000's MWH)				
2023 Plan	**2023 Actual**		**2022 Actual**	
Sept YTD	**Sept YTD**	**Delta**	**Sept YTD**	**Delta**
78.1	74.3	-3.8	78.9	-4.6

Force sewer main pipe and MMLD underground duct bank on ROW now located and surveyed



Village 13 Upgrade – ***Revised*** Project schedule as of 10/23

- *Switchgear manufacturing completion delay – 3 months*
- March 2024 - Construction Contract out to bid
- May 2024 - Site construction starts
- May/June 2024 – Transformers delivered to temp pads
- Sept 2024 – Switchgear delivered
- Oct 2024 - Existing 23 kV feeders moved to the new 23 kV Switchgear
- Possible site work hold to Mar 25 due to harsh winter weather
- May/June 2025 - Existing 13 kV feeders cut over to new 13 kV Switchgear

Solar on Schools

- 6 Schools under evaluation for solar PV-only, and solar PV plus on-site battery
- Solar PV plus on-site battery option significantly increases cost per site, but also increases the economic benefits generated at the site…carbon-free energy plus the potential to lower the MMLD monthly ISO-NE transmission bill and lower the monthly charge for capacity payments for a year. ***All such cost savings are directly passed on to all Marblehead customers.***
- Continuing due diligence on analyzing the model assumptions and financial forecasts…

Solar on Schools -

Option	Configuration	Deal Type	Financing	Presented by Solect Energy?	Vetted by MMWEC?	Who owns the RECS?
1	Solar PV only	PSA - Ownership	4% green bond - monthly payments	yes	yes	MMLD
2	Solar PV only	PSA - Ownership	MMLD cash purchase	no	no	MMLD
3	Solar PV only	PPA	monthly power purchase payments	yes	no	Solect
4	Solar PV and BESS	PSA - Ownership	4% green bond - monthly payments	yes	yes	MMLD
5	Solar PV and BESS	PSA - Ownership	solar PV -cash; BESS- 4% green bond	no	no	MMLD
6	Solar PV and BESS	PPA-solar; BESS ownership	Solar - PPA monthly power purchase payments; BESS - 4% green bond	no	no	Solect

Technical assistance on IRA/IIJA grants

- Determine grant status of Village 13 upgrade
- Utilize Baker Tilly consulting firm to assist not to exceed $30,000

IRA 2022 Tax Credit Services Phases	Fee Estimate
1. Determine Project Eligibility	$15,000 - $30,000
2. Preserve the Tax Credits – Begun Construction	$20,000 - $35,000
3. Maximizing the Tax Credit Earned – Post Construction	$35,000 - $55,000
4. Workpaper File Generation to Support Investment Tax Credit Claim	$15,000
IRA 2022 Tax Credit Services Total	$85,000 to $135,000

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